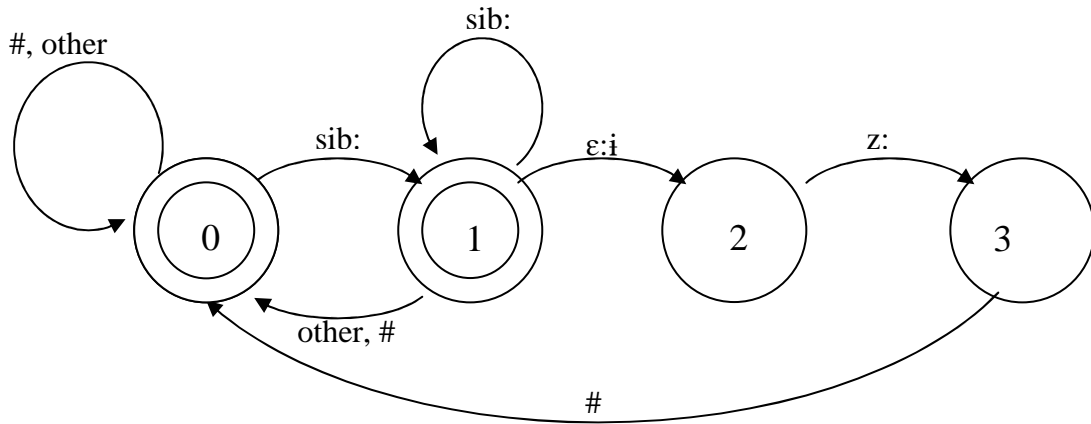
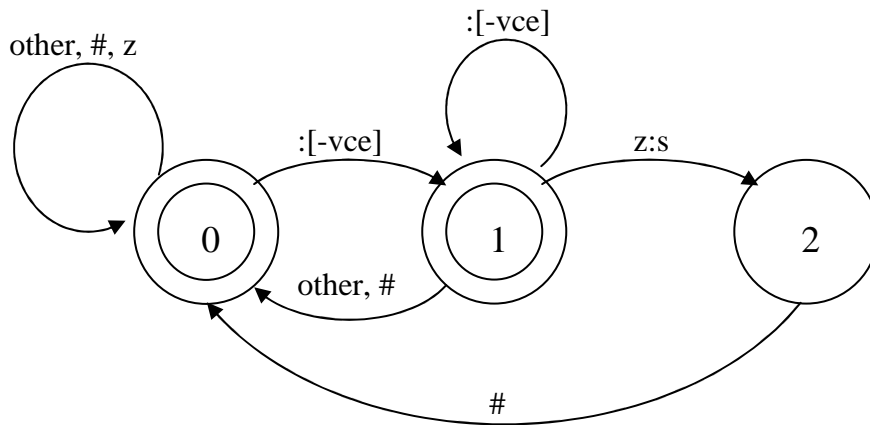


i-insertion:



z – devoicing:



dagz → dagz

| | i-ins | z-dev | lex | surf |
|---|-------|-------|-----|------|
| 1 | 0 | 0 | d | d |
| 2 | 0 | 0 | a | a |
| 3 | 0 | 0 | g | g |
| 4 | 0 | 0 | z | z |
| 5 | 1 | 0 | # | # |
| 6 | 0 | 0 | | |

At step 4, we can't do a z:s because we're at state 0 in z-devoicing.

At step 4, we can't do an i-insertion because we're at state 0 in i-insertion.

cætz → cæts

| | i-ins | z-dev | lex | surf |
|---|-------|-------|-----|------|
| 1 | 0 | 0 | c | c |
| 2 | 0 | 1 | æ | æ |
| 3 | 0 | 0 | t | t |
| 4 | 0 | 1 | z | s |
| 5 | 1 | 2 | # | # |
| 6 | 0 | 0 | | |

At step 4, we do a z:s. This is allowed at state 0 of i-insertion because we're only interested in making sure that there's a sibilant at surface structure; we let other rules change it if they need to.

At step 4, we can't do a z:z because we're at state 1 in z-devoicing. We can't do i-insertion because we're at state 0 there.

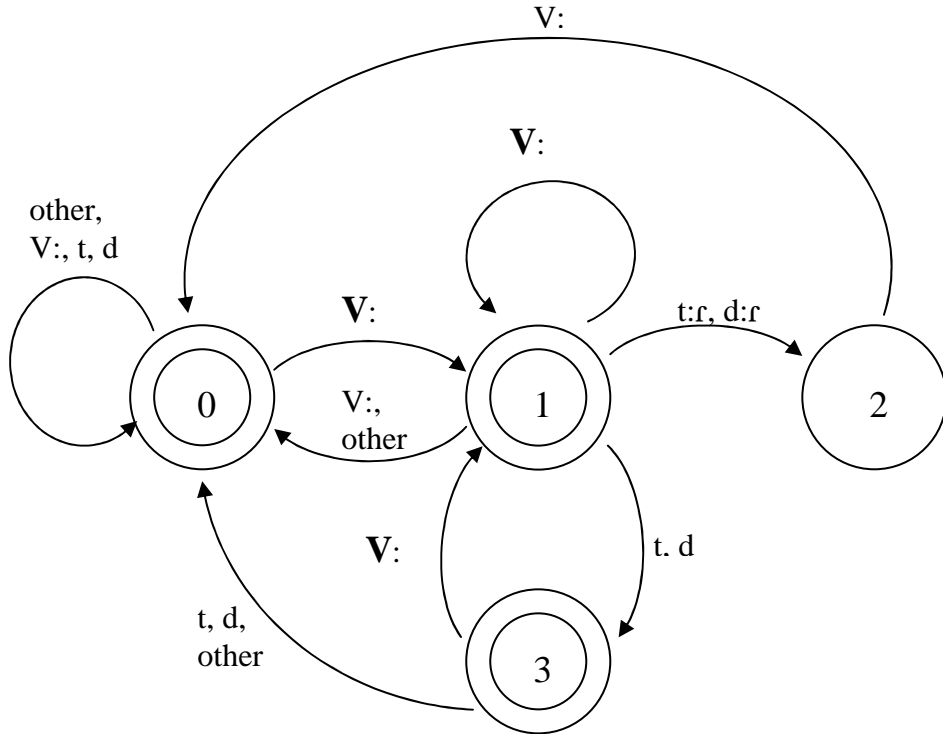
faksz → faksiz

| | i-ins | z-dev | lex | surf |
|---|-------|-------|-----|------|
| 1 | 0 | 0 | f | f |
| 2 | 0 | 1 | a | a |
| 3 | 0 | 0 | k | k |
| 4 | 0 | 1 | s | s |
| 5 | 1 | 1 | ɛ | i |
| 6 | 2 | 0 | z | z |
| 7 | 3 | 0 | # | # |
| 8 | 0 | 0 | | |

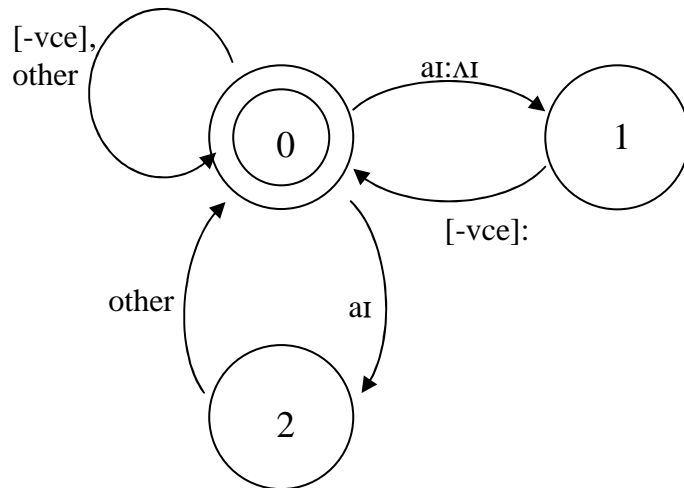
In step 5 we can take an ε:i arc in z-devoicing – it is the “other” arc. We can't take z:z because we're in state 1 in z-devoicing. We can't take z:s because we're in state 1 of i-insertion, which should prevent two sibilants at the end of the word.

In step 6, we can't take z:s because we're in state 0 in z-devoicing.

flapping:



Canadian raising:



raidɹ → raiɹ

| | flap | rais | lex | surf |
|---|------|------|-----------|-----------|
| 1 | 0 | 0 | r | r |
| 2 | 0 | 0 | ai | ai |
| 3 | 1 | 2 | d | r |
| 4 | 2 | 0 | ɹ | ɹ |
| 5 | 0 | 0 | | |

At step 2, we can't take an ai:Δi arc, because that would leave us at state 1 in raising. There's no way out of there with an input *d*.

At step 3, we couldn't take the d:d arc, because that would leave us at state 3 in flapping. There's no way out of there with an unstressed vowel.

rait_ɪ → rΔir_ɪ

| | flap | rais | lex | surf |
|---|------|------|-----------|-----------|
| 1 | 0 | 0 | r | r |
| 2 | 0 | 0 | ai | Δi |
| 3 | 1 | 1 | t | r |
| 4 | 2 | 0 | ɹ | ɹ |
| 5 | 0 | 0 | | |

At step 2 we can take the ai:Δi arc in flapping because it's an *other*. We can't just take the ai:ai arc, because that would leave us in state 2 in Canadian raising. There's no way out of there with a surface voiceless sound.