Pre-sonorant voicing, laryngeal realism, and language contact

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TL;DR

- ☞ My typology is horribly Eurocentric
  - Lots of languages: final devoicing / fortition
  - Still lots of languages: final devoicing / fortition + voicing assimilation to obstruents across word boundaries
  - A smaller number of languages: all of this + pre-sonorant voicing of fricatives
  - An even smaller number: all of this but with stops
- ☞ Languages with pre-sonorant voicing of all obstruents cluster at the boundaries of H- and L-type languages
  - *Isn't this weird?*

1 Word-final neutralization

1.1 The simple case

Simple final devoicing

- Russian

(1) a. [ˈgorət]   *город*   'town-NOM.SG'

    b. [ˈgorədə]   *города*   'town-GEN.SG'

(2) a. [ˈvorət]   *ворот*   'collar-NOM.SG'

    b. [ˈvorətə]   *ворота*   'collar-GEN.SG'

- More Russian

(3) a. [gorət pskof]   *город Псков*   'city of Pskov'

b. [gorəd bʲełgərət]   *город Белгород*   'city of Belgorod'

c. [gorət maskva]   *город Москва*   'city of Moscow'

d. [gorət arʲoł]   *город Орел*   'city of Oryol'

- Only obstruents enter a laryngeal contrast
- Only obstruents undergo final devoicing
- Only obstruents trigger voicing assimilation
- Underspecification theorists are happy!
- Stratal phonologists are happy!

1.2 The slightly more complex case

ECUADORIAN SPANISH

- Variaties of Spanish in Ecuador: voicing of final /s/ before a vowel or sonorant (K. Robinson 1979, Lipski 1989, Colina 2009, Strycharczuk, van 't Veer, et al. 2014)

(4) a. [a ˈsiðo]   *ha sido*   'has been'

b. [ˈkasa]   *casa*   'home'

(5) a. [az ˈiðo]   *has ido*   '(you (sg.)) have gone'

b. [loz ˈotros]   *los otros*   'the others'

- Voicing across a boundary but not generally intervocalic
- Only /z/, but it's the only voiceless fricative word-finally
- Triggered by sonorants: underspecification theorists not happy!
- Restricted to sandhi: stratal phonologists need a minute

EUROPEAN PORTUGUESE

- Similar kind of data (e. g. Ramsammy & Strycharczuk 2016)
- Added wrinkle of postalveolar involvement
    - /s z/ ∼ /ʃ ʒ/ neutralized to [ʃ ʒ] before a consonant or pause
    - But neutralized to alveolar (in practice [z]) in prevocalic sandhi

(6) a. [ʁɐˈpaʃ]   *rapaz*   'boy'

b. [ʁɐˈpaʒɨʃ]   *rapazes*   'boys'

c. [ʁɐˈpaz ˈałtu]   *rapaz alto*   'tall boy'

Catalan

- Definitely has final devoicing (Wheeler 2005, Jiménez & Lloret 2008, Strycharczuk 2015)

(7)   a.   [kas]   *cas*   'case-SG'

       b.   [kazus]   *casos*   'case-PL'

(8)   a.   [bras]   *braç*   'hand-SG'

       b.   [brasus]   *braços*   'hand-PL'

- Of stops, too

(9)   a.   [sap]   *sap*   '(s)he knows'

       b.   [sə'βɛm]   *sabem*   'we know'

(10)   a.   [tip]   *tip*   'fed up-MASC.SG'

       b.   [tipə]   *tipa*   'fed up-FEM.SG'

Catalan prevocalic voicing

- Also assimilation to obstruents across a word boundary

(11)   a.   [nab gran]   *nap gran*   'big turnip'

       b.   [goz ðə'nɛs]   *gos danès*   'Danish dog'

- Sibilants voice before vowels across a boundary, but other consonants do not

(12)   a.   [sap əʒu'ða]   *sap ajudar*   'knows how to help'

       b.   [ʎark aɲ]   *llarg any*   'long year'

       c.   [kaz əks'trem]   *cas extrem*   'extreme case'

- Stops *can* get voiced in sandhi by a following sibilant

(13)   [amigz intims]   *amics intims*   'close friends'

     ☞ I ignore the pre-sonorant facts for reasons of time and complexity, see Strycharczuk (2015)

West Flemish

- Final devoicing + voicing assimilation + pre-sonorant voicing of fricatives (De Schutter & Taeldeman 1986, Strycharczuk & Simon 2013)
- Fricatives, but not stops, categorically (but optionally) voice before a vowel (but not consistently before a sonorant)

(14)   [fri:z ɑ:pjə]   *Fries aapje*   'Frisian monkey-DIM'

- Strycharczuk & Simon (2013): intervocalic lenition of fricatives more likely to be reinterpreted as a categorical process of voicing, for phonetic reasons
- The asymmetry between fricatives and stops follows from phonetic biases

2 Across-the-board pre-sonorant voicing

2.1 Romance

ALICANTE CATALAN

- According to Jiménez & Lloret (2008), in Alicante Catalan *all* obstruents undergo prevocalic voicing in sandhi

(15) a. [saβ əʃɔ]   *sap això*   'knows this'
      b. [beɣ ajɣwa]   *bec aigua*   'I drink water'

- This is probably just rule generalization (e. g. O. W. Robinson 1976, Ramsammy 2015), right?

2.2 Slavic

POLISH

- Polish is basically like Russian
- In addition there is a major dialect division between roughly northeastern ('Warsaw') and southwestern ('Kraków-Poznań') dialects
- The latter show pre-sonorant voicing of *all* obstruents (Bethin 1992, Gussmann 1992, Rubach 1996, Cyran 2013)

(16) a. [lɔs]   *los*   'fate'
      b. [lɔsu]   *losu*   'fate-GEN.SG'
      c. [lɔz narɔdu]   *los narodu*   'fate of the people'

(17) a. [jak]   *jak*   'how'
      b. [jakɔɕʨ]   *jakość*   'quality'
      c. [jag onʲi]   *jak ɔni*   'like them'

SLOVAK

- Much the same system applies in Slovak (Pauliny 1979, Rubach 1993, Blaho 2008, Bárkányi & Beňuš 2015)
- ☞ Part of the same area, includes also eastern Moravian dialects of Czech (Ďurovič 1978)

(18) a. [xlap]   *chlap*   'man'
      b. [xlapa]   *chlapa*   'man-GEN.SG'
      c. [xlab dɔxɔdi:]   *chlap dochodí*   'a man comes up'
      d. [xlab idɛ]   *chlap ide*   'a man goes'

2.3 Celtic

Breton

- See for instance Kervella (1946), Le Dû (1986), Krämer (2000), Ternes (2011)
- Plougrescant (Le Dû 1986, 2012)

(19) a. [ʃuk]   *chouk*   'nape'

     b. [ʃuku]   *choukoù*   'napes'

     c. [ʃug i ɡiːl]   *chouk e gil*   'nape of his neck'

- See Iosad (2017) for analysis
- Can be blocked by gemination in fricatives (regular after a stressed vowel)

(20) a. [lyʃ]   *luch*   'one who squints'

     b. [ˈlyʃːã]   *luchañ*   'to squint'

     c. [ˈlyʃː ɛ]   *luch eo*   '(s)he squints'

2.4 Germanic

Dutch

- Pre-sonorant voicing of stops is noted in south-eastern dialects, particularly in Brabant and Limburg (e. g. De Schutter & Taeldeman 1986, Hinskens 1992, 2007)
- Hasselt (Peters 2006), Orsmaal-Gussenhoven (Peters 2010), some examples all over the Lower Franconian area (Jongen 1986)
- Hasselt: /dən huk im/ 'round the corner' [dən hug im]

NB This area lacks the pattern of progressive devoicing in the past tense of weak verbs crucial to the |H| analysis of Dutch (Wijnen 1958, Belemans & Keulen 2004, Iverson & Salmons 2003): [kobdə] 'bought' (Standard Dutch *koopte* /kop+də/)

Luxembourgish

- Another Franconian variety, where pre-sonorant voicing of stops is even part of the standard (Newton 1990, Gilles & Trouvain 2013, Gilles 2014)

(21) a. [dek]   *déck*   'thick'

     b. [dekən]   *décken*   'thick-NOM.PL'

     c. [deg ɑn dən]   *déck an dënn*   'thick and thin'

NB Luxembourgish has the Standard German |H| system in its stops (Gilles & Trouvain 2013), so technically this isn't 'voicing'

- Franconian does participate to an extent in the context-free lenition of stops / *binnenhochdeutsche Schwächung* (Newton 1990), although apparently not *lautgesetzlich*

3 Laryngeal realism and language contact

3.1 The ambiguity of voicing

So what do we make of all this?

- In laryngeal realism (Honeybone 2005), the analysis of final devoicing is ambiguous, depends on whether the language is |H| or |L| (Harris 2009, Iverson & Salmons 2011)
    - In |H| languages: final fortition (German)
    - In |L| languages: lenition (Russian)
- Actually, the same is apparently true of sandhi voicing
    - In |H| languages: lenition (Luxembourgish)
    - In |L| languages: fortition??? (Catalan, Breton)
- As discussed in detail by Strycharczuk (2012), pre-sonorant voicing is not voicing assimilation but is associated with *delaryngealization*
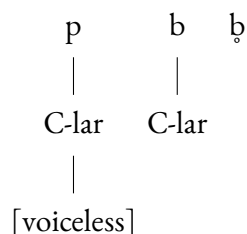- So should it be lenition?

A substance-free twist?

- Things get even more difficult if |H| or |L| status cannot be (easily) read off the phonetics
    - Dutch: fricative patterning (Iverson & Salmons 2003)
    - Hungarian: |L| phonetics (Petrova et al. 2006) but |H| pattern of [j]-obstruentization (Blaho 2008)
    - Friulian: |H| analysis of final devoicing (Iosad 2012a)
    - Italian: preaspiration (Gobl & Ní Chasaide 1999, Stevens & Hajek 2004), F0 perturbations (Kirby & Ladd this workshop)
- Closer to the topic at hand...
    - Cyran (2013): 'laryngeal relativism'
    - Iosad (2017): substance-free phonology

Sandhi voicing in a covert-|H| language

- Analysis of Breton (Iosad 2017)
    - Breton is phonetically a |L| language (see especially Bothorel 1982)
    - Phonologically, it is a |H| language

(22)   Proposed representations for word-final segments

$$
\begin{array}{ccc}
\text{p} & \text{b} & \text{b̥} \\
| & | & \\
\text{C-lar} & \text{C-lar} & \\
| & & \\
\text{[voiceless]} & &
\end{array}
$$

- Word-internal devoicing is fortition by addition of [voiceless]: attested
- Word-internal voicing would be lenition (but isn't attested)
- Word-final neutralization is lenition: deletion of C-lar
- Both 'voicing' and 'devoicing' in sandhi are *phonetic implementation*

(23)   a.   [ˈmaːd̥] → [maːt]   *mat*   'good'

       b.   [maːd̥ ɛ] → [maːd ɛ] *mat eo*   '(it) is good'

- Resolves the ambiguous status of a word-final voiceless obstruent in a |H| language
- Compatible with pre-sonorant voicing as delaryngealization (Strycharczuk 2012) even in a |H| phonology
- ☞ Similar analysis of Friulian in Iosad (2012a), although with less decisive evidence
- ☞ Somewhat similar analysis of Kraków-Poznań Polish by Cyran (2013), although see Strycharczuk (2012) for critical discussion

3.2   Language contact?

Laryngeal realism and language contact

- Language contact appears capable of changing a language from a |H| type to an |L| type (at least)
  - Yiddish: Germanic |H| to |L| under Slavic influence
  - Netherlandic (Iverson & Salmons 2003, Simon 2011)
  - Breton: the phonology is very similar to more obviously |H| Welsh, but the phonetics is more like Romance

An areal pattern?

- With the exception of Alicante Catalan, *all* cases of across-the-board pre-sonorant voicing are located at or near an interface between |H| and |L| languages
- The phonetic biases create the asymmetry between pre-sonorant voicing of fricatives and of stops
- Alicante shows pre-sonorant voicing *can* (probably) extend to all obstruents by rule generalization (cf. Strycharczuk 2015)...
- But could language contact be promoting such generalization?

Netherlandic

- Generally agreed that the Dutch system is related to contact with Romance
- Simon (2011): unclear if this is L1 agency (Romance speakers imposing on Germanic) or L2 agency (Germanic speakers borrowing from Romance)
- The southern/western periphery of Netherlandic (Flemish/Brabantish/Limburgish) has both
  - Pre-sonorant voicing
  - Loss of the 'Germanic' pattern in weak verb suffixes (Salmons forthcoming)
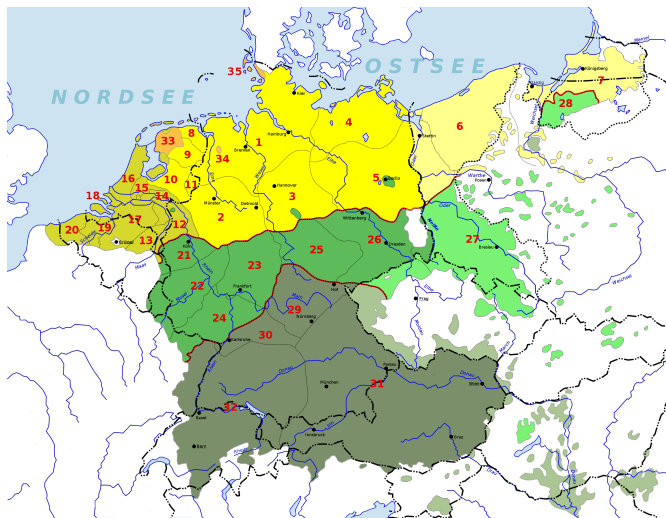
Franconian

- This is much the same part of the world
- Contact with Romance is historically assured
- An overall Germanic system
    - |H| type phonetics
    - Final devoicing as final fortition? (Or is it?)
    - *Binnenhochdeutsche Schwächung* as diagnostic of |H| phonology (Honeybone 2005)
- ... but a pre-sonorant voicing system much like the Netherlandic ones

Breton

- Welsh is a classic |H| language (Iosad 2012b)
- Cornish has most of the same patterns, but also some final devoicing mostly in unstressed syllables (Williams 2016): more like lenition?
- Presumably the Romance-like phonetics is a contact effect
- ☞ Although, as in the case of Dutch, it is unclear whether L1 or L2 agency is at play

Slavic

- Western Polish/Moravian/Slovak is on the western periphery of the Slavic world
- German widely spoken after the *Ostsiedlung* from the 13th century and until WWII

- Stieber (1975): Polish voicing sandhi appears in the record in the late 14th century

3.3 In lieu of a conclusion

The asymmetry

- It is worth thinking about the asymmetry between stops and fricatives in laryngeal realism
- Previous proposals for split systems:
    - Dutch (van Oostendorp 2003, Iverson & Salmons 2003)

- – European Portuguese (Ramsammy & Strycharczuk 2016)
- In our highly biased sample, we seem to have an implication: pre-sonorant voicing of stops implies pre-sonorant voicing of fricatives
- Probably because fricative voicing is easier to phonologize (Strycharczuk 2012)

Why the voicing?

- Not really a proposal...
- In a phonologically |H| language, final devoicing is ambiguous between
  - – Final fortition: Lar → |fortis|
  - – Final lenition: Lar → ∅
- In a phonologically |L| language, it is final lenition
- In a language contact situation, the ambiguity has to be resolved
- If it is resolved in favour of final lenition, the phonology has a rule of delaryngealization ⇒ phonetic underspecification?
- Once you have delaryngealization, it is easy to get (phonological) pre-sonorant voicing, as discussed by Strycharczuk (2012)
- If this works, an instance of synchronic phonological structure guiding sound change

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