

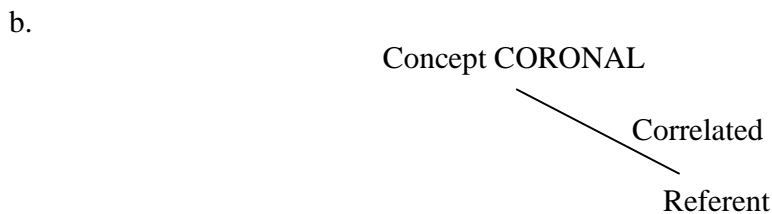
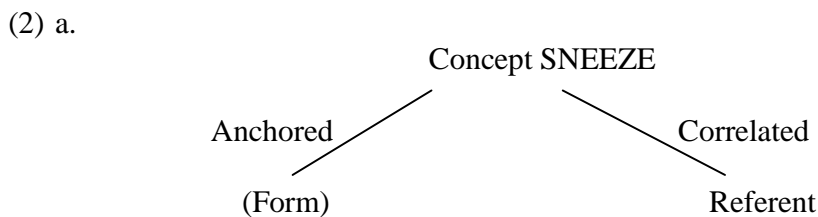
## On the nature of phonological primes

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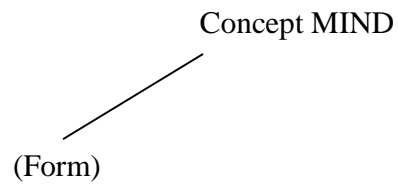
CUNY Phonology Forum - Conference on the Segment (January 11-13, 2012)

### 0 Questions and issues

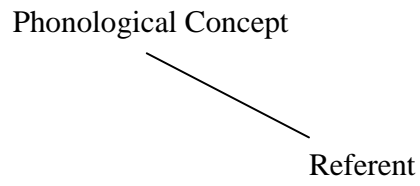
1. Must phonological primes have phonetic correlates? (Yes, but the content plays no role in the phonology)
2. Are primes mental concepts? (yes, but they differ from semantic concepts of which humans are conscious and which are anchored to names)
3. Are primes innate? (not likely, although their phonetic correlates may depend on evolved traits of the production and perception apparatus)
4. Are primes (if not innate) psychologically real? (likely, if you got the right ones)
5. Are primes ‘unary’ or ‘binary’? (unary because primes are actually complete segments)
6. Is the system of primes ‘trichromatic’ or ‘dichromatic’ (both, but at different levels) (Including some parallels between vision and language)



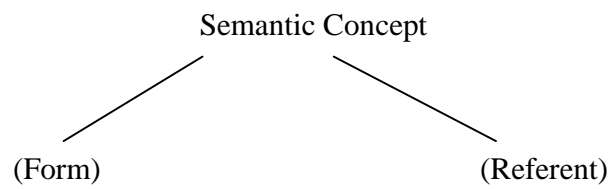
(3)



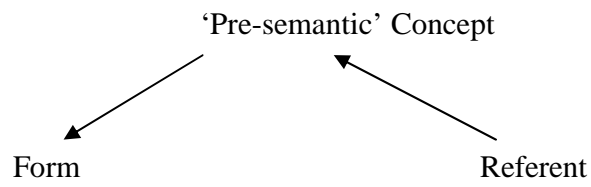
(4) a.



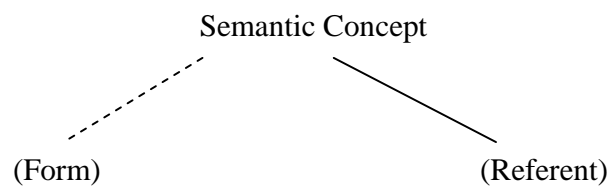
b.



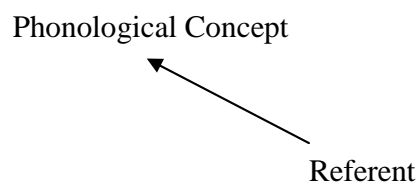
(5) (Calls)



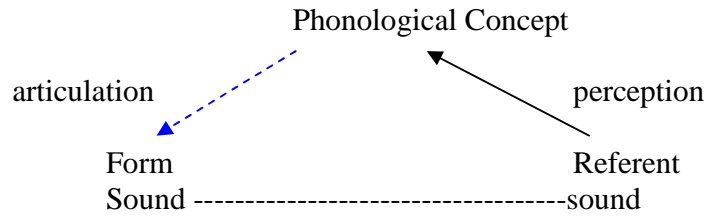
(6)



(7)



(8) Motor Theory of speech perception:



(9) a. /p/ [-voice]      /b/ [+voice]      b. /p/ [-voice]      /b/ [+voice]

(10) |A| lowness  
|U| roundness  
|I| frontness

(11) a. |A|  
|I|  
[ε]

b. |I|  
|A|  
[e]

(|A| represents 'lowness' while |I| represents 'high-frontness')

(12) A                      A                      B                      B

                                 |                      |

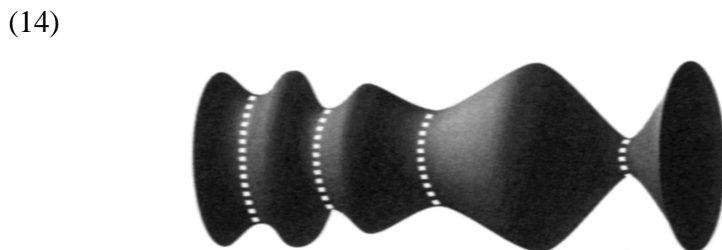
                                 B                      A

(13) Head                      Dependent

|A| lowness                      retracted tongue root

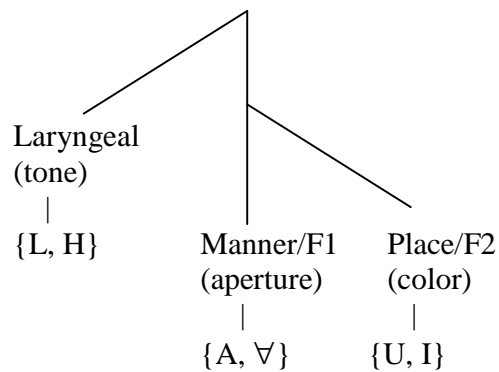
|U| backness                      roundness

|I| frontness                      ATR



- (15) Red - Green - Blue ?
- (16) Red/Green Blue/Yellow
- (17) I U A ?
- (18) IU (F2 detector) ∇/A (F1 detector)

(19)



(20)

|           | Element names | RcvP coding |
|-----------|---------------|-------------|
| Manner    | A ∇           | V C         |
| Place     | U I           | V C         |
| Laryngeal | L H           | V C         |

(21)

|   | Head      | Dependent (Enhancement) |
|---|-----------|-------------------------|
| ∇ | ATR       | closed (high)           |
| A | retracted | open (low)              |
| U | back      | rounded                 |
| I | front     | compressed              |

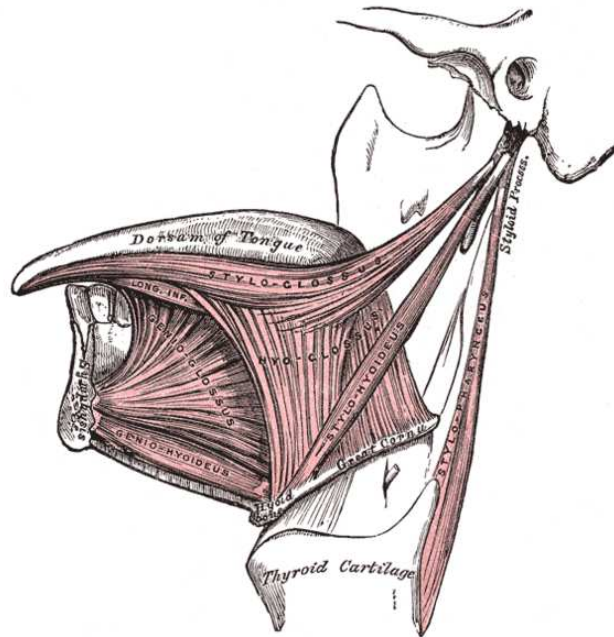
(22)

Palatal : genioglossus  
 Velar: styloglossus (and genioglossus, and palatoglossus)  
 Uvular: styloglossus (superior phar. constrictors, hyoglossus)  
 Pharyngeal: hyoglossus

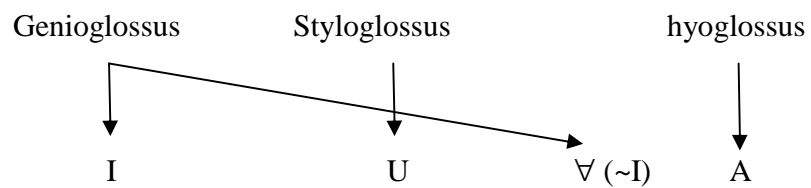
(23)

Palatal : genioglossus (I)  
 Velar: styloglossus (U)  
 Pharyngeal: hyoglossus (A)

(24)



(25)



(26)

|                         | Head                  | Dependent (Enhancement) |
|-------------------------|-----------------------|-------------------------|
| Palatal constriction    | V  ATR (geniogl.)     | closed (jaw)            |
| Pharyngeal constriction | A  retracted (hyogl.) | open (jaw)              |
| Velar constriction      | U  back (stylogl.)    | rounded (lips)          |
| Palatal constriction    | I  front (geniogl.)   | compressed (lips)       |

(27)

|            | I | <u>I</u> U | Colorless   | <u>U</u> I | U |
|------------|---|------------|-------------|------------|---|
| V          | i | y          | i ~ u       | ɥ          | u |
| Mannerless | ɪ | ʏ          | ə (~ schwa) |            | ʊ |
| <u>V</u> A | e | ø          | ɘ ~ ɤ ~ ɛ   | ɵ          | o |
| <u>A</u> V | ɛ | œ          | ɜ ~ ʌ       | ɞ          | ɔ |
| A          | æ | œ          | a ~ ɑ       |            | ɒ |