Nick Aoki HW2 Notes

October 9th, 2024 LIN 103A - Lawyer

Vocabulary

- minimal pair: two words that differ in exactly one sound in the same position

    - ex. “spell” [spɛl] and “spill” [spɪl] are a minimal pair that differ in exactly one sound ([ɛ] vs. [ɪ]) in the same position (the third sound)

- phoneme: smallest unit of sound capable of distinguishing the meaning of one word from another in a given language

    - ex. The fact that placing [ɛ] and [ɪ] in the exact same position creates a difference in meaning (“spell” vs. “spill”) proves that /ɛ/ and /ɪ/ are separate phonemes in English (this method of proving whether 2 sounds are phonemes is often called the *minimal pair test*).

    - Different languages have different sets of phonemes! For example, recall from Slide 26 of the Week 1 lecture slides on articulatory phonetics that unlike English, Quechua has a phonemic contrast between voiceless unaspirated and voiceless aspirated stop consonants ([kujui] means “to move” and [k^hujui] means “to whistle”).

    - When 2 sounds are phonemes in a given language, we can say that the 2 sounds are in *contrastive distribution* (i.e., they can create a *contrast* in meaning when placed in the exact same position within a word).

    - When we refer to phonemes, the convention is to use slashes (/ɛ/ vs. /ɪ/ in English).

- allophones: variants of phonemes that never occur in the same environments

    - When sounds are allophones in a given language, we can say the sounds are in *complementary distribution*.

    - When we refer to allophones (or to any individual sounds), the convention is to use square brackets ([k] and [k^h] are allophones of the phoneme /k/ in English).

- environment: the sounds that come before and after a given sound

    - ex. The environment of [ɛ] in “spell” [spɛl] would be written as: p_l

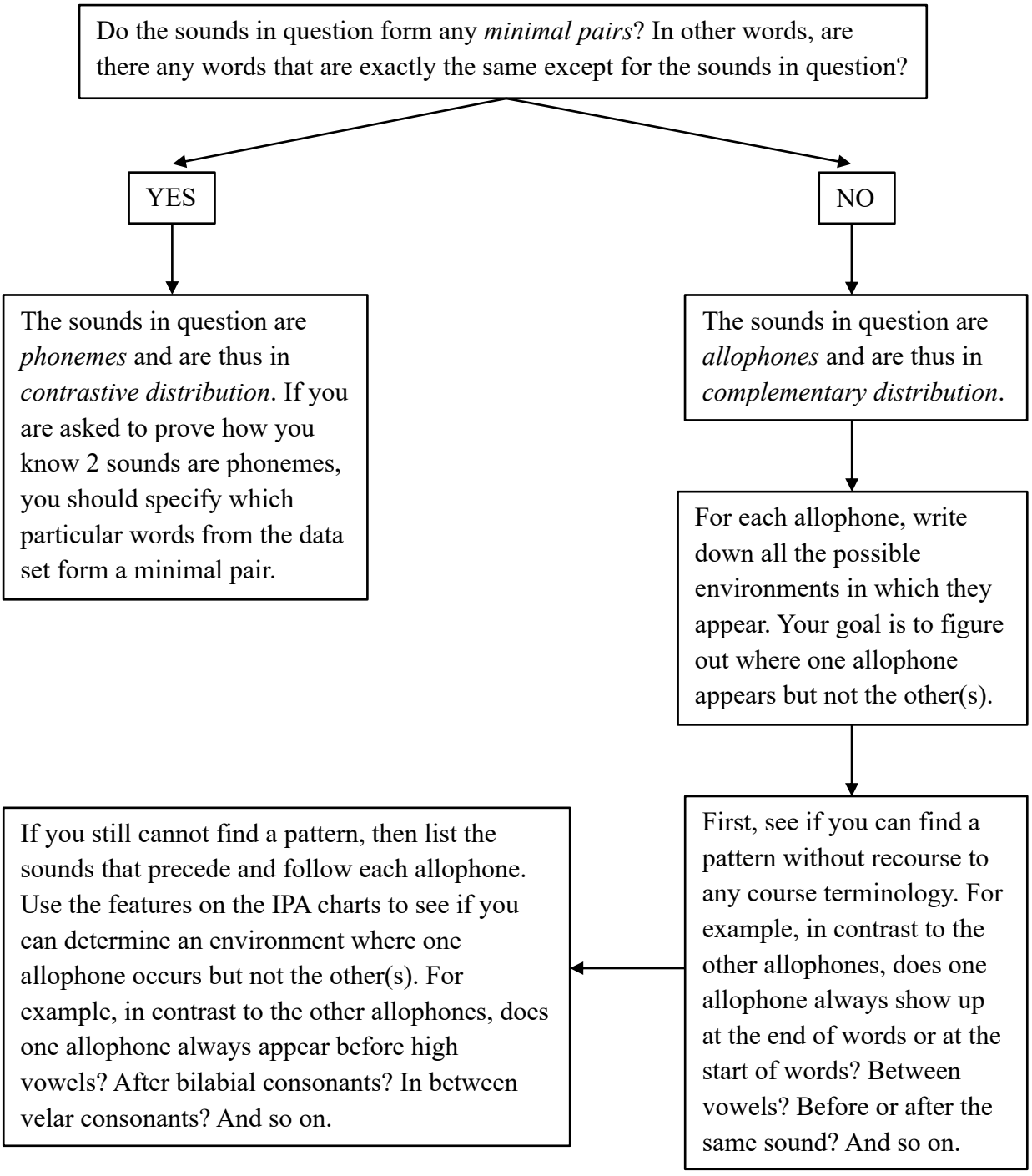
    - ex. The environment of [s] in “spell” [spɛl] would be written as: [$_{word}$ _ p

    - ex. The environment of [l] in “spell” [spɛl] would be written as: ɛ _]$_{word}$

    - There are different conventions for referring to the start or end of words (# is also fine).

Flowchart for Cracking Phoneme/Allophone Data Sets

- A *data set* consists of phonetic transcriptions in some language and their English translations. For all questions on today's worksheets (and on the actual assignment), you will be asked to examine the distributions of 2 or more sounds.



How to Write Phonological Rules

- The overall structure of a phonological rule is: A → B / X __ Y

    - This rule would be read as: "A becomes B in the environment between X and Y".

    - The letters are standing in for unique sounds. The arrow means "becomes", and the slash means "in the environment of".

    - ex. The following hypothetical rule would be translated as "/d/ becomes [ð] in the environment between [g] and [k]": /d/ → [ð] / g __ k

    - If a particular allophone only appears before a particular sound, then we can omit "X" in the rule above: A → B / __ Y

    - If a particular allophone only appears after a particular sound, then we can omit "Y" in the rule above: A → B / X __

- In many cases, certain allophone(s) appear in a restricted context, while another particular allophone appears in a less restricted context ("everywhere else"). This latter allophone is often called the *elsewhere allophone* and is usually the *underlying phoneme*.

    - In the hypothetical rule above (/d/ → [ð] / g __ k), /d/ is the underlying phoneme and [d] and [ð] are the 2 allophones that belong to the /d/ phoneme.

- In practice, many phonological rules can generalize based on phonetic *features*, which we can write in square brackets.

    - ex. In Spanish, the phoneme /d/ is realized as the allophone [ð] between 2 vowels. This can be written as the following rule: /d/ → [ð] / [+ vowel] __ [+ vowel]

    - The "+" symbol means that the segment has a particular property; the "-" symbol means that the segment does not have a particular property.

    - ex. Rules can become more complex, specifying more than one feature. For example, in German the phoneme /ç/ is realized as [x] after back vowels: /ç/ → [x] / $\begin{bmatrix} +vowel \\ +back \end{bmatrix}$ __