Local and Nonlocal Interactions between Speech Sounds

Aaron Kaplan

Chamorro

- An Austronesian language spoken in Guam and the Northern Mariana Islands
- The definite article [i] 'the' causes the stressed vowel to change:

gúmaʔ	'house'	→	i gímaʔ	'the house'
sóŋsuŋ	'village'	→	i séŋsuŋ	'the village'
dáŋkulu	'big one'	→	i dǽŋkulu	'the big one'

Chamorro

Local and
Nonlocal
Interactions
between
Speech
Sounds

Aaron Kaplan

Chamorro
Lena
Bolognese
Implications

- But only when the definite article and the stressed vowel
  are in adjacent syllables:

| pulónnun | 'trigger fish' | → | i pulónnun | 'the trigger fish' |
| mundóŋgu | 'cow's stomach' | → | i mundóŋgu | 'the cow's stomach' |

- A Romance language spoken in Italy, similar to (but not a descendant of) Italian

- When the last vowel in a word is [u], the stressed vowel changes:

kordéros	'lambs'	→	kordíru	'lamb'
tsóbos	'wolves'	→	tsúbu	'wolf'
tsamárgos	'muddy lakes'	→	tsamérgu	'muddy lake'

- When the stressed vowel is farther from the end of the word, the interaction persists:

| trwébanos | 'beehives' | → | trwíbanu | 'beehive' |
| páʃara | 'bird (fem)' | → | péʃaru | 'bird (masc)' |

- A Romance language spoken in Bologna, Italy, similar to (but not a descendant of) Italian

- The pronoun meaning 'he' is [l] before vowels:

$$l \text{ arspand 'he responds'}$$

- And [al] before consonants:

$$al \text{ vad 'he sees'}$$

- The pronoun meaning 'him/it' is [l] before vowels:

  i l adroːveŋ 'they use it'

- And [al] before consonants:

  j al daŋ 'they give it'

Generalization

[l] before vowels, [al] before consonants

- When the pronouns appear before vowels, everything is as expected:

  'he   guessed   it'
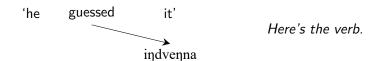
Bolognese

Generalization

[l] before vowels, [al] before consonants

- When the pronouns appear before vowels, everything is as expected:

'he   guessed   it'

Here's the verb.

iŋdveŋna

Generalization

[l] before vowels, [al] before consonants

- When the pronouns appear before vowels, everything is as expected:

'he   guessed   it'

l   iŋdveŋna

This pronoun is before a vowel, so it's [l].

Bolognese

Local and
Nonlocal
Interactions
between
Speech
Sounds

Aaron Kaplan

Chamorro
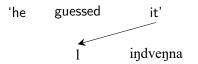
Lena

Bolognese

Implications

Generalization

[l] before vowels, [al] before consonants

- When the pronouns appear before vowels, everything is as expected:

'he	guessed	it'	*This pronoun is before a consonant, so it's [al].*
↓			
al	l	iŋdveŋna	

THE UNIVERSITY OF UTAH
DEPARTMENT OF LINGUISTICS

Generalization

[l] before vowels, [al] before consonants

- But before consonants, something surprising happens.
- Here's what we expect:

'he   sees   him'
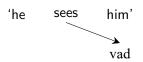
Bolognese

Generalization

[l] before vowels, [al] before consonants

- But before consonants, something surprising happens.
- Here's what we expect:

'he   sees   him'

vad

Here's the verb.

Bolognese

Generalization

[l] before vowels, [al] before consonants

- But before consonants, something surprising happens.
- Here's what we expect:

'he   sees   him'
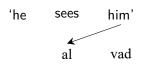
al   vad

This pronoun is before a consonant, so it's [al].

Bolognese

Generalization

[l] before vowels, [al] before consonants

- But before consonants, something surprising happens.
- Here's what we expect:

'he   sees   him'
↓
l   al   vad

This pronoun is before a vowel, so it's [l].

Generalization

[l] before vowels, [al] before consonants

- But before consonants, something surprising happens.
- Here's what we expect:

  'he   sees   him'

    l   al   vad

- Here's what we actually find:

                  al le vad

Bolognese

The Puzzle

[al le vad], not [la l vad]

- What's going on?
- Maybe Bolognese doesn't allow two [l]s in one syllable.
- [la l vad]: The first syllable is [lal]. Not allowed!
- [al le vad]: The first syllable is [al], the second is [le].
  - The [l]s may be closer together, but they're in separate syllables.

- Any system that claims proficiency with language must contend with locality.
- Locality can be measured in counterintuitive ways.
- The effect of locality varies from language to language.
- The sounds that words are composed of are not invariant. To know how a particular sound is pronounced, we may have to examine another sound some distance away.