Design of Serial Comparison Model for the Diachronic Corpus Study of Japanese

Hilofumi Yamamoto
Tokyo Institute of Technology

Makiro Tanaka
National Institute for Japanese Language and Linguistics, Japan

Yasuhiro Kondo
Aoyama Gakuin University

Development of Diachronic Corpus

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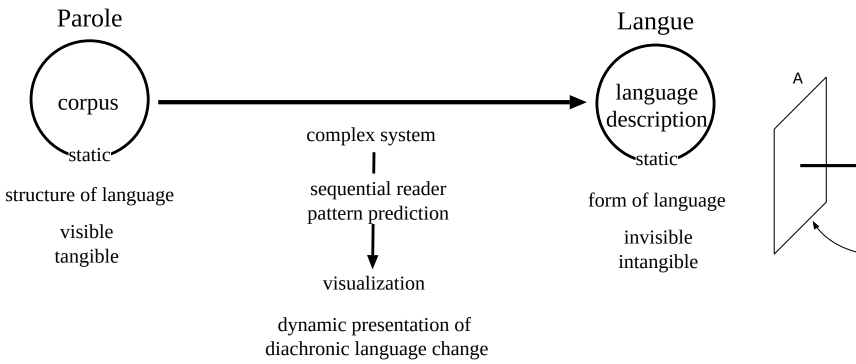
Main purpose: Study of Japanese language

(sub) purpose: Study of Japanese (classic) literature



Parole

corpus

static

structure of language

visible
tangible

complex system

sequential reader
pattern prediction

visualization

dynamic presentation of
diachronic language change

Langue

language
description

static

form of language

invisible
intangible

Figure 1: Corpus and Description, Langue and Parole: The nature of language is dynamic and always changing while the phenomena of language might be static. We should consider the dynamic change of language as a component comprised of various elements. The feature of language we usually observe is a complex system and tangled with wide-ranging elements.

Contents of Diachronic Corpus

1. The Tale of the Bamboo-Cutter (ca. 890; Taketori monogatari; 12,583 tokens)
2. Tales of Ise (ca. 901; Ise monogatari; 15,900 tokens)
3. Tales of Yamato (ca. 950; Yamato monogatari; 26,733 tokens)
4. The Tosa Diary (ca. 935; Tosa nikki; 8,113 tokens)
5. The Pillow Book (ca. 996; Makura no sōshi; 79,861 tokens)
6. Tale of Genji (ca. 1100; Genji monogatari; 510,711 tokens)

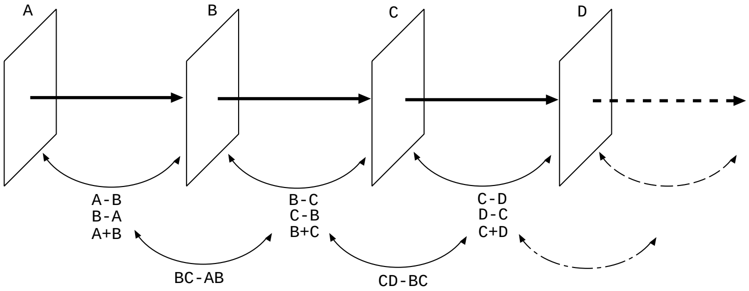
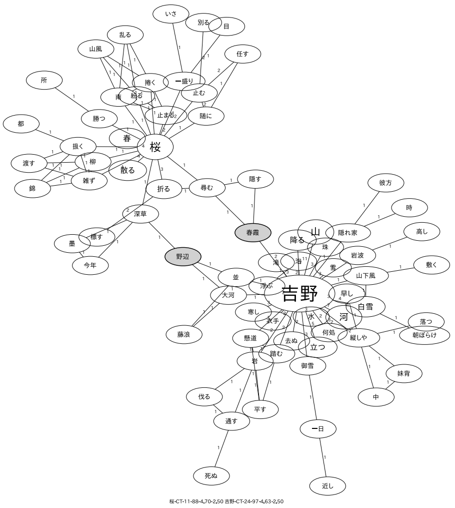


Figure 2: Extraction of delta from each synchronic layer: A, B, C and D are arbitrarily-assigned synchronic layers on the time axis. Examination of linguistic transitions is achieved through the comparison of lexical items in each layer with those in other layers, and the discovery of common principles appearing in the delta of data extracted from both systems as well.

A case study: use of SAKURA(cherry blossoms) in Mt. Yoshino → Kokinshū (ca. 905) vs Shinkokinshū (1205)

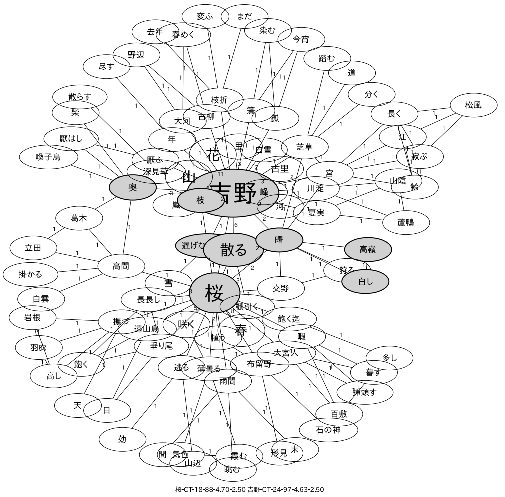


Sakura (桜) and Yoshino (吉野), a place name in Nara prefecture

← Kokinshū (ca. 905)

Shinkokinshū (1205) →

during 300 years differences.



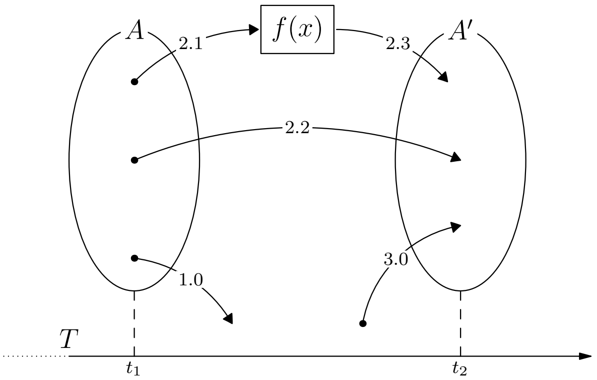


Figure 3: Serial comparison model; differential model of transitional linguistic elements of target texts; A is a set of elements that occurred at Time t_1; A' is a set of elements that occurred at Time t_2; T is the time axis; $f(x)$ is a function for converting an element x of A into that of A'.

Future Task

- To define linguistic units suitable for each era
- To develop a dictionary for machine analysis

→ it allows us syntagmatic and paradigmatic anal

Conclusion

- Addressed basic concepts and framework of diachronic corpus
- Illustrated the serial comparison model for historical analysis

→ Lexical differences between any two groups of te