Not another case of final obstruent voicing?
Laryngeal Realism, Late Middle English and impossible phonological change.

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Our basic questions...

This paper tries to offer answers to two contentious questions:

(A) Can autonomous phonological structure constrain phonological change?

(B) How should we characterise the laryngeal contrast in 'Standard Average European' languages?

The structure of the talk

1. Statement of the issues
2. Some interesting data
3. A key piece of phonological theory
4. Resolution

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1. Statement of the issues

(1) Until section 3, we focus on question (A) – question (B) will then become central to the paper...

- (A) Can autonomous phonological structure constrain phonological change?
  - What *is* autonomous phonological structure (APS)?
  - APS = aspects of phonological grammar which are not derived from phonetics
  - APS = I-linguistic, non-emergent, 'purely phonological', inherent in phonology

(2) Really, the question should probably be:

- (A^1) Does autonomous phonological structure exist?
  - the study of phonological change has a role here:
  - if there *is* evidence that what's possible in change *is* constrained by what we can (only really / best) understand as APS, that is good evidence that APS really does exist

(3) Why should we doubt that APS exists?

- The null hypothesis is that is does *not*
  - phonetic pressures exist: coarticulation, lazy articulators, need for clarity, acoustic confusability,
  - certain aspects of synchronic phonological grammars and pathways in change seem most likely derived from these phonetic pressures
  - why do we need anything else?
- one strand of phonological argumentation (which might be thought to include Evolutionary Phonology, as in Blevins 2004, and usage-based approaches, as in Bybee 2001) denies any role for APS – there are no constraints placed on change by the grammar – 'anything goes'
  - indeed, the patterns in phonological change are taken to account for the patterns found in synchronic phonologies, obviating the need for a phonological grammar at all

(4) Some evidence that APS might exists:
- unexpected asymmetries in what is found in languages: impossible phonological systems
- imaginable phonological changes, which are never innovated: impossible phonological changes
  - these points are related: it would take an impossible change to produce an impossible system

(5) Some candidate impossibilities:
- a vowel system with front rounded vowels, but no front unrounded vowels (Lass 1984 *etc*.)
- epenthetic [k] (de Lacy & Kingston 2006)
- final obstruent voicing – "clear cases of ... final voicing are not attested" (Kiparsky 2004/2008)
  - each of these is an empirical hypothesis, predicting the ***absolute*** absence of such systems/changes

(6) There are two possible explanations if an imaginable phonological scenario has not been observed
- it is impossible because it is forbidden by some aspect of APS – 'rareness' *won't do*
- it is very rare because there are phonetic pressures against it and only few diachronic pathways in which is could be innovated
  - if a 'candidate impossibility' absolutely never occurs, this is good evidence that a piece of APS exists which forbids it
  - if a convincing case of a 'candidate impossibility' is found, that piece of evidence in favour of the existence of APS is lost

(7) We focus here on Final Obstruent Voicing (FOV), in line with a strong strand of argumentation:
- Yu (2004), Blevins (2004), Kiparsky (2004, 2006, 2008), Bermúdez-Otero (2006)
  - ➢ [NB: what is 'voicing'? Let's for the moment assume the tradition of Jakobson, Fant & Halle (1952), Chomsky & Halle (1968), Keating (1984), Wetzels & Mascaró (2001), which uses [± voice]]
  - although a 'candidate impossibility', diachronic pathways in which it could be innovated are imaginable:
  - a simple endogenous innovation: [–voice] > [+voice] / __#
  - rise to prominence of a constraint such as: *CODA/[–voice], ALIGNR([+voice]),
  - a plausible 'reanalysis' analysis (Bermúdez-Otero 2006, 7):

1. *Initial state*	a.ˈta.ta	a.ˈta.da	a.ˈda.ta	a.ˈda.da
2. *Lenition*	a.ˈta.**d**a	a.ˈta.da	a.ˈda.**d**a	a.ˈda.da
3. *Apocope*	a.ˈtad	a.ˈtad	a.ˈdad	a.ˈdad

(8) FOV *could* be innovated into languages.
- it may be dispreferred phonetically, but this cannot enforce an absolute ban
  - if no clear cases of FOV emerge, it is likely that APS forbids it
  - if clear cases are found, APS loses ground, and the 'anything goes' approach gains in credibility

(9) Kiparsky (2006) has shown that the cases of FOV thus far adduced were misanalysed in previous discussion. The status of FOV and of the putative APS involved is thus uncertain.

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2. Some interesting data

(10) We introduce here into phonological debate some relevant data from the history of English
- this is robust data, grounded on both spelling evidence and orthoepy
  - the classic discussion (of it and similar if unrelated phenomena) is Jespersen (1933), and standard philological works discuss it, occasionally in detail (eg, Brunner 1948, Emerson 1896, Faiss 1989, Horn & Lehnert 1954, Jespersen 1949, Jordan 1974, Lucas 1991, Luick 1914-1940, Milward 1996, Moore 1919, 1957, Mossé 1952, Müller 1915, Robertson 1936, 1960, Schlauch 1959, Strang 1970, Sweet 1924, Wright & Wright 1984).

(11) Normal orthographic lag means that a precise dating is impossible (Brunner 1960: 376)

- but it is usually situated in the 14th C (Dobson 1968, Jordan 1974, Faiss 1989).
  - Jespersen (1933: 348- 354) places it in the 15th and 16th Cs because there is no evidence of the new pronunciations occurs in *Ancrene Riwle* (13th C), *Ayenbite* (14th C) or Chaucer (14th C).

(12) The data illustrate a change in the laryngeal phonology of a set of final obstruents

- the obstruents involved are f, θ, s, tʃ > v, ð, z, dʒ
  - the change occurred most widely in unstressed syllables (in polysyllabic forms)
  - Dobson (1968) describes it as a generally regular change in specific environments

(13) the change spread outside of this core environment to take in final segments more generally – in monosyllables, for example (from Jespersen 1949: 350)

- s > z: *as, whereas, is, his, this, was, these, those, adze, Thames, alms*
- f > v: *if, of*
- θ > ð: *wi**th**, nor' west, sou' west*
  - quite a lot of variation can be observed in the orthoepical evidence for these forms:
  - Hart: s or z depends on laryngeal value of following sound
  - *of*: most early phoneticians only recognise f (Jespersen 1949: 199)
  - *with*: most often has θ but Gil admits that the 'weak' form is more common and it is the only pronunciation in Price in 1665 (Dobson 1968: 462, Ekwall 1959: 85)
  - this variation shows that something significant went on in the phonology of these forms

(14) The process affected final f in words such as those below (with an '*–if*' suffix) (Luick 1964: 1028, Jespersen 1949: 199-201, Brunner 1960: 376, Horn & Lehnert 1954: 971).

- hussiv > hussi (<OE hūswīf)
- tardiv > tardy (OFr)
- *active, passive, pensive, plaintive*
- *caitiff, bailiff, mastiff* often attested in EModE as *caitive, bailive, mastive*

(15) The process is especially clear in the -(*e*)*s* suffix where s > z (Dobson 1968: 937-938)

- eg, *man'*[z], *dog'*[z]*; time*[z], *house*[z]*; give*[z] and *live*[z].
- Jordan (1974: 188) points out that 15th century <z> spellings like *soulez* and *sonez* clearly indicate the change in these endings.

(16) Forms which have earlier or dialectal z forms (Jespersen 1949: 363)

- *treatise* (Hart: both *s* and *z*)
- *purpose* (Hart & Bullokar)
- *practize* (*practice*) (Massinger)
- *praktiz* (London Cockney form in *Thenks Awf'ly* (1890))

(17) Hart's spelling of z in the *–ious* suffix (Luick 1964: 1028**,** Dobson 1968: 940, Jespersen 1949: 201)

- <komodiuzli> 'commodiously'
- <kuriuz> 'curious'
- <deseirouz> 'desirous'
- <notoriuzli> 'notoriously'
- <superfliuz/lu:z> 'superfluous'
- <vertiuz> 'virtuous'
- <uitnez> 'witness'

(18) Laryngeal modification of final tʃ

- Occurrence of the process in tʃ is widely described in the handbooks; eg, Fry (1860-1861, 1862-1863), Sweet (1924), Jespersen (1933, 1949), Davies (1934), Horn & Lehnert (1954), Ekwall (1956), Luick (1964), Strang (1970), Jordan (1974), Prins (1974) and Faiss (1989).
- Faiss (1989: 99) points out that the change was often indicated by spellings like <g, gg> instead of the original <ch> spelling:
- final tʃ > dʒ in unstressed syllables (Luick 1964: 1028-1029, Dobson 1968: 940, Jordan 1974: 168, Fry 1860-1861: 78, Jespersen 1933: 369, Horn & Lehnert 1954: 968), comparing *ME* with *lME/eModE* and then with *ModE*

o knowlechen		'knowledge' (V)
o knowleche	<knowledge, knawlage, knawledge>	'knowledge' (N)
o caboche	<kabage, cabage>	'cabbage'
o partich	<partridge>	'partridge'
o cartouche	<cartage>(1579)	'cartridge'
o sausiche (F)	<sausage> (15th cent.)	'sausage'
o autruche (OF)	<ostrige, ostridge, estridge>	'ostrich'
o spinach	<spinage>	'spinach'
o luvesche (OF lavache)	<lovage>	
o caroche (Fr caroche)	<carriage>	
o ache	<eddage> (Dial. Comp	'headache', ache
o orach	<orage> (Var.)	'plant name'
o stomacher	<stomager>/ Sc <stammager> (Var.)	

- place and personal names recorded to be affected by tʃ > dʒ (Jespersen 1933: 369, Horn & Lehnert 1954: 968, Luick 1964: 1028-1029)
  - *Greenwich, Woolwich, Harwich, Norwich, Bromwich, Aldrich, Guttridge, Cowage, Swanage, (*from Swanawic), *Sandwich* (<Sandwidg> in 18th century), *Horridge* (from Horwich), *Cressage, Radnage, Burbage*, <Ipsidg> (*Ipswich* – from ship journal), *Stevenage*, *Fulledge*

(19) It thus seems that a change that looks a lot like FOV went on in late Middle and early Modern English

- the change derives laryngeally changed segments from the affricate and fricatives which are traditionally described as voiceless, in final position (and not elsewhere – with one reasonable caveat)
- this seems to provide support for the 'anything goes' approach, in which there is no APS to constrain phonological change, and to demolish the candidate impossible change

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3. A key piece of phonological theory

(20) We are not the first to observe a situation which looks like a case of FOV.

- Yu (2004) and Blevins (2004) mention other plausible candidates (Lezgian, Somali and Tundra Nenets)
  - Kiparsky (2004, 2006, 2008), however, has shown that there is good reason to doubt that any of these truly represents a case of FOV
  - this is only reasonable if there is a better analyses of the data which rests on sound, independent theoretical notions and analyses

(21) We argue here that the situation in the history of English is also *not* another case of FOV.

- Rather, it requires the light that is shed by a minority but compelling answer to question (B)...
  - (B) How should we characterise the laryngeal contrast in 'Standard Average European' languages?
  - for our purposes, 'Standard Average European' (Whorf 1941, Haspelmath, 2001) = languages with two laryngeally-contrasting series of obstruents, typically described as 'voiced' and 'voiceless'
  - = English, Spanish, Icelandic, Dutch, German, Ukrainian, Serbo-Croat, Polish, Italian *etc*.

(22) The obstruent series in these languages tend to pattern in two different ways

- we describe this behaviour using the following conventions to describe the segments involved
  - symbols such as <p, t, k, f, s, tʃ> = T (from 'tenues')
  - symbols such as <b, d, g, v, z, dʒ> = M (from 'mediae')

(23) SAE languages tend to pattern in the following two basic ways (exemplified by German and Ukrainian)

- German
  - aspiration in plosive/affricate Ts
  - no reliable voicing in Ms
  - assimilation only to T-type segments
- Ukrainian
  - no aspiration in Ts
  - spontaneous voicing in Ms
  - assimilation to M-type segments

(24) Two traditions of analysis exist in the face of these facts:

- the 'Single Feature Hypothesis' (so named by Kager *et al* 2007) maintains the basic position assumed in section 1; here given for both binary and privative features:
  - U: Ts are characterised by [–voice] / **Ø**
  - G: Ts are characterised by [–voice] / **Ø**
  - U: Ms are characterised by [+voice] / |voice|
  - G: Ms are characterised by [+voice] / |voice|
- the alternative analysis, which we call 'Laryngeal Realism' (Honeybone 2002, 2005), has a long background (with roots in the *fortis/lenis* distinction, as in Sievers 1876, Kohler 1984 and the observations of Jakobson (1949); it has been recently pursued by Harris (1994), Iverson & Salmons (1995, 1999, 2003, 2007, 2008), Jessen (1998), Jessen & Ringen (2002) Honeybone (2002, 2005), Spaargaren (2009)
- LR assumes the two types of languages have a fundamentally different phonology:
  - U: Ts are characterised by **Ø**
  - G: Ts are characterised by |spread|
  - U: Ms are characterised by |voice|
  - G: Ms are characterised by **Ø**

(28) Under LR, the Ts and Ms have a different phonological identity in the two types of languages

Letters	German Ts	Ukrainian Ts	Letters	German Ms	Ukrainian Ms
‹p›	p^h	p^o	‹b›	p^o	b
‹t›	t^h	t^o	‹d›	t^o	d
‹k›	k^h	k^o	‹g›	k^o	g
‹f›	f^h	f^o	‹v›	f^o	v
‹s›	s^h	s^o	‹z›	s^o	z
	|spread|	**Ø**		**Ø**	**|voice|**

(25) There is some considerable evidence in favour of LR; we assume it here

- if LR is accepted, there is good evidence that *English* has always been a |spread| language:
  - Iverson & Salmons show that Proto-Germanic had |spread|-language characteristics
  - Modern reference forms of English clearly have |spread|-language characteristics
    - T plosives are aspirated, Ms are only reliably voiced in a voiced environments
    - all assimilations are to Ts:
      - *cat*+*s* /t+z/ → [ts] *sack*+*ed* /k+d/ → [kt]
      - *five*+*th* /v+θ/ → [fθ] *refuses to* /z+t/ → [st]
  - Spaargaren (2009) shows that only |spread| characteristics can be found throughout the history of English
    - eg, all assimilation in Old English is to Ts:
      - mēd- > mētsceat 'reward, money'
      - and- > antsacodon 'adversary'

4. Resolution

(26) English has always been a |spread| language, under LR assumptions.

- this means that we need to revisit the data in section 2
  - the change shown in 2 was described as f, θ, s, tʃ > v, ð, z, dʒ
  - we now know that this was, in fact, a case of:

    f^h, θ^h, s^h, $t\int^h$ > v^o, $ð^o$, z^o, $dʒ^o$

    |spread| > **Ø**
  - this is not a case of FOV as *voicing* is not involved:
  - |spread| obstruents lose their laryngeal specification in a final (typically unstressed) environment
  - this analysis shows that the English data is indeed *not* a case of final obstruent voicing, rather, it is a case of delaryngealisation – which is easily conceivable as a type of lenition

(27) Where does this leave us overall?

- the change in Late Middle English is not a case of FOV
  - it is an example of the loss of a laryngeal specification: delaryngealisation
- we still have no indisputable cases of FOV, although we could imagine ways in which it could be innovated into languages
  - the absolute absence of FOV shows that it remains a candidate impossible change/system
  - APS may not include ALIGNR(|voice|); *or* phonology cannot create a rule such as **Ø** > |voice| / __#

(28) The Late Middle English data are still important theoretically, however

- this is not simply a negative result
  - the LR analysis of laryngeal contrasts *predicts* that cases of delaryngealisation of the type seen here should not be uncommon in |spread| languages
- Honeybone (2005) discusses two other cases affecting |spread| obstruents:
  - from early Southern Middle English and Middle 'Inner German'
  - this analysis of Late Middle English shows that if we look hard enough in the history of languages, such processes do indeed not seem to be uncommon
- this analysis of the data from section 2 lends further support to the LR position

(29) To return to our initial basic questions:

- (A) Can autonomous phonological structure constrain phonological change?
  - it seems so – some aspect of phonological structure seems to forbid the innovation of FOV
- (B) How should we characterise the laryngeal contrast in 'Standard Average European' languages?
  - the LR position seems to offer the best framework for the analysis of diachronic laryngeal events

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