

To: Jeffrey Epstein[jeevacation@gmail.com]
From: [REDACTED]
Sent: Fri 7/13/2018 1:31:54 PM
Subject: Fwd: Laurel v Yanny "illusion" & Consonant classifications

Begin forwarded message:

From: MARK TRAMO [REDACTED]
Subject: Laurel v Yanny "illusion" & Consonant classifications
Date: July 12, 2018 at 6:47:57 PM EDT
To: John Iversen [REDACTED] Peter Cariani
[REDACTED] Marco Iacoboni [REDACTED]

FYI -

re: Consonant categories of L vs Y and R vs. N - all or sonorants, voiced, and involve touching the tongue to the alveolar ridge or a little behind it. I have to admit being something of a Liberman fan : motor theory of speech perception.

I put together the outline below in advance of my call w/ Natl Geographic in a few minsxxx

LAUREL vs YANNY

L vs Y confusion:

- both L and Y are in the "sonorant" a.k.a. "resonant" class of consonants
- both L and Y are voiced consonants
- both L and Y POA involve putting the tongue against the back of the gums, though L is considered alveolar and Y "alveopalatal"
- both Laterals like L and Semivowels like Y involve air escaping through small apertures
 - in L the air escapes around the sides of the tongue, in Y the alveopalatal aperture is smaller than a vowel's but less restrictive than fricatives and stops.

R and N confusion:

- both R and N are in the “sonorant” a.k.a. “resonant” class of consonants
- both R and N are voiced consonants
- both R and N have same POA = alveolar
- both MOA retroflex R and MOA nasal N block airflow at the alveolar ridge but In R it

comes out the mouth but in N it comes out the nose

From:

<http://facweb.furman.edu/~wrogers/phonemes/phono/phcons.htm> -

In phonetics and phonology, MOA = a sonorant or resonant is a speech sound that is produced with **continuous, non-turbulent airflow in the vocal tract**; these are the manners of articulation that are most often voiced in the world's languages. Vowels are sonorants, as are consonants like /m/ and /l/: **approximants, nasals, flaps or taps, and most trills.**

PLACE OF ARTICULATION

Alveolar Consonants

- **the flow of air is stopped or impeded by creating a block or a small aperture between the tongue and the alveolar ridge.** Alveolars may be **voiced** (vocal cords vibrating during the articulation of the consonant) or **voiceless** (vocal cords not vibrating during the articulation of the consonant). Here is a list of the **alveolars** in Present-Day English. 1. /t/ (the phoneme spelled *t* in *tot*): voiceless alveolar stop.
- 2. /d/ (the phoneme spelled *d* in *dot*): voiced alveolar stop.
- 3. /s/ (the phoneme spelled *s* in *sue*): voiceless alveolar fricative.
- 4. /z/ (the phoneme spelled *z* in *zoo*): voiced alveolar fricative.
- 5. /n/ (the phoneme spelled *n* in *nail*): (voiced) alveolar nasal.
- 6. /l/ (the phoneme spelled *l* in *let*): (voiced) alveolar lateral.
- 7. /r/ (the phoneme spelled *r* in *root*): (voiced) alveolar retroflex.

Alveopalatal Consonants

- **Alveopalatals** are consonants for which **the flow of air is stopped or impeded by creating a block or a small aperture between the tongue and the region of the hard palate just behind the alveolar ridge**. Alveopalatals may be **voiced** (vocal cords vibrating during the articulation of the consonant) or **voiceless** (vocal cords not vibrating during the articulation of the consonant).

Here is a list of the **alveopalatals** in Present-Day English.

1. /tʃ/ (the phoneme spelled *ch* in *chip*): voiceless alveopalatal affricate.
2. /dʒ/ (the phoneme spelled *g* in *gyp*): voiced alveopalatal affricate.
3. /ʃ/ (the phoneme spelled *sh* in *shore*): voiceless alveopalatal fricative.
4. /z/ (the phoneme spelled *z* in *azure*): voiced alveopalatal fricative.
5. /j/ (the phoneme spelled *y* in *yard*): (voiced) alveopalatal semivowel.

MANNER OF ARTICULATION – all the consonants in these two words are “resonants” and all involve the tongue touching the back of the gums or hard palate

1. Lateral /l/ in Laurel vs Semivowel /y/ in Yanny

Laterals are consonants formed by **allowing the air to escape around the sides of the tongue**. Present-Day English has only one lateral, which is **voiced** (vocal cords vibrating during the articulation of the lateral). (The lateral, the nasals, the retroflex /r/, and the semivowels /w/ and /j/ are sometimes called the **resonants**.)

1. /l/ (the phoneme spelled *l* in *let*): (voiced) alveolar lateral.

Semivowels are vowel-like consonants: that is, **the air-flow is not stopped or impeded so as to cause a friction-sound, but the aperture through which the air passes is smaller than the aperture of any vowel**. Also, in forming words, semivowels appear in positions where consonants normally appear. Present-Day English has two semivowels, both of which are **voiced** (vocal cords vibrating during the articulation of the nasal). (The semivowels, the lateral /l/, the retroflex /r/, and the nasals are sometimes called the **resonants**.)

1. /w/ (the phoneme spelled *w* in *wet*): (voiced) bilabial velar semivowel. (This phoneme is bilabial because it requires rounding of both lips; it is velar because the back of the tongue rises toward the velum when the phoneme is articulated.)
2. /j/ (the phoneme spelled *y* in *yard*): (voiced) alveopalatal semivowel.

2. Retroflex /r/ in Laurel vs Nasal /n/ in Yanny

A **retroflex** is a consonant formed when **the** tongue rises toward the roof of the mouth and then retracts toward the back of the oral cavity. Present-Day English has one retroflex, which is **voiced** (vocal cords vibrating during the articulation of the retroflex). (**The retroflex, the lateral /l/, the nasals, and the semivowels /w/ and /j/ are sometimes called the resonants.**)

1. /r/ (the phoneme spelled *r* in *root*): (voiced) alveolar retroflex.

Nasals are consonants that are formed by **blocking the oral passage and allowing the air to escape through the nose**. Present-Day English has three nasals, all of which are **voiced** (vocal cords vibrating during the articulation of the nasal). (The nasals, the lateral /l/, the retroflex /r/, and the semivowels /w/ and /j/ are sometimes called the **resonants**.)

1. /m/ (the phoneme spelled *m* in *mail*): (voiced) bilabial nasal.

2. /n/ (the phoneme spelled *n* in *nail*): (voiced) alveolar nasal.

3. /ŋ/ (the phoneme spelled *ng* in *sing*): (voiced) velar nasal.

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