Conclusion

Paper!→

https://cuckoo.js.ila.titech.ac.jp/~yamagen/papers/JADH2019-yamagen05.pdf

It is **impossible** to **convert** the contents in the **ancient language** into **only** their equivalents in the **modern language**.

They include something else!

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An Analysis of the Differences Between Classical and Contemporary Poetic Vocabulary of the Kokinshū

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Introduction

Are the original poems really equivalent with contemporary translations?
Can we trust the interpretations?

Methods

1) 1000 poems in the Kokinshū (ca. 905)
2) 10 sets of the translations (CT)
3) ALIGN 10,000 pairs (1,000 poems with 10 sets)

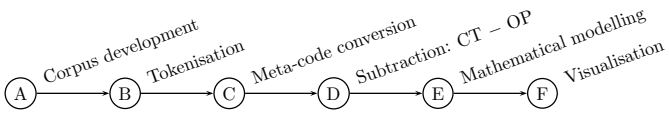

FIG. 1: Flowchart of data processing

```
BG-01-2030-01-030-A-かみ-神 (god)
          ↑   ↑   ↑
          G   F   E
          ↓   ↓   ↓
BG-01-2030-01-250-A-ほとけ-仏 (Buddha)
```

FIG. 2: Level of matching elements: group matching (G); field matching (F); exact matching (E); each level is evaluated by the length of corresponding characters of meta-codes from the first letter.

```
+-------- pair No.
|  +----- value of matching level, exact=17, field=13, group=10
|  |  +-- POS No.
|  |  |  OP element No.+     +- CT element No.
|  |  |  OP element +  |     |  CT element
|  |  |             |  |     |  |
 1 17 11 *tatsutahime 00 <-> 12 *Tatsutahime (pn.Tatsutahime)
 2 17 47          te 04 <-> 25 te           (hand)
 3 17 47       mukeru 05 <-> 26 mukeru      (toward)
 4 17  2         kami 06 <-> 32 kami        (god)
 5 10 61           no 07 <-> 33 ga          (SUB)
 6 17 47          ari 08 <-> 34 aru         (be)
 7 10 64           ba 09 <-> 35 kara        (because)
 8 17 65         koso 11 <-> 36 koso        (EM)
 9 17  2          aki 12 <-> 38 aki         (autumn)
10 17 71           no 13 <-> 39 no          (CON)
11 17  2       konoha 14 <-> 40 konoha      (leaf of tree)
12 17  2         nusa 19 <-> 45 nusa        (present)
13 17 61           to 20 <-> 46 to          (CRD)
14 17 47        chiru 21 <-> 49 chiru       (fall)
15 13 74         ramu 22 <-> 54 u           (CJR)
```

FIG. 3: An example of the alignment of the matched elements between OP(298) and CT(298, koma). Each line consists of the matched pair ID number (1), the matching level indicated by the value (17), ID number of POS (11) which indicates a place name, OP element (`*tatsutahime`), ID number of OP element, ID number of CT element, CT element (`*Tatsutahime`), and the glossary. * written in different kanji.

Result

TABLE 1: Summary of the contemporary Japanese translations

translation work (year)	pages	manuscript	method
Kaneko (1933)	1105	Teika	word-for-word
Kubota (1960)	1449	Teika	word-for-word
Matsuda (1968)	1998	Teika	not mentioned
Ozawa (1971)	544	Teika	wording changed
Takeoka (1976)	2278	Teika	word-for-word
Okumura (1978)	434	Teika	intention oriented
Kyūsojin (1979)	1260	Teika	words added
Komachiya (1982)	407	Teika	not mentioned
Kojima and Arai (1989)	483	Teika	not mentioned
Katagiri (1998)	3022	Teika	word-for-word

TABLE 2: Result of subtracting the elements of OP(298) from those of CT(298, koma): it indicates the ratio of the ingredients of OP(298).

OP	(valid number of element)	= 16
E	(ratio of exact match)	12/16 = 0.750
F	(ratio of field match)	1/16 = 0.062
G	(ratio of group match)	2/16 = 0.125
T	(ratio of total match)	15/16 = 0.938
U	(ratio of unmatched OP)	1 − T = 0.062

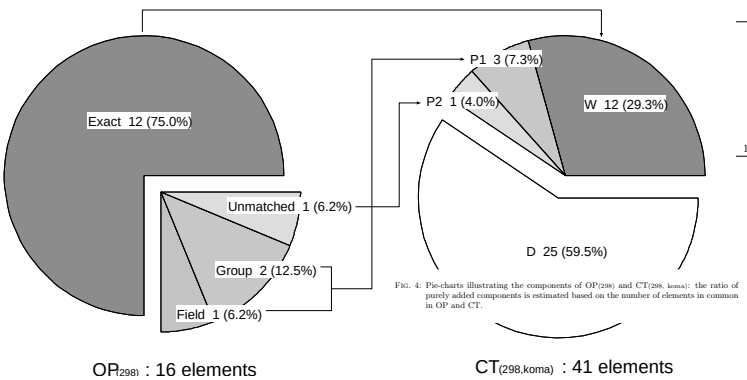

FIG. 4: Pie-charts illustrating the components of OP(298) and CT(298, koma): the ratio of purely added components is estimated based on the number of elements in common in OP and CT.

TABLE 4: Amount of added information (N=1000)

	translator	alignment min.	alignment mean (SD)	alignment max.	subtraction min.	subtraction mean (SD)	subtraction max.
1	Kaneko	0.16	0.53 (0.09)	0.80	0.18	0.49 (0.09)	0.73
2	Katagiri	0.21	0.49 (0.08)	0.71	0.16	0.44 (0.08)	0.68
3	Kojima Arai	0.15	0.46 (0.09)	0.74	0.10	0.41 (0.10)	0.69
4	Komachiya	0.12	0.44 (0.08)	0.72	0.11	0.39 (0.08)	0.67
5	Kubota	0.15	0.45 (0.09)	0.77	0.13	0.40 (0.09)	0.72
6	Kyusojin	0.10	0.47 (0.08)	0.73	0.11	0.42 (0.08)	0.69
7	Matsuda	0.00	0.44 (0.09)	0.77	0.07	0.39 (0.09)	0.69
8	Okumura	0.06	0.44 (0.08)	0.75	0.11	0.41 (0.08)	0.72
9	Ozawa	0.10	0.46 (0.08)	0.72	0.20	0.44 (0.07)	0.70
10	Takeoka	0.11	0.42 (0.10)	0.74	0.06	0.38 (0.10)	0.69
	mean	0.12	0.46 (0.03)	0.74	0.12	0.42 (0.03)	0.70

TABLE 3: Component of CT in case of KKS 298 by Komachiya (1982): `fabs(D-H)` stands for the function of the absolute value of the practical value, `D`, minus the theoretical value, `H`.

CT	(valid number of element)	= 41
W	(ratio of original word use)	12/41 = 0.293 (E/CT)
A	(ratio of annotation)	1-0.293 = 0.707 (1-W)
	---breakdown of the annotation---	
	P1(ratio of FG paraphrased)	(0.62+0.12)/0.707 = 0.073 (F+G)/A
	P2(ratio of U paraphrased)	(0.707-0.073)+0.062 = 0.040 (A-P1)+U
	D (ratio of purely added)	0.707-(0.073+0.040) = 0.595 A-(P1+P2)
H	(theoretical value of D)	1-16/41 = 0.610 1-OP/CT
Gap		fabs(0.595-0.610) = 0.015 fabs(D-H)