Tags: #flashcards #notes #LING220
Created: Monday, Feb 14
International Phonetic Alphabet (IPA)

Phonology II

Allophones

Sounds as they're said out loud
Representation: $/l/$

Phonemes

Sounds as they're represented in our mental grammar
$/t/$ phoneme
could represent
$[t], [ɾ]$ allophone

Contrastive distribution = 2 allophones of 2 separate phonemes
Complementary distribution = 2 allophones of the same phoneme

In spanish $[t]$ and $[ɾ]$ are different phonemes vs in English they are the same phoneme $/t/$

Conditioning environment

In English we subconsiously know when to use $[ɾ]$ because there are syllabic sounds around it
This is a conditioning environment
This does not happen when we say $[t]$ it is in a different environment

"Elsewhere"

Why is $/t/$ what we think of when we say $[t]$ and $[ɾ]$? why is t the default we think of?
Because $[ɾ]$ only appears in a specific conditiong environment, in a specific pattern, and $[t]$ appears everywhere else, with no pattern

There's no explanation for this $[t]$, unless it's just already in our mental grammar

The phoneme is usually represented with the allophone that appears "elsewhere"

Example Phonology Problem

German	Gloss	German	Gloss
[bux]	'book'	[ɪç]	'I'
[kɔx]	'cook'	[ɛçt]	'real'
[dɑx]	'roof'	[lɛçəln]	'to smile'
[hox]	'high'	[rɑɪçən]	'to reach'
[lɑxst]	'you laugh'	[kɪrçə]	'church'

[x]
u___#
ɔ___#
ɑ___#
o___#
ɑ___s
$[\frac{back}{vowels}]$ ___ $[\frac{no}{pattern}]$

[ç]
ɪ___#
ɛ___t
ɛ___ə
ɑɪ__ə
r___ə
$[voiced]$ ___ $[\frac{no}{pattern}]$

Sidenote: How do we know if it's a diphthong? If we don't know, just write ɪ and remember to look back at it later if it's causing trouble when finding a pattern

We want a conditioning pattern; is there a pattern that doesn't overlap between $[x]$ and $[ç]$?
Can't use $[voiced]$ to distinguish a conditioning environment

But there are no $[\frac{back}{vowels}]$ used before $[ç]$
If we can say that back vowels are never used before $[ç]$, and back vowels are always used before $[x]$, then we have a conditioning environment. $[x]$ follows a pattern and $[ç]$ is used "elsewhere"

If we find this conditioning environment, then this is complementary distribution, meaning $[x]$ and $[ç]$ are allophones of the same phoneme. Since $[ç]$ is used "elsewhere," then the phoneme is represented as $/ç/$.

Rule Notation

Written as:
$/ç/$ → $[x]$ / $[\frac{back}{vowel}]$___

Read as:
The voiceless palatal fricative becomes the voiceless velar fricative in the environment of the preceding back vowel.

Also written as:
$[\frac{\frac{voiceless}{palatal}}{fricative}]$ → $[velar]$ / $[\frac{back}{vowel}]$___

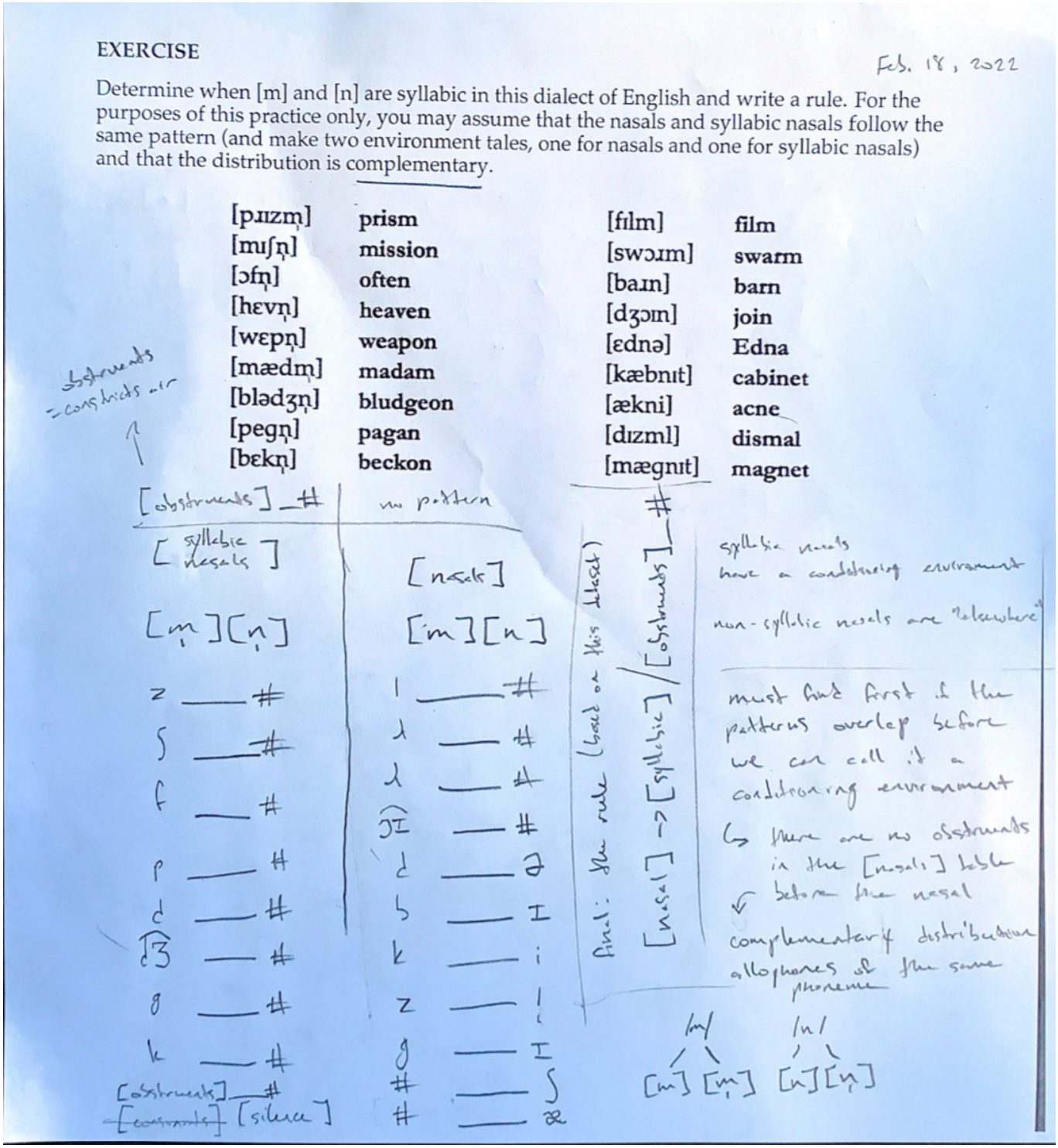
Formatting: the voiceless palatal fricative would be written in notation as the 3 words on top of each other, without the fraction bars, it's just difficult to type out. Same with back vowel, the words would be on top of each other with no line

Writing out our rule from earlier:
$/t/$ → $[ɾ]$ / $[syllabic]$___$[syllabic]$

Exercise

Determine when $[m]$ and $[n]$ are syllabic in this dialect of English and write a rule. You may assume for this practice that the nasals and syllabic nasals follow the same pattern and that the distribution is complementary.

(done on paper handout)



EXERCISE

Feb. 18, 2022

Determine when [m] and [n] are syllabic in this dialect of English and write a rule. For the purposes of this practice only, you may assume that the nasals and syllabic nasals follow the same pattern (and make two environment tales, one for nasals and one for syllabic nasals) and that the distribution is complementary.

[pɹɪzm̩]	prism	[fɪlm]	film
[mɪʃn̩]	mission	[swɔɹm]	swarm
[ɔfn̩]	often	[baɹn]	barn
[hɛvn̩]	heaven	[dʒɔɪn]	join
[wɛpn̩]	weapon	[ɛdnə]	Edna
[mædm̩]	madam	[kæbnɪt]	cabinet
[blədʒn̩]	bludgeon	[ækni]	acne
[pegn̩]	pagan	[dɪzml]	dismal
[bɛkn̩]	beckon	[mægnɪt]	magnet

obstruents = constrictions or

[obstruents]_# | no pattern

[syllabic nasals] | [nasals]

[m̩][n̩] | [m][n]

z _ #
ʃ _ #
f _ #
p _ #
t _ #
ʧ _ #
g _ #
k _ #

l _ #
ɹ _ #
ɻ _ #
ɔɪ _ #
d _ ə
ɫ _ ɪ
k _ i
z _ ɪ
g _ ɪ
_ ʃ
_ ʒ

[obstruents]_# [consonants] [silence]

final: the rule (based on this data) [nasal] → [syllabic] / [obstruents]_#

syllabic nasals have a conditioning environment

non-syllabic nasals are "elsewhere"

must find first if the patterns overlap before we can call it a conditioning environment

↳ there are no obstruents in the [nasals] table before the nasal

complementary distribution allophones of the same phoneme

/m/ /n/

[m] [m̩] [n] [n̩]

The syllabic nasals have a conditioning environment
Complementary distribution

Final conclusion (rule created based on dataset):
$[nasal] \rightarrow [syllabic] \,/\, [obstruents]\_\_\#$

Flashcards

- Contrastive distribution::2 allophones of 2 separate phonemes
- Complementary distribution::2 allophones of the same phoneme

Related Topics

- Phonology I - Classes, Tables, Natural Pairs, Distribution > Distribution
- Next: Phonology III - Applications of Phonology