

Handout #3

Japanese and Luganda: Two
languages with very little in common

Japanese: [t], [tʃ] and [ts]

- [t] is a voiceless alveolar plosive stop.
- [tʃ] is a voiceless alveopalatal affricate stop.
- [ts] is a voiceless alveolar affricate stop.
- What is the distribution of these three stops in Japanese?
- To determine this, we first identify every instance of the three stops in the following data.

Japanese stops: Data

(Fromkin and Rodman 1988: 118)

- tatami “mat” tomodatʃi “friend”
- tegami “letter” totemo “very”
- tʃitʃi “father” tsukue “desk”
- ʃita “under” ato “later”
- natsu “summer” tsutsumu “wrap”
- kata “person” tatemono “building”
- utʃi “house” tʃizu “map”

Contexts of [t]

Word	Before [t]	After [t]
tatami, tatemono	# (= edge of word)	a
tatami, kata	a	a
tegami	#	e
ſita	i	a
tomodatſi, totemo	#	o
ato	a	o
tatemono	a	e

Contexts of [tʃ]

Word	Before [tʃ]	After [tʃ]
ʃitʃi, ʃizu	#	i
ʃitʃi	i	i
utʃi	u	i
tomodatʃi	a	i

Contexts of [ts]

Word	Before [ts]	After [ts]
natsu	a	u
tsukue, tsutsumu	#	u
tsutsumu	u	u

Japanese stops: Statement of distribution

- [tʃ] occurs only before [i].
- [ts] occurs only before [u].
- [t] occurs only elsewhere.

Japanese stops: Analysis

- This is a complementary distribution.
- Therefore the sound that occurs in the elsewhere distribution, [t], is the default form of the phoneme: /t/.
- The other two sounds, [tʃ] and [ts], must result from phonological rules.
- These rules must turn /t/ into [tʃ] and [ts] in the environments where they occur.

Japanese stops: Analysis

- Rule 1 (Palatalization)
 - Change an alveolar stop into an alveopalatal affricate when it occurs before a high front vowel.
- Rule 2 (Affrication)
 - Change an alveolar stop into an affricate when it occurs before a high back vowel.

Derivations

Underlying representation	/tatami/	/titi/	/natu/
Rule 1	-----	/tʃitʃi/	-----
Rule 2	-----	-----	/natsu/
Surface representation	[tatami]	[tʃitʃi]	[natsu]

Luganda

(Halle and Clements 1983: 51)

- Consider the following data from Luganda (a language of Uganda).
- [l] is an alveolar lateral approximant.
- [r] is an alveolar tap.
- Determine the distribution of [l] and [r] in the following sample of Luganda.

Contexts of [r]

Word	Before [r]	After [r]

Luganda

- Statement of distribution:
- Phoneme: / /
- Phonological rule:

Luganda: Derivations

Underlying representation			
Rule			
Surface representation	[mukira]	[kutu:la]	[erija]

Luganda

- The following loanwords have been altered from their form in their source language to fit the distribution of [l] and [r] in Luganda:
 - ebendera “flag” (< English *banner*)
 - le:rwe “railway” [ɾeɪlweɪ]
 - lu:lɑ “ruler” [ɾulə]
 - s:af:a:li “safari” (< Swahili *safari*)

References

- Fromkin, Victoria and Robert Rodman (1988). *An Introduction to Language* (4th ed.). Holt, Rinehart, and Winston, New York.
- Halle, Morris, and G.N. Clements (1983). *Problem Book in Phonology*. MIT Press, Cambridge.