Plotting Poetry 2025

Transforming Poetic Thought into Waka:

How to Pack the Skeleton into a 31-Syllable Closet

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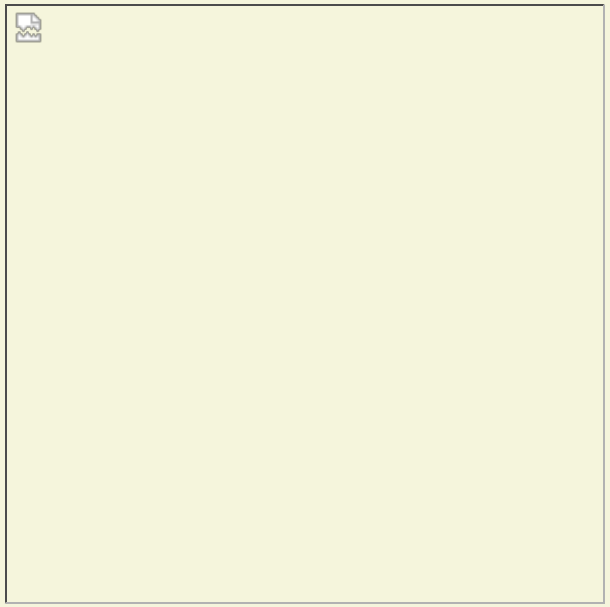
thought2waka

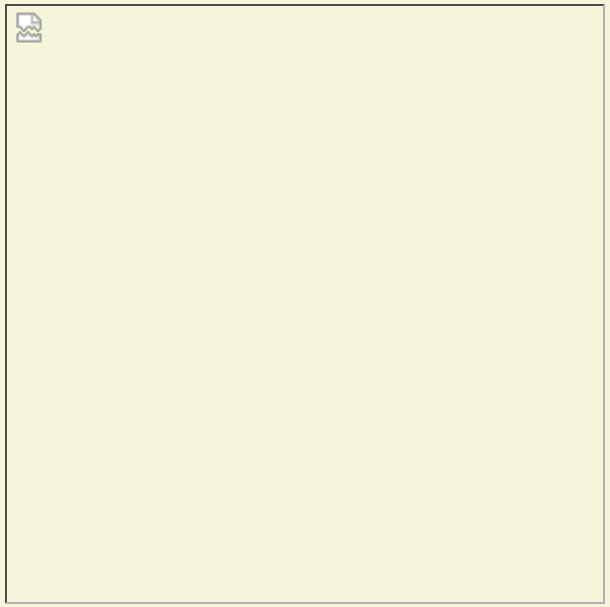
Basics of WAKA

Classical Japanese Poetry, WAKA

- WA → Japanese / Japanese style
- KA → Song

Spring Haze





Early Established Waka

- The Man'yoshu: est. around 7-8th century in Chinese notation.
- The Kokinshu: est. ca. 905 in Japanese notation.

Style and Rhetorics

- Include only 31 syllables with 5,7,5,7,7 sounds
- Express natural views and emotions in a simple sentence.
- Use of rhetorics to create a poetic atmosphere:
- Pun (kakekotoba),
- Pillow words (makurakotoba), and
- Introductory words (o-kotoba)

Preface of Kokinshū: Kanajo

やまとうたは、人の心を種として、よろづの言の葉とぞなれりける。
世の中にある人、ことわざ繁きものなれば、心に思ふことを、見るもの聞くものにつけて、言ひ出せるなり。

Japanese poetry (yamato-uta) takes the human heart as its seed, and from it
grows a myriad of words and leaves. Since people living in this world are
surrounded by countless events, they express what they feel in their hearts
by attaching it to the things they see and hear.

Preface of Kokinshū: Kanajo

- Does not mention the 31-syllable form
- The format is drived from the practice of poetic expression
- Not too short, not too long, just right for expressing emotions
- One theory suggests that the pleasantness of phonetics and rhythm (5-7 pattern),
- The length of breath, and ease of recitation and transmission are involved.

Poetic ideas change into 31-Syllable Form

- The 31-syllable is the final form of the poem, not the initial one.
- The constraint of Waka is the construction of 5,7,5,7,7 syllables.
- Poets create a poem under the 5 segments of 5,7,5,7,7 syllables constraint.
- It is the first step to shorten ideas to fit to 5 or 7 syllables.

Poetic Rules may include:

- Omission of grammatical elements
- Inversion of word order
- Symbolic substitution
- Nominalization
- Manipulation of ambiguity
- Compression of meaning
- Expansion of meaning
- Reinterpretation of context

...

Goals

- Differences between waka and its translation
- Identify compression patterns for poetic thought
- Explore constraints and expression in 31-syllable form

Material

- A) Kokinshu: a collection of 1000 waka poems
- B) Modern Japanese translations: 10 sets of translations

Parallel corpus of 1000 waka and 10 modern Japanese translations

Ten kinds of the Translations

No.	Translator	Year	Pages	Manuscript	Translation Style
1.	Kaneko Motoomi	1933	1,105	Teika	Literal translation
2.	Kubota Utsubo	1960	1,449	Teika	Literal translation
3.	Matsuda Takeo	1968	1,998	Teika	Free translation
4.	Ozawa Masao	1971	544	Teika	Changes word order and grammar
5.	Takeoka Masao	1976	2,278	Teika	Literal translation
6.	Okumura Tsuneya	1978	434	Teika	Respects author's intent
7.	Kusojin Hitaku	1979	1,260	Teika	Supplements words
8.	Komachiya Teruhiko	1982	407	Teika	Unknown
9.	Kojima Noriyuki & Arai Eizo	1989	483	Teika	Unknown
10.	Katagiri Yoichi	1998	3,022	Teika	Literal translation

Steps of the Analysis

- Step 1: Prepare Kokinshu 1000 original dataset (OP).
- Step 2: Prepare 10 kinds of translation datasets (CT).
- Step 3: Divide both OP and CT sentences into tokens.
- Step 4: Attach Meta codes based on WSLP (semantic principle codes) to each token.
- Step 5: Compare OP with CT by Meta codes.
- Step 6: Describe the predication construction patterns.
- Step 7: Describe the noun phrase construction patterns.
- Step 8: Modeling of poetic construction.

Computer programms

- Align waka with contemporary paraphrases
- Use phrase gloss and structured data
- Analyze rule types and transformation limits

Challenges

- Literal vs. interpretive gaps
- Compression loss in reverse mapping
- Ambiguity in source expressions

Toward a Model

- Create typology of transformation rules
- Visualize linguistic constraints
- Evaluate poetic fidelity and transformation cost

Methods

- Using a parallel corpus of waka (OP) and modern Japanese translations (CT)
- Align waka (OP) with contemporary translations (CT)
- Use phrase gloss and structured data
- Analyze rule types and transformation limits
- Identify compression patterns for poetic thought

Goals

Obtain some typical conversion patterns between OP and CT.

- Grammatical pattern, especially predicative elements.
  i.e. tense, aspect, ← elements making a poem longer.
- Lexical construction such as proper nouns.
- Rhetorical techniques → such as implications.

We will make the following comparison between OP and CT:

Parallel Comparison between OP and CT

Kokinshu No. 3 CT by kaneko

```
OP   : はるがすみ.たてる.や.いづこ.みよしの.の.よしの.の.やまに.ゆき.は.ふりつつ
Gloss: spring haze.arise.Q.where?.Miyoshino.of.Yoshino.of.Mt.snow.falling
-----------
Spring haze—where does it rise? On Mount Yoshino in Yoshino, the snow keeps falling and
falling.

CT   : 春には成ったが、長閑な霞の立っているのは何処の辺か、この吉野の里の吉野山には
       雪が降り降りして、一向に春めきもしない。
Gloss: spring----------------haze.arize---------where----Q------Yoshino--MtYoshino-
       snow--fallfall----------------------
-----------
Spring has arrived, but where is that gentle haze drifting? Here in the Yoshino village,
on Mount Yoshino, snow keeps falling and falling, and it shows no sign of spring at all.
```

We anotated each poem and each translation as the following:

OP: Kokinshu No.3

```
1 KW000003 111 1 02 00 00 BG-01-5152-09-040-A はるがすみ はるがすみ 春霞 spring haze
1 KW000003 111 3 02 00 00 BG-01-1624-02-010-A -- はる 春 spring
1 KW000003 111 3 02 00 00 BG-01-5152-09-010-A -- かすみ 霞 haze
1 KW000003 211 0 47 25 04 BG-02-1513-01-010-A たて たつ 立つ
1 KW000003 212 0 74 68 20 BG-09-0010-03-030-C る り り
1 KW000003 213 0 65 00 00 BG-08-0065-14-010-C や や や
1 KW000003 221 0 14 00 00 BG-01-1700-02-100-C いづこ いづこ 何処
1 KW000003 311 0 11 00 00 CH-29-0000-20-010-A みよしの みよしの 御吉野
1 KW000003 312 0 71 00 00 BG-08-0071-01-010-A の の の
1 KW000003 411 0 11 00 00 CH-29-0000-20-010-A よしの よしの 吉野
1 KW000003 412 0 71 00 00 BG-08-0071-01-010-A の の の
1 KW000003 421 0 02 00 00 BG-01-5240-05-010-A やま やま 山
1 KW000003 422 0 61 00 00 BG-08-0061-05-010-A に に に
1 KW000003 511 0 02 00 00 BG-01-5153-07-010-A ゆき ゆき 雪
1 KW000003 512 0 65 00 00 BG-08-0065-07-010-A は は は
1 KW000003 521 0 47 28 03 BG-02-1540-10-010-A ふり ふる 降る
2 KW000003 521 2 47 28 03 BG-02-5150-03-010-A ふり ふる 降る
1 KW000003 522 0 64 00 00 BG-08-0064-15-010-A つつ つつ つつ
```

CT: Kaneko No.3

```
1 kaneko 0003 0 02 00 00 BG-01-1624-02-010-A 春 はる 春 spring
1 kaneko 0003 0 61 00 00 BG-08-0061-05-010-A に に に
1 kaneko 0003 0 65 00 00 BG-08-0065-07-010-A は は は
1 kaneko 0003 0 47 17 06 BG-02-1220-01-030-A 成っ なる 成る
1 kaneko 0003 0 74 54 01 BG-09-0010-04-010-A た た た
1 kaneko 0003 0 64 00 00 BG-08-0064-04-010-A が が が
1 kaneko 0003 0 79 00 00 BG-16-0079-01-010-A 、 、 、
1 kaneko 0003 1 18 00 00 BG-03-3010-02-140-A 長閑 のどか 長閑
1 kaneko 0003 2 18 00 00 BG-03-5150-02-040-A -- のどか のどか
1 kaneko 0003 0 74 55 06 BG-09-0050-01-030-A な だ だ
1 kaneko 0003 0 02 00 00 BG-01-5152-09-010-A 霞 かすみ 霞 haze
1 kaneko 0003 0 61 00 00 BG-08-0061-07-010-A の の の
1 kaneko 0003 0 47 13 05 BG-02-1513-01-010-A 立っ たつ 立つ
2 kaneko 0003 2 47 13 05 BG-02-1521-06-020-A 立っ たつ 立つ
3 kaneko 0003 2 47 13 05 BG-02-3330-11-020-A 立っ たつ 立つ
4 kaneko 0003 2 47 13 05 BG-02-3391-02-110-A 立っ たつ 立つ
1 kaneko 0003 0 64 00 00 BG-08-0064-16-010-A て て て
    ... continues
```

Meta-code system

BG-01-2030-01-030-A-かみ-神（god）
↑ ↑ ↑
GFE
↓ ↓ ↓
BG-01-2030-01-250-A-ほとけ-仏（Buddha）

- G: Group match... 10 digits
- F: Field match..... 13 digits
- E: Exact match..... 17 digits

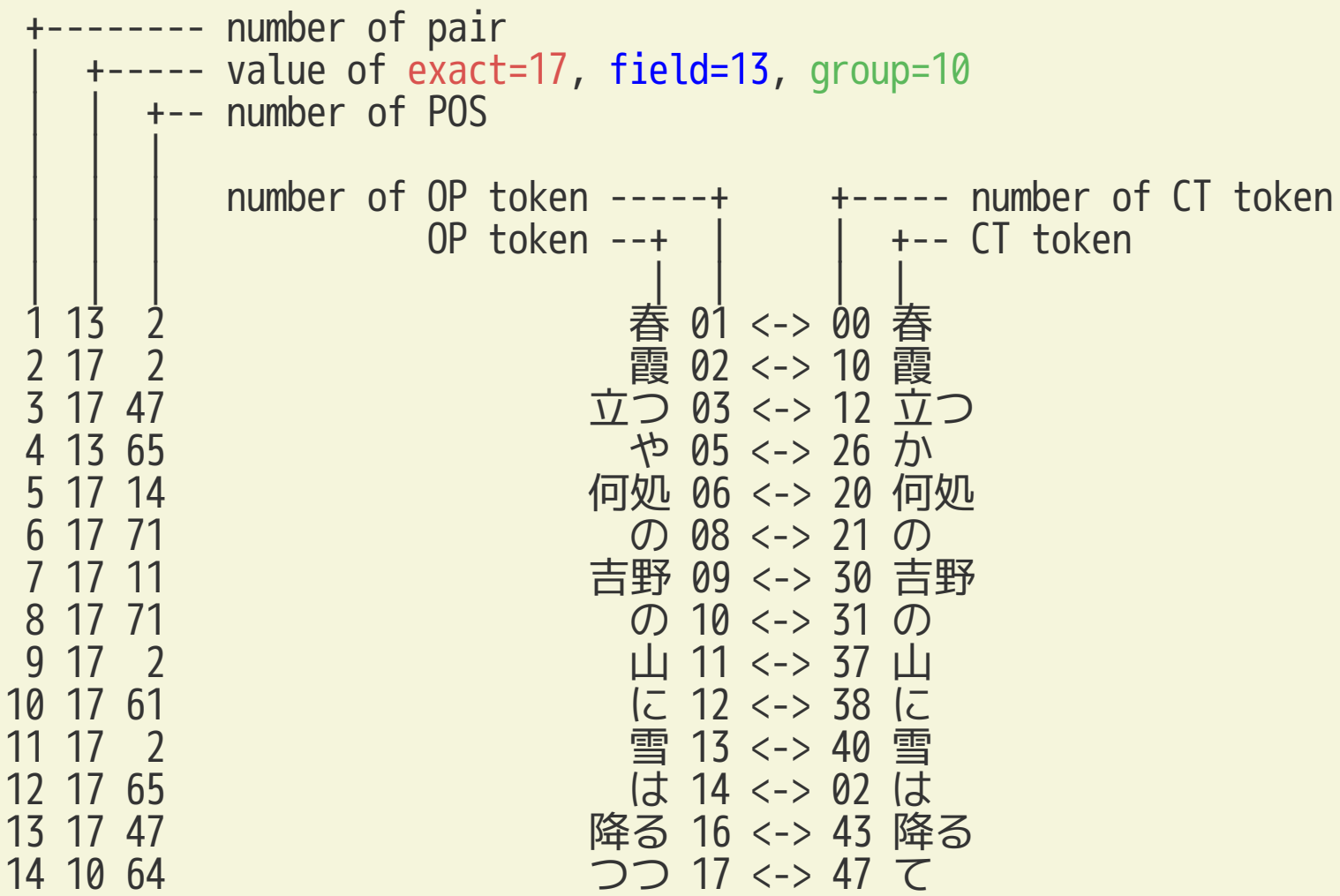
The three matching levels are judged by the length of BG-code digits.

code2match.c

match poem codes with translation codes:

```
% cat op_file.txt ct_file.txt | code2match -a
```

Matching Diagram



```
% code2match [-ahv] file....
  -a   print all data
  -b   print between check
  -c   print calculation table
  -d   print predicate part out
  -e   once matched out (bag of words option)
       use it with other options
  -i   print calculation in line style
  -l   print token list table
  -o   print original poem out
  -p   print pair token table
  -r   print residual
  -s   print valid on
  -t   print title
  -u   print unmatched portion
  -h   print this help
  -v   print code2match version
(c) 2025 H. Yamamoto yamagen@js.ila.titech.ac.jp
```

Elements breakdown between OP and CT

```
OP(original poem; valid number of items)              = 16
E (ratio of exact agreement)                        11/16 = 0.688
F (ratio of field agreement)                         2/16 = 0.125
G (ratio of group agreement)                         1/16 = 0.062
T (ratio of total agreement)                        14/16 = 0.875
U (ratio of unmatched)                              1 - T = 0.125
    ------
CT(contemporary translation; valid number of items)  = 39
W (ratio of original word use)                      11/39 = 0.282
A (ratio of annotation)                             1 - W = 0.718
- breakdown of the annotation -
P1(ratio of FG paraphrased)                       (F+G)/V = 0.077
P2(ratio of U paraphrased)                      (A-P1)*U = 0.080
    ------
D (ratio of purely added)                       A-(P1+P2)= 0.561
H (theoretical value)                            1-16/39 = 0.590
Gap:                                            fabs(D-H)= 0.029
```

Four Seasons Sections of Kokin Wakashū

Section	Volume Number	Range	Corresponding Numbers	Number of Poems
Spring	Volume 1	Spring Upper	1-55	55 poems
Spring	Volume 2	Spring Lower	56-110	55 poems
Summer	Volume 3	Summer	111-124	14 poems
Autumn	Volume 4	Autumn Upper	125-179	55 poems
Autumn	Volume 5	Autumn Lower	180-232	53 poems
Winter	Volume 6	Winter	233-249	17 poems

Results

- Identify and classify poetic strategies
- Analyze how poetic thought is transfigured
- Uncover underlying rules (overt and covert)
- Explore the implications of compression
- Simulate the transformation process:

Discussion

- Explore poetic compression in modern Japanese
- Analyze constraints in poetic expression
- Discuss implications for translation and interpretation
- Consider cultural and linguistic factors

Conclusion

- Waka as a lens for poetic thought
- Compression as a creative constraint
- Future research directions
- Implications for translation studies

Predicate sections

- The simplest verb form can express variously.

Content words

- No modifications.
- Noun and adjective expand images

Reference

- Yamamoto, H., Hodošček, B., & Chen, X. (2024). Hachidaishu Part-of-Speech Dataset (1.0.1) [Data set]. Zenodo. https://doi.org/10.5281/zenodo.13940187
- Yamamoto, H., Hodošček, B., & Chen, X. (2024). Kokinwakashu Hyoshaku by Motoomi Kaneko translation sentence vocabulary dataset (v1.0.1) [Data set]. Zenodo. https://doi.org/10.5281/zenodo.13942707
- Hilofumi Yamamoto. Thesaurus for the Hachidaishu (ca. 905-1205) with the classification codes based on semantic principles, The Study of Japanese Linguistics, The Society of Japanese Linguistics, Vol. 5, No. 1, pp. 46-52, Jan. 2009.