

Chapter 4

Making the form fit



Introduction

- **Loanwords:** words borrowed from one language into another
 - how?
 - what counts as a loanword?
 - street, 马虎把 (?)
 - nativization; adaptation
 - feeling French [fi'liŋ]
 - → loanwords (generally) adopt the sounds of the "host" language, and follow its rules

Example

- **Hawaiian: syllable adaptation**
 - only very simple syllables: CV(V)
 - simple consonant and vowel inventory:

V		C		
i	u	p	k	ʔ
e	o			h
a		m	n	
		w	l	

<i>English</i>	<i>Hawaiian</i>	<i>English</i>	<i>Hawaiian</i>	<i>English</i>	<i>Hawaiian</i>
ælbət	ʔalapaki	'Albert'	wain	waina	'wine'
'tɪkɪt	kikiki	'ticket'	raɪs	laiki	'rice'
səʊp	kopa	'soap'	bɛl	pele	'bell'
bɪə	pia	'beer'	'flaʊə	palaoa	'flour'
kɪl	kiliki	'kilt'	zəʊdiæk	kokiaka	'zodiac'
bɹʌʃ	palaki	'brush'	θaʊzənd	kaukani	'thousand'
stɔ:ri	kole	'story'	pɑ:m	paama	'palm'
sku:l	kola	'school'	'eləfənt	ʔelepani	'elephant'

Loanword adaptation "rules"

- English /t/ → Hawaiian /k/
- English /o: / → Hawaiian /o/
- English CC-clusters → Haw. CVC (or C)
- The Hawaiian form is "derived" from the English form (pattern; regular relation)

Chinese

- Think about loanwords from English that have been adopted into Chinese
 - examples?
 - what changes from original?
 - cultural aspects?
- How about loanwords in English from Chinese? Other languages?

Phonological rules

- The changes in the loanwords can be described as "rules"
- Approach:
 - one "basic" form and one or more rules
 - e.g. "insert a vowel into consonant clusters"
 - replace a 'th-sound by [s]
 - etc.
- These rules: also in morphology

7

Rules

- Change the phonological form into its phonetic shape by applying a number of rules:

/ phonological form /
 ↓
 [phonetic output]

Works for (Hawaiian) loanwords,
 morphology: English plurals

8

Rules

- back + /z/ → [bæks], kis + /z/ → [kisiz]
 - change the z into an s after k
 - insert /i/ if needed
 - "generative phonology", SPE (1968)

(6) I-INSERTION: Insert [i] between two adjacent sibilants in the same word.

(7) DEVOICING: A voiced obstruent becomes voiceless after a voiceless obstruent.

Input representations	bæk-z	kis-z	a-z
Rule (6)	(n.a.)	i	(n.a.)
Rule (7)	s	(n.a.)	(n.a.)
Output representations	bæks	kisiz	aiz

Other rules

- E.g. aspiration
 - rule: voiceless stops are aspirated in syllable-initial position in a stressed syllable
 - phonology: no aspiration /ti:/ 'tea'
 - phonetics: aspiration, assigned by rule [t^hi:]
 - rule: "connects" the phonology with the phonetics

10

Constraints (optional)

- Another way of doing the same thing
- More recent theory:
 - constraints tell you what is **NOT** permitted, e.g.
 - a voiced z after a voiceless k
 - two sibilant sounds following each other
 - "Optimality Theory" 1990s till now

(9) *SIBSIB: Sequences of sibilants are prohibited within the word.

(10) *αVOICE-αVOICE: Sequences of obstruents within the syllable must agree for voicing.

Optimality Theory

- Grammar also relates inputs to outputs.
 - Input: e.g. /bæk/+z/
 - Possible outputs: [bækz], [bæks], [bækiz], etc etc etc etc etc etc etc
 - The output that satisfies constraints like (9) and (10) **best**, is the output that is selected
 - The **optimal** form

12


bækz	*SibSib	Dep-IO	*voice-voice	Ident (F)
bækɪz		*!		
bækz			*!	
*bæks				*

- input form
- possible candidates
- constraint ranking
- violations of constraints
- winner (= output form)

13

Rules or constraints?

- Rule approach also needs constraints, maybe the constraint approach doesn't need rules
 - so constraint approach is more "economic"
- loanword phonology shows constraints are active, while rules are not needed (Hawaiian)



14

Further reading

- Pages 56-60 of book (optional!)
- Constraint approach very popular at the moment
 - many different variations of the original (1993) theory
 - also applied to language acquisition (learning a grammar)
 - relations to psycholinguistics, computation

15

Conclusion

- Input forms to output forms
 - in loanwords
 - in native words
 - phonological adjustments / "adaptations"
 - series of rules
- Rules define the relation between phonology (abstract) and phonetics (concrete): /A/ → [B]

16

Homework

- Study this chapter carefully!!
- Please do Qs 25, 27-31, 33
- Thank you

17