DOCUMENT RESUME

ED 069 186 FL 003 625

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TITLE Reconstruction of Japanese Vowels.
INSTITUTION California Univ., Berkeley. Japanese Linguistics Workshop.
PUB DATE Jun 72
NOTE 10p.
JOURNAL CIT Papers in Japanese Linguistics; v1 n1 p1-10 Jun 1972

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS Comparative Analysis; Descriptive Linguistics; *Diachronic Linguistics; Dialect Studies; *Japanese; *Language Research; Linguistic Theory; Phonology; Research Methodology; *Vowels

ABSTRACT

This paper discusses the relationship between linguistic reconstructions and their historical validity using the case of Old Japanese (8th century A.D.) vowels as an example. Reconstructions throughout the paper include only those cases in which the modern reflexes and phonological correspondences between two or more genetically related languages and dialects are used as the only source of information. The discussion here reviews a comparative method approach and shows how the reconstruction approach used by the author goes beyond the comparative method. Examples are drawn from several Japanese dialects. (Author/VM)

In: Papers in Japanese Linguistics; Vol. 1, No. 1, June 1972.







# RECONSTRUCTION OF JAPANESE VOWELS[1]

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The purpose of this note is to discuss the relationship between linguistic reconstructions and their historical validity using the case of Old Japanese (8th century A.D., OJ hereafter) vowels as an example. I am using the term "reconstruction" in an extremely limited sense. By reconstruction, I am not referring to any use of historical records such as M. R. Haas's use of Thai orthography in the study of Tai tones, K. Chang's reconstruction of Proto-Chinese using Ch'ieh$^4$yün$^4$ (601 A.D.), and the Indo-Europeanists' use of Sanskrit, classical Greek, Latin, Gothic, Old Church Slavic and other records. Nor am I referring to any use of internal reconstructions. I am referring to the cases in which the modern reflexes and phonological correspondences between two or more genetically related languages and dialects are used as the only source of information for reconstructions.

Among the countless studies in Japanese historical linguistics, there are only a few comparative studies within the area of Old or Pre-Japanese. In the studies in which phonetic correspondences are mentioned, only few attempt the recovery of old forms. One such example is S. Hattori's 1951 study of OJ pitch patterns[2] and another is R. A. Miller's 1964 study of OJ vowels[3]. Since Hattori's work makes use of historical documents such as Ruizyumyoogisyoo (11th c.), his results are not the type of historical reconstruction that concerns us. On the other hand, Miller reconstructed OJ vowels using only the modern dialect forms of Tokyo and Satuma, a part of Kagosima in southern Kyuusyuu, without any recourse to historical records. Since we know something about OJ vowels, it should be interesting to compare reconstructed OJ vowels with what we know from historical records in the OJ period.

Already in Hudoki fragments of 713 A.D. there are comments referring to the dialectal peculiarities of Kyuusyuu. Therefore, it appears that the stage of Japanese ancestral to both Tokyo and Satuma dialects (tentatively PreJ) predates OJ. However, for the sake of convenience I am going to assume that the OJ, for which we have historical records, and PreJ,

for which there is none, were similar. That OJ had more vowels than modern Japanese was suspected by N. Motoori (1730-1801), established by T. Isizuka (1764-1823), and confirmed by S. Hasimoto (1882-1945). On the basis of written records, the last two scholars worked out the OJ syllabic inventory. Now most scholars agree that that there were eight OJ vowels; u, a, plus two varieties of i, e, and o. Hasimoto named them i koorui, i oturui, e koorui, e oturui and so on. Here I will use subscript A for the koo series and subscript B for the otu series of vowels. The eight OJ vowels were then, $i_A$, $i_B$, $e_A$, $e_B$, a, $o_A$, $o_B$, u. There are a number of theories about the phonetic details of these vowels.[4] Very tentatively, for the purpose of this note, we may consider that the B-series had opposite specification of the features backness and roundness while the A-series had them similarly specified. Thus $i_A$ = [i], $i_B$ = [ɨ], $e_A$ = [e], $e_B$ = [ɘ], $o_A$ = [o], $o_B$ = [ɵ].

In 1964, R. A. Miller pioneered a study in the area of OJ vowel reconstruction in the narrow sense I noted above. The study was reprinted with minor revisions in 1967.[5] Eight correspondences between modern Tokyo (T) and Satuma (S) dialects are compared with the eight OJ vowels. I am using the notation x/y to show the correspondence between Tokyo x and Satuma y. The eight correspondences are: (1) a/a, (2) u/u, (3) e/e, (4) e/i, (5) i/i, (6) i/e, (7) o/o, (8) o/u. Miller claims that correspondences (3), (5), and (7) are "equivalents of Series A, and that correspondences (4), (6), and (8) are Series B."[6] Miller noted further that "cases of this sort in which it is possible to correlate reconstruction by the comparative method with the findings of written records are rare indeed, and the coincidence of the methods here is striking."[7]

Two of the more knowledgeable reviewers of Miller's The Japanese Language have already hinted that the claim for this "striking" coincidence" just cited is questionable.[8] Let us take a closer look to see if indeed such a coincidence does exist.

No pairs were cited for correspondences (1) and (2), and all of the 37 pairs that Miller gave were for correspondences (3) through (8). The result of my check against the OJ records[9] is given in a five-letter notational system in Fig. 1, after each pair. They are A, for vowels of the

A-series; B, for those of the B-series; O, for those not recorded in OJ records; U, for the undifferentiated; and N, for the items whose serial affliation is not clear. The notations U and N may require some comments. The eight way distinction was not observed after all the OJ consonants; the A-B serial distinction was lost for [-back] vowels after dentals, and for [+round] vowels after labials. Thus in OJ, ni, ne, ϕo, no [10] for example, are undifferentiated. The OJ records do not show us *ni$_A$, *ni$_B$, for example, but just ni. There are items that come down to us only through records made in a period when the serial distinction is lost; they are marked N.

In Fig. 1, the full list of 37 pairs by Miller is given. In 1967 Miller moved the pair glossed wall from correspondence (3) to correspondence (4) to correct his earlier mistake. Besides this, there is little change between his 1964 and 1967 versions.

Fig. 1.

| correspondences | | | |
|---|---|---|---|
| (1) | a/a | | |
| (2) | u/u | | |
| (3) | e/e | hige/huge[11] | 'beard' B |
| | | kame/kame | 'tortoise' B |
| | | tane/sane | 'seed'[12] U |
| | | (kabe/kabe | 'wall' 1964) |
| | | eda/yeda | 'branch' B(ye) |
| | | tsurube/tsubbe | 'well-bucket' N |
| | | ume/umme | 'plum tree' B |
| (4) | e/i | kome/komi | 'uncooked rice' B |
| | | take/taki | 'bamboo' B |
| | | kaze/kazi | 'wind' U |
| | | kore/koi | 'this' U |
| | | ame/ami | 'rain' B |
| | | tsume/tsumi | '(finger, toe) nails' B |
| | | kabe/kabi | 'wall' A (1967) |

(5) i/i tani/tai 'valley' U
ari/-ai 'ant' U
buri/ui- 'horse mackerel' O
nigiri/nigii 'rice ball' UAU

(6) i/e shirami/shitame 'louse' N
meyani/meyane 'sticky secretion, matter collecting in the corner of the healthy eye, especially after sleep' U
murasaki/murasake 'purple' A
warabi/warabe 'edible fern' A
nisemono/nesemono 'fake' O
ebisu/ebesu 'god of wealth' AA

(7) o/o neko/nieko 'cat' A
nebuto/nekuto, nekito, netto 'a boil' O
nuno/nono 'cloth' N
nunoko/nonoko 'wadded dress' O
soko/suko 'there' B
myōto/mito, myuto 'husband and wife' B
hito/futo 'person' B
koto/kot 'fact' B
makoto/makot 'true' B

(8) o/u kumo/kobu 'spider' U
doro/noru 'mud' O
otōto/otots, otodzu, odotsu 'younger brother' B
tōrō/tsuru 'stone lantern' O
nentō/nentsu 'beginning of the year' O

The data in Fig. 1 can be summarized as Fig. 2.

| correspondences | Tokyo | Satuma | A | B | U | N | O |
|---|---|---|---|---|---|---|---|
| (1) | a | a | | | | | |
| (2) | u | u | | | | | |
| (3) | e | e | | 4 | 1 | 1 | |
| (4) | e | i | 1 | 4 | 2 | | |
| (5) | i | i | 1 | | 4 | | 1 |
| (6) | i | e | 3 | | 1 | 1 | 1 |
| (7) | o | o | 1 | 5 | | 1 | 2 |
| (8) | o | u | | 1 | 1 | | 3 |

If Miller's claim about the coincidence between reconstructions by the comparative method and the findings of written records is correct, we should expect no examples of A for correspondences (4), (6), (8) and no examples of B for correspondences (3), (5), (7). As Fig. 2 shows, a check against OJ written records indicates that no such claim can be made.

Our next concern is to attempt an explanation for the discrepancy between OJ records and correspondences between Tokyo and Satuma dialects. Before we proceed, we should note that the number of correspondences is not just eight, but ten, even from the limited sample of the 37 pairs. There is Tokyo i which corresponds to Satuma u in the pairs for beard (hige/huge) and for person (hito/futo). Let us call it correspondence (9). Furthermore, there is Tokyo u which corresponds to Satuma o in the pair for cloth (nuno/nono). This is correspondence (10). When we examine Schwartz's 1915 material which Miller used,[13] there is a Tokyo u to Satuma i correspondences as seen in azuki/achiki red beans, nusubito/nushito[14] a thief, sumoo/shimo wrestling, sukoshi/shikoshi a little. This last correspondence is our correspondence (11).

I think it is possible to account not only for Miller's eight correspondences, but also for all of the eleven correspondences in a straightforward way. First, a rule is needed to reduce the eight vowels to the five in modern Tokyo dialect. The precise form of the rule is not important, but we might propose a vowel reduction rule A.

$$\text{A.} \quad \begin{bmatrix} -\text{cns} \\ +\text{voc} \end{bmatrix} \text{ ---> } [\alpha \text{ round}] \; / \; \begin{bmatrix} \overline{\alpha \text{ back}} \\ -\text{ low} \end{bmatrix}$$

Correspondences (1) and (2) need no comment. We will examine correspondences (3) through (11). From the vowel systems in modern Okinawan we have known that Rule B which raises mid-vowels was operative.[15]

B. [- low] ---> [+ high]

While in Okinawan, in the Syuri dialect for example, the rule operated with few exceptions, the rule was also operative in the Satuma area (throughout Kyuusyuu as a matter of fact) but in more specific contexts and with a considerable number of exceptions.[16] Correspondences (3) and (7) show such exceptions and correspondences (4) and (8) show cases where Rule B operated. There are instances of hyper-urbanism involving reverse application of Rule B in order to produce forms closer to those in Tokyo and prestige dialects where

Rule B did not operate. For a Satuma speaker whose lexicon has forms with i, which derive from OJ $i_A$, $i_B$, $e_A$, $e_B$, this hyper-urbanism results in lowering some originally [+ high] vowels. This explains correspondences (6) and (10).

All we have left are correspondences (9) and (11). The correspondence between Tokyo i and Satuma u occurs after modern Tokyo h (OJ Φ, Satuma f). Additional examples from Schwartz confirm this; hiku/fuku pull, play; hirou/furu to pick up; hitori/futoi by oneself. A vowel rounding rule operated in Satuma.

C. [+ high] ---> [+ round] / $\begin{bmatrix} + \text{ ant} \\ - \text{ cor} \end{bmatrix}$ ____

The map #12 for hige 'beard' published by the Kokuritu Kokugo Kenkyuuzyo shows that a rule similar to C is needed in the northeastern part of Japan, two locations in Nagasaki, and in parts of Okinawa.[17]

The correspondence between Tokyo u and Satuma i is observed after s and ts. Yukio Oemura noted for Okinawan (Syuri dialect) pairs such as T susu, O siisi 'soot'; T usu, O ?uusi 'mortar'; T cuna, O cina 'rope'; T icu, O ?ici 'when?'; T kazu, O kazi 'number'; T mizu, O mizi 'water'.[18] For the Tokunosima Island which lies between southern Kyusyuu, where Satuma is located, and Okinawa, Takesi Sibata noted the following correspondences:[19]

| 11c Kyoto | Tokunosima |
|---|---|
| a | a |
| i (after s,z,t,d) | ï |
| u (after s,z,t,d) | ï |
| e | i |
| i (elsewhere) | i |
| u (elsehwere) | u |
| o | u |

The eleventh century Kyoto vocalic system shows the state after Rule A has applied and is similar to modern Tokyo vowel system. Satuma, Tokunosima, and Okinawa (Syuri) dialects show that a vowel-fronting rule D operated in these areas.

D. [+ high] ---> [- back] / $\begin{bmatrix} + \text{ ant} \\ + \text{ cor} \end{bmatrix}$ ____

It is even possible that in parts of southern Japan a simplified rule incorporating rules C and D in the form of E may have operated.

E. [+ high] ---> [$\alpha$ back] / $\begin{bmatrix} + \text{ ant} \\ -\alpha \text{ cor} \end{bmatrix}$ ____

I have shown that the four rules (ABCD) account for all the eleven correspondences between Tokyo and Satuma dialects. Rule A is necessary for all modern dialects of Japan and Rules B, C, and D are needed not only in the Satuma dialect but extensively elsewhere. We know the date of A to be about the ninth century A.D.[20] B is attested in Okinawan as early as the fifteenth century[21], C and D appear to be of later origin.

What appears to be significant is the possibility of reconstruction not reflecting history just after a couple of rules have been applied, in this case Rules A and B. Let us take a hypothetical case. There are two related dialects (or languages) A and B. Two rules operated on them. Rule I is a vowel reduction rule merging two vowels on the basis of change in one feature. Rule I changes a to b. Rule II is also a vowel reduction rule and merges two vowels but on the basis of a feature different from what was involved in Rule I, and changes b to c. Rule I is operative in both languages A and B but II is operative only in B and only in some forms. Then the development from historical vowels a and b to vowels in modern dialects A and B may be schematized as follows:

| historical vowels | Rule I | A | Rule II | B | correspondences between A and B |
|---|---|---|---|---|---|
| a | + | b | + | c | b/c |
| a | + | b | - | b | b/b |
| b | - | b | + | c | b/c |
| b | - | b | - | b | b/b |

It should be noted that there are two contrasting vowels in the historical form and there are also two correspondences between A and B, namely (b/c) and (b/b). The standard method of reconstruction will produce two reconstructed vowels, each representing correspondences (b/c) and (b/b).

As the preceding chart shows a problem arises when we claim that the "two" correspondences (b/c) and (b/b) coincide with the "two" vowels in the early records.

Even though the reconstruction of OJ vowels by the comparative method do not have historical validity, Miller is quite correct in stating that historical records coincide with internal reconstructions.

While some have been quite positive about the reality of reconstructions[22] the present study suggests that it is more reasonable to assume that reconstructions "always falls short of being identical with the actual prototype language."[23] Further, it suggests, while there are some limitations,[24] that incorporation of internal reconstruction provides us with a more reliable information especially when there are no written materials available.

Notes

1. I am indebted to Prof. W.L. Chafe for his helpful criticisms on an earlier draft.

2. Hattori, S. 1951. Gensi-nihongo no akusento. Kokugo Akusento ronsô, ed. by K. Terakawa, H. Kindaiti, M. Inagaki, 45-65.

3. Miller, R. A. 1965. The reconstruction of the Japanese vowels. Papers of the CIC Far Eastern Language Institute, Indiana University 1964, 5-18.

4. Cf. Oono, S. 1953. Zyoodai kanazukai no kenkyuu.

5. Miller, R.A. 1967. The Japanese language, 181-4.

6. Cf. fn. 2, p. 12.

7. Cf. fn. 2, p. 13.

8. Mathias, G.P. 1971 JAOS 91.348-50; Hukusima, K. 1970 Kokugogaku 80.43-50.

9. Zidaibetu kokugo daiziten, zyoodaihen 1967.

10. Stricktly speaking $mo_A$ and $mo_B$ are differentiated in Koziki (712 A.D.) but not in other OJ records.

11. Miller's source has fuge not huge.

12. It is questionable that these are true cognates. OJ records have both sane and tane.

13. Schwartz, W. 1915. A survey of the Satuma dialect. Transactions of the Asiatic Society of Japan, 43.171-283.

14. An alternate Tokyo form nusuto is the correct cognate.

15. Some think the raising took place in two steps: first o > u, then e > i. Cf. Nakamoto, M. 1971. Ryuukyuu hoogen bointaikei no seeseekatee. Kokugogaku 85.1-19.

16. For example, see map #136, p. 48 in Kyuusyuu hoogen no kisoteki kenkyuu 1969.

17. Nohon gengotizu, vol. 1.

18. Okinawago ziten 1963, 29.

19. Sibata, T. 1960. Tokunosima hoogen no onsin. Kokugogaku 41.14-27.

20. Mabuti, K. 1968. Ryoodai no kotoba. 124-32.

21. Hokama, S. 1971. Okinawa no gengosi. 34-5.

22. E.g. Hoenigswald, H. Language change and linguistic reconstruction. 135.

23. Haas, M.R. 1969. The prehistory of language. 45.

24. Chafe, W.L. 1959. Internal reconstruction in Seneca. Lg 35.495

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