

# The mysterious fate of the coronal fricative in Veneto Italian – Opacity and Lexicon Optimization in conflict?\*

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## 1 INTRODUCTION

Scope of paper:

- At first sight Veneto has a voicing distinction: /s~/z/
- Cross-dialectal comparison reveals: contrast based on long~short distinction
- Surface-true analysis misses a generalisation, Cannot fully account for all distributional data
- Opacity grammar relies on abstract URs, apparently contradicting Lexicon Optimization

Conclusion: Opacity analysis is needed to sustain Richness of the Base

## 2 THE VENETO PATTERN

(1) Veneto

|                 |                    |                    |                            |
|-----------------|--------------------|--------------------|----------------------------|
| a. ca[s]a       | 'cash register'    | h. di[sp]iacere    | 'displeasure'              |
| b. ca[z]a       | 'house'            | i. di[zg]razia     | 'misfortune'               |
| c. ca[z]-ina    | 'house' diminutive | j. a-[s]ociale     | 'asocial'                  |
| d. [s]eta       | 'silk'             | k. tra[s]-alpino   | 'transalpine'              |
| e. [z]eta       | 'z'                | l. e[s]-amico      | 'ex-friend'                |
| f. ga[s]        | 'gas'              | m. lo [s]apevo     | 'I knew it'                |
| g. di[z]-onesto | 'dishonest'        | n. telefonati#[s]i | 'having called each other' |

Voicing pattern unpredictable:

- ☞ Word-internal fricative contrasts (a,b);
- ☞ Word-initial fricative contrasts (d,e);
- ☞ Prefix-final contrast (g vs. k,l)

☹ Affixes have a morpheme-final contrast which stems lack (compare (f vs. g/k,l))

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## 3 A PHONEMIC OT ANALYSIS

(2) Contrast in OT

- a. Contrast: FAITH(F) >> \*F
- b. Neutralisation: \*F >> FAITH(F)

(3) Veneto contrast grammar:

- a. IO-IDENT: 'Input and output segments are identical in the specification of their features.'
- b. VOP (Voiced Obstruent Prohibition): 'Obstruents are voiceless.'
- c. \*GEMINATE: 'Geminates are not allowed.'
- d. Ranking:

\*GEMINATE >> IO-IDENT(voice) >> VOP

Advantages of analysis:

1. Learners can assume surface forms as URs.
2. Voiced and voiceless fricatives can occur freely.

(4) Learning

- stage 1: \*GEMINATE, VOP >> IO-IDENT(voice)  
stage 2: \*GEMINATE >> IO-IDENT(voice) >> VOP

(5) Veneto contrast

|                    | IO-IDENT | VOP |
|--------------------|----------|-----|
| ☞ a. /zeta/ ~ zeta |          | *   |
| b. /zeta/ ~ seta   | *!       |     |
| ☞ c. /kaza/ ~ kaza |          | *   |
| d. /kaza/ ~ kasa   | *!       |     |
| ☞ e. /kasa/ ~ kasa |          |     |
| f. /kasa/ ~ kaza   | *!       | *   |

(6) Contrast and Lexicon Optimization

|                    | *GEMINATE | IO-IDENT(voice) | VOP |
|--------------------|-----------|-----------------|-----|
| a. /kassa/ ~ kasa  |           | *!              |     |
| ☞ b. /kasa/ ~ kasa |           |                 |     |

## 3 A COINCIDENCE?

(7) Lombardian

|              |                    |                   |               |
|--------------|--------------------|-------------------|---------------|
| a. ca[ss]a   | 'cash register'    | h. di[sp]iacere   | 'displeasure' |
| b. ca[z]a    | 'house'            | i. di[zg]razia    | 'misfortune'  |
| c. ca[z]-ina | 'house' diminutive | j. a-[s]ociale    | 'asocial'     |
| d. [s]eta    | 'silk'             | k. tran[z]-alpino | 'transalpine' |
| e. [d̥z]eta  | 'z'                | l. ek[s]-amico    | 'ex-friend'   |

|                 |             |                    |                            |
|-----------------|-------------|--------------------|----------------------------|
| f. ga[s]        | 'gas'       | m. lo [s]apevo     | 'I knew it'                |
| g. di[z]-onesto | 'dishonest' | n. telefonati#[s]i | 'having called each other' |

→ Voicing of *s* is completely predictable. (intervocalic s-voicing; see Nespor & Vogel 1986, Peperkamp 1995, 1997, Kenstowicz 1996, Loporcaro 1999, Bertinetto 1999, van Oostendorp 1999, Krämer 2001, in press)

## (8) Tuscan

|                 |                    |                    |                            |
|-----------------|--------------------|--------------------|----------------------------|
| a. ca[ss]a      | 'cash register'    | h. di[sp]iacere    | 'displeasure'              |
| b. ca[s]a       | 'house'            | i. di[zg]razia     | 'misfortune'               |
| c. ca[s]-ina    | 'house' diminutive | j. a-[s]ociale     | 'asocial'                  |
| d. [s]eta       | 'silk'             | k. tran[s]-alpino  | 'transalpine'              |
| e. [d̥z]eta     | 'z'                | l. ek[s]-amico     | 'ex-friend'                |
| f. ga[s]        | 'gas'              | m. lo [s]apevo     | 'I knew it'                |
| g. di[z]-onesto | 'dishonest'        | n. telefonati#[s]i | 'having called each other' |

## (9) Neutralisation and contrast in Venetian

| Veneto          | Lombardian | Tuscan  | gloss          |
|-----------------|------------|---------|----------------|
| a. ca[z]a       | ca[z]a     | ca[s]a  | 'house'        |
| b. co[z]a       | co[z]a     | co[s]a  | 'thing'        |
| c. ca[z]o       | ca[z]o     | ca[z]o  | 'case'         |
| d. ca[s]a       | ca[s]:a    | ca[s]:a | 'box, cashier' |
| contrast: voice | length     | both    |                |

Chain shift: 1. voiceless → voiced; 2. long → short, voiceless

## (10) Geminates and syllable-final nasals in Veneto

|                 |                |                  |
|-----------------|----------------|------------------|
| a. [rɔza rosa]  | rosa rossa     | 'red rose'       |
| [sasi]          | sassi          | 'stones'         |
| [kasetta]       | cassetta       | 'cassette, tape' |
| [kasa]          | cassa          | 'box'            |
| [lɔto]          | lotto          | 'lotto'          |
| [fredo]         | freddo         | 'cold'           |
| b. [kɔ̃siːlo]   | consiglio      | 'advice'         |
| [vakaːise]      | vacanze        | 'holidays'       |
| [pɛsare]        | pensare        | 'to think'       |
| [trãsalpino]    | transalpino    | 'transalpine'    |
| [trãsatlã:tiko] | transatlantico | 'transatlantic'  |

## (11) Coincidences ?:

- All geminate *s*:/ nasal + *s* clusters in Lombardian and Tuscan correspond to voiceless fricatives in Veneto;
- All voiced fricatives in Veneto correspond to voiced fricatives in Lombardian but not in Tuscan.

Problem for simple voicing contrast analysis: Geminate coronal fricatives have no voicing contrast in Italian. \*/zz/  
Are geminates underlyingly redundantly specified for voicing?

(12) Lombardian/Venetan mismatch: prefix *tra(n)s-* (1,7l)

## (13) Degemination hypothesis:

- Veneto has intervocalic s-voicing
- Veneto has degemination
- Veneto has (nasal-initial) cluster reduction
- Fricative in underlying geminates/clusters is voiceless at surface

## 3.1 A MATTER OF HISTORY?

## (14) A diachronic approach:

- Stage 1: Veneto = Lombardian  
Stage 2: Veneto degeminates, reduces clusters  
Stage 3: Intervocalic voicing is 'switched off'

## (15) Hypothetical result

|                 |                    |                         |                            |
|-----------------|--------------------|-------------------------|----------------------------|
| a. ca[z]a       | 'cash register'    | h. di[sp]iacere         | 'displeasure'              |
| b. ca[z]a       | 'house'            | i. di[zg]razia          | 'misfortune'               |
| c. ca[z]-ina    | 'house' diminutive | j. a-[s]ociale          | 'asocial'                  |
| d. [s]eta       | 'silk'             | k. <i>tra[z]-alpino</i> | 'transalpine'              |
| e. [z]eta       | 'z'                | l. <i>e[z]-amico</i>    | 'ex-friend'                |
| f. ga[s]        | 'gas'              | m. lo [s]apevo          | 'I knew it'                |
| g. di[z]-onesto | 'dishonest'        | n. telefonati#[s]i      | 'having called each other' |

This is not Veneto Italian.



## (16) Second try of a diachronic analysis:

- Stage 1: Veneto = Lombardian  
Stage 2: Lexicon Optimization stores all voiced tokens as such,  
Intervocalic voicing constraint is demoted below faithfulness  
Stage 3: Veneto degeminates, reduces clusters

Problem: stage 2 contradicts general OT assumptions on language acquisition

## (17) Initial stage (in acquisition): Markedness &gt;&gt; Faithfulness

(Smolensky 1996, Gnanadesikan 1995, Tesar & Smolensky 2000)

● At historical stage 2 no evidence for demotion of  $*(VsV)_{pWd}$ .

● ¿Why is the *s* in the prefix *tra(n)s-* not voiced in Veneto?

→ Summary: Historical sequencing of constraint rerankings not clear.

Start: Tuscan-type grammar

Stage 2: Lombardian-type grammar (intervocalic *s*-voicing)

Stage 3: Lexicalisation of static/nonalternating forms

Stage 4: Demotion of intervocalic voicing constraint

Stage 5: Degemination, nasal deletion

Swapping of stages 5 and 4 results in voiced ex-geminates.

Stage 4 is theoretically problematic.

### 3.2 AN OPACITY ANALYSIS

Present-day Veneto has underlying geminates and active intervocalic *s*-voicing.

Intervocalic voicing does not apply to degeminated *s*,  
but applies to prefix-final intervocalic *s*;  
nasal-initial consonant clusters are reduced;  
The *s* in *tra(n)s-* remains voiceless though in intervocalic position at the surface.

(18) Possible ordered rules in Veneto

|   |                 |                   |                |
|---|-----------------|-------------------|----------------|
|   | /dis- + onesto/ | /trans- + alpino/ | /a- + sociale/ |
| 1. syllabification                      | ↓               | ↓                 | ↓              |
|   | di.s#o.nes.to   | tran.s#al.pi.no   | a.#so.tʃa.le   |
| 2. layering/bracket erasure             | ↓               | ↓                 | ↓              |
|   | (di.so.nes.to)  | (tran.sal.pi.no)  | a.(so.tʃa.le)  |
| 3. <i>s</i> -voicing                    | ↓               | ↓                 | ↓              |
|   | dizonesto       | <i>n.a.</i>       | <i>n.a.</i>    |
| 4. nasal coda deletion,<br>degemination | ↓               | ↓                 | ↓              |
|   | <i>n.a.</i>     | tra.sal.pi.no     | <i>n.a.</i>    |
|   | ↓               | ↓                 | ↓              |
| 5. output                               | dizonesto       | trasalpino        | asotʃale       |

(19) Additional constraints:

- $*(VsV)_{pWd}$ : 'No intervocalic *s* within a Prosodic Word.' (Krämer 2001, in press)
- NoSTOPCODA: 'No stop in coda position.'
- \*GEMINATE: 'No geminates.'

d. I-CONTIGUITY ("No Skipping", McCarthy & Prince, 1995):

The portion of  $S_1$  standing in correspondence forms a contiguous string.

Domain ( $\mathfrak{R}$ ) is a single contiguous string in  $S_1$ .

↗ /xyz/ → xz

(20) Rankings for reduction and degemination:

a. NoSTOPCODA >> I-CONTIG

b. \*GEMINATE >> I-CONTIG

(21) Veneto cluster reduction

|  | *GEMI | NoSTOPCODA | I-CONTIG |
|--|-------|------------|----------|
| a. /trans- <i>alpino</i> / ~ <i>transalpi.no</i> |       | *!         |          |
| ↗ b. /trans- <i>alpino</i> / ~ <i>trasalpino</i> |       |            | *        |
| c. / <i>kassa</i> / ~ <i>kassa</i>               | *!    |            |          |
| ↗ d. / <i>kassa</i> / ~ <i>kasa</i>              |       |            | *        |

(22) Ranking for intervocalic voicing:

$*(VsV)_{pWd}$  >> IO-IDENT >> VOP

(23) IO-IDENT >> VOP: [*zia*] 'aunt'

|                                  | IO-IDENT | VOP |
|----------------------------------|----------|-----|
| ↗ a. / <i>zia</i> / ~ <i>zia</i> |          | *   |
| b. / <i>zia</i> / ~ <i>sia</i>   | *!       |     |

(24) Veneto intervocalic voicing

| /dis- onesto/         | $*(VsV)_{pWd}$ | IO-IDENT | VOP |
|-----------------------|----------------|----------|-----|
| a. <i>disonesto</i>   | *!             |          |     |
| ↗ b. <i>dizonesto</i> |                |          | *   |

(25) A problem with degemination and cluster reduction

|   | $*(VsV)_{pWd}$ | IO-IDENT | *VOP |
|---|----------------|----------|------|
| ⊖ a. / <i>kas:a</i> / ~ <i>kasa</i>               | *!             |          |      |
| ⊙ b. / <i>kas:a</i> / ~ <i>kaza</i>               |                |          | *    |
| ⊖ c. / <i>trans- alpino</i> / ~ <i>trasalpino</i> | *!             |          |      |
| ⊙ d. / <i>trans- alpino</i> / ~ <i>trazalpino</i> |                |          | *    |

(26) The solution - Local Conjunction: I-CONTIG&VOP

(27) No surface geminates in Veneto and no 'ex-geminate' voicing

|                     | *GEM | I-CONT&VOP | *(VsV) <sub>PWD</sub> | IO-ID | VOP | I-CONT |
|---------------------|------|------------|-----------------------|-------|-----|--------|
| a. /kassa/ ~ kassa  | *!   |            |                       |       |     |        |
| ☞ b. /kassa/ ~ kasa |      |            | *                     |       |     | *      |
| c. /kassa/ ~ kaza   |      | *!         |                       |       | *   | *      |
| d. /kasa/ ~ kassa   | *!   |            |                       | *     |     | *      |
| e. /kasa/ ~ kasa    |      |            | *!                    |       |     |        |
| ☞ f. /kasa/ ~ kaza  |      |            |                       |       | *   |        |

(28) No prefix-final voicing of underlying clusters

| /trans-alpino/     | NO <sub>STOP</sub> CODA | I-CONT&VOP | *(VsV) <sub>PWD</sub> | IO-IDENT | VOP | I-CONT |
|--------------------|-------------------------|------------|-----------------------|----------|-----|--------|
| a. tran.sal.pi.no  | *!                      |            |                       |          |     |        |
| b. tra.zal.pi.no   |                         | *!         |                       |          | *   | *      |
| ☞ c. tra.sal.pi.no |                         |            | *                     |          |     | *      |

(29) Veneto complete ranking:

\*GEM, NO<sub>STOP</sub>CODA, I-CONT&VOP >> \*(VsV)<sub>PWD</sub> >> IO-IDENT >> VOP

(30) Optimal URs?

|                    | *GEM | I-CONT&VOP | *(VsV) <sub>PWD</sub> | IO-ID | VOP | I-CONT |
|--------------------|------|------------|-----------------------|-------|-----|--------|
| a. /kassa/ ~ kasa  |      |            | *                     |       |     | *!     |
| ☞ b. /kasa/ ~ kasa |      |            | *                     |       |     |        |
| c. /kasa/ ~ kaza   |      |            |                       | *!    | *   |        |
| ☞ d. /kaza/ ~ kaza |      |            |                       |       | *   |        |

For pairs (a,b), Lexicon Optimization leads to the wrong output, though actually pair (b) is no possible pair in this grammar.

(31) Re-evaluation of the degeminated input

|                    | *GEM | I-CONT&VOP | *(VsV) <sub>PWD</sub> | IO-ID | VOP | I-CONT |
|--------------------|------|------------|-----------------------|-------|-----|--------|
| ☞ a. /kasa/ ~ kaza |      |            |                       | *     |     | *      |
| ☞ b. /kasa/ ~ kasa |      |            | *!                    |       |     |        |

→ "Lexicon optimization limit": evaluate only *possible* pairs.

(32)

|                                | *GEM | I-CONT&VOP | *(VsV) <sub>PWD</sub> | IO-ID | VOP | I-CONT |
|--------------------------------|------|------------|-----------------------|-------|-----|--------|
| a. /transalpino/ ~ trāsalpino  |      |            | *                     |       |     | *      |
| ☞ b. /trāsalpino/ ~ trāsalpino |      |            | *                     |       |     |        |

(33)

|                                | *GEM | I-CONT&VOP | *(VsV) <sub>PWD</sub> | IO-ID | VOP | I-CONT |
|--------------------------------|------|------------|-----------------------|-------|-----|--------|
| ☞ a. /trāsalpino/ ~ trāzalpino |      |            |                       | *     |     | *      |
| ☞ b. /trāsalpino/ ~ trāsalpino |      |            | *!                    |       |     |        |

(34) Re-ranking?:

|                                | *GEM | I-CONT&VOP | IO-ID | *(VsV) <sub>PWD</sub> | VOP | I-CONT |
|--------------------------------|------|------------|-------|-----------------------|-----|--------|
| a. /trāsalpino/ ~ trāzalpino   |      |            | *!    |                       |     | *      |
| ☞ b. /trāsalpino/ ~ trāsalpino |      |            |       | *                     |     |        |

→ Problem for re-ranking: Grammar becomes unstable – new words would not be treated in "Veneto fashion".

This contradicts the Richness of the Base Hypothesis (Prince & Smolensky 1993, Smolensky 1996:3):

(35) Richness of the Base:

The source of all systematic cross-linguistic variation is constraint reranking. In particular, the set of *inputs* to the grammars of all languages is the same. The grammatical inventories of a language are the *outputs* which emerge from the grammar when it is fed the universal set of all possible inputs.

Consequence: Tuscan (or any other) inputs should result in Venetan outputs when fed into the Venetan grammar (as with the ranking in 29).

(36) A nonsense word and its spontaneous production

[buzino] \*bussino 'little bus'

#### 4 SUMMARY AND CONCLUSIONS

- Veneto Italian voicing patterns are an example of phonological opacity;
- Comparison with other varieties reveals a word-internal chain shift from voiceless to voiced and from long to short;
- non-opacity analyses miss crucial generalisations:
  1. The parallels/differences between Veneto and Lombardian as well as Tuscan,
  2. Grammatical stability: all inputs to a grammar should result in 'typical' outputs (Richness of the Base hypothesis);
- Abstract forms are possible in OT and necessary;

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