data summary

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	Bilabial	Alveolar	Palato-Alveolar	Velar	Glottal
Stop	p p* pʰ ㅂ ㅃ ㅍ	t t* tʰ ㄷ ㄸ ㅌ		k k* kʰ ㄱ ㄲ ㅋ	
Affricate			ʧ ʧ* ʧʰ ㅈ ㅉ ㅊ		
Fricative		s s* ㅅ ㅆ			
Nasal	m ㅁ	n ㄴ		ŋ ㅇ	
Approximant		l ~ r ㄹ			h ㅎ

our finite-state transducer will accept a word (string) as input. it can only check one letter at a time, but doesn't know the length of the word. see pseudocode below for reference.

pseudocode

```
reverse_word(string s):
        set a →  empty string
        set n →  s.length - 1
        while the nth letter is not null:
                add nth letter to a
                n--
        return a

// each condition represents a transition between the states

all_rules(string s):
        set a → empty string
        set i → reverse_word(s)
        if the first letter in i is 'p*' or 'pʰ':
                change to 'p'
        else if the first letter in i is 'k*' or 'kʰ':
                change to 'k'
        else if first letter in i is 's', 'tʃ','t*', or 'tʰ':
                change to 't'
        return reverse_word(a)
```

laryngeal neutralization data

- laryngeal distinctions are plain vs aspirated vs tense

k, k']σ → [k]

/ pak' /   ' outside '   *nom.* [pak'-ɯn]   [pak]
/ muk' /   ' tie '   *nom.* [muk'-ɯn]   [muk]

t, tʰ]σ → [t]

/ mitʰ /   ' bottom '   *nom.* [mitʰ-ɯn]   [mit]
/ patʰ /   ' field '   *nom.* [patʰ-ɯn]   [patʰ]

p, pʰ]σ → [p]

/ tʃipʰ /   ' straw '   *nom.* [tʃipʰ-ɯn]   [tʃip]
/ kapʰ /   ' leaf '   *nom.* [kapʰ-ɯn]   [kap]

manner neutralization data

s, t]σ → [t]

/ məs /   ' style '   *nom.* [məs-ɯn]   [mət]
/ bʌs /   ' brush '   *nom.* [bʌs-ɯn][bʌt]

tʃ, tʰ]σ → [t]

/ matʃ /   ' be hit '   *nom.* [matʃ-ɯn]   [mat]
/ pitʃ /   ' debt '   *nom.* [pitʃ-ɯn]   [pit]

palatal neutralization data

tʃ, tʃʰ]σ → [t]

/ pitʃʰ /   ' light '   *nom.* [pitʃʰ-ɯn]   [pit]
/ natʃʰ /   ' face '   *nom.* [natʃʰ-ɯn]   [nat]