

Syncope in English: Fact or Fiction?

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"..." = descriptive terms whose status as analytic tools is debatable

0. Intro

- syncope: the deletion of a zero-stressed vowel (schwa) between consonants + compression ("resyllabification") (*Brittany* ~ *Britney*) = the number of "syllables" reduces by one (vs. syllabic consonant formation: *button*)
- more marked constructions are produced: "coda" consonant, "consonant clusters" (secondary clusters)
- traditional descriptions distinguish betw. pre-stress (*police*) and post-stress (*camera*) syncope

This paper: the first results of a project

Claims:

- the pre-stress/post-stress distinction is secondary phonologically
- relevant distinction: betw. phonotactically licit vs. illicit, that is, whether the resulting secondary cluster is part of the inventory of well-formed clusters (in English)
- (- illicit is not necessarily defined on a language-specific basis)
- licit syncope has the potential to undergo phonologically (not only phonetically, no traces) → merger with lexical structures → lexicalization ⇔ intuitions (even of phonologists describing/analyzing syncope ☺)

1. Schwa deletion (syncope) in English: the facts (?)

- traditional descriptions (esp. Zwicky 1972a-b and Hooper 1978): post-stress vs. pre-stress, cf.:

Harris (to appear: 5):

Syncope in English, which is both lexically and phonetically variable, targets unstressed syllables in two environments [...] (i) a word-initial unfooted syllable [...] and (ii) between a stressed and an unstressed syllable where the consonant following the targeted vowel is a sonorant and more sonorous than the consonant preceding [...]. The effect of the second pattern is to contract a trisyllabic sequence into a bisyllabic trochaic foot.

post-stress syncope	pre-stress syncope
strict sonority constraint ¹ Hooper: not before obstruents, not even in <i>sC</i> clusters ²	phonotactically unconstrained (Zwicky), or: less constrained, on a relative scale (Hooper ³)
e.g., <i>camera</i> , <i>family</i> , <i>different</i> , <i>separate</i> (adj), etc.	e.g., <i>terrain</i> , <i>police</i> ; also in <i>suppose</i> , <i>suffice</i> , <i>potato</i> , etc.
lexicalized cases	only attested in very fast and casual speech

but: mere intuitions, criticized in corpus phonetics literature

2. Corpus data: the facts

- Dalby (1986), Davidson (2002, 2006), Patterson et al. (2003) ... Carlotti-Mortreux-Turcsán (2009)
- only partially supporting the traditional descriptions
- in certain registers, and not necessarily in very fast speech, following obstruents do in fact favour syncope and the reverse of the expected sonority effect is found (cf. esp. Dalby 1986:
 - in fast reading, the rate of pre-obstruent syncope increases, with stops over fricatives
 - in slow reading, post-syncope obstruents and sonorants have the same score
 - in conversations stops favour syncope
 - => sonority difference between members of the secondary cluster strongly favours syncope: R_T highest rate, in fast reading: T_R lowest rate)
- complications: tempo, style, dialect, intraspeaker variation, word frequency, interference with syllabic consonant formation + method of evaluation of data
- contradictory data (see also Kürti 1999), e.g.:
 - Dalby vs. Davidson (2002): acoustic analysis of word-initial pre-stress syncope⁴: deletion occurs only when the resulting cluster is either found in English or conforms to a universally unmarked syllable type [...] deletion is not necessarily a rate-dependent process, but can be a general characteristic of a speaker's dialect (ibid: 1)⁵
- Carlotti-Mortreux-Turcsán (2009): despite the complexity of the corpus data, it is clear that:
 - the distinction between post-tonic neutralising and pre-tonic opaque syncope in particular and, licit vs. illicit syncope in general seems to be crucial for modelling native speaker's behaviour and judgements

¹ sonority/strength hierarchy: vowels – glides – r – l – nasals – fricatives – plosives

² Hooper: the constraints on schwa deletion are not governed by language-specific syllable structure conditions but are governed by universal constraints by which sonorants in second position are favoured over obstruents

³ Hooper: stressed syllables tolerate freer clustering – for the opposite claim, see below

⁴ strict definition of schwa deletion to rule out any gestures that could correspond to the presence of a vowel: any part of the interconsonantal interval which included a voice bar and/or formant structure was considered part of the vowel + no C1 aspiration (≈ a devoiced vowel)

⁵ rate-dependent vs. rate-independent speakers, both observe phonotactics

3. Phonetic or phonological?

- surface phonetic phenomenon in which the phonological patterning of segments imitates the pre-deletion situation? → gradient: phonologically incomplete, preserves the syllabicity of the 'deleted' vowel, which may be signalled by phonetic cues at the deletion site, fully recoverable from the output

or

- phonological process? → categorial: phonologically complete, destroys syllabicity of deleted vowel, syllable-governed phonology refers exclusively to the output "syllabification"

[cf. Kager (1997) on rhythmic vowel deletion]

Answers:

- very often (usually?): phonetic traces → opaque surface structures: not transparent, that is, (some of) the conditions of a pronunciation have become obscured by another one:

Surface opacity⁶

Aspiration ⁷	Tapping ⁸	Voicing	Gemination
sU[p ^h]osed [k ^h]Onnections [k ^h]Ollected	li[r]Erature ca[r]Alog ca[r]Ering	po[z]ltive	pro[bb]ly ('probably') lib[rr]y ('library')
- no aspiration after [s] morpheme-internally - no aspiration bef. C	no tapping before C	no voiced fricatives before fortis obstruents morpheme-int-ly	no lexical geminates

N.B. rather independent of the pre-stress/post-stress and licit/illicit distinctions

- Carlotti-Mortreux-Turcsán: parsing cues for speakers: they are clear signals of underlying non-adjacency

i.e., phonologically, there is no deletion

- phonologized syncope: no traces, merger with lexical clusters (*cemetery = symmetry*) → lexicalization:

every, family, general, chocolate, mystery; Barbara, factory, mackerel, et cetera, camera, celery, business... – both licit and 'illicit' (see below)

- lexicalization of pre-stress syncope? *pram, police, suppose, support* – a much smaller set (see below)

⁶ Based on Carlotti-Mortreux-Turcsán (2009)

⁷ Hooper: original voiceless stops retain aspiration. Patterson et al.: in *sp-* words, 60% of /p/ unaspirated: no strong support for either a phonetic or a phonological explanation

⁸ Hooper: a schwa following a flap tends to remain undeleted (*artery, watery, buttery, flattery...*): flap is too weak – here: avoidance of opacity

4. Illicit?

- illicit syncope produces consonant sequences unattested in English lexically → cannot, by definition, lexicalize (?)

potato —X→ *ptato**#pt- but: *tata/tater/tattie*

also: *'cause, 'member*: loss of initial consonant, too

both the combination and the position are illicit (cf. -pt- in *chapter*, etc.)

vegetable, family: not illicit positionally, "bogus clusters" (cf. *butler*)

5. Conclusions

- key distinction: phonotactically licit vs. illicit

- word-internally, it is easier to be licit, at least positionally (cf. *vegetable*)

- word-initially: stricter phonotactics ("branching onsets"/"onset clusters" only) → a much smaller set of lexicalized examples

- pre-stress word-internal syncope (*separate* (v), *nationalize*): stress clash avoidance
insufficient explanation: general tendency of stressed vowels to refuse to support weakening

- pre-stress very often coincides with word-initial: two problems!

- licit syncope can potentially be phonologically complete, where phonology is governed by output "syllabic affiliation" → merger with lexical structures (*cemetery = symmetry, parade = prayed, support = sport*) → possibility of lexicalization ⇔ intuitions in traditional descriptions: neither factual (contra phonetic facts and corpus data) nor fictitious (reflect intuitions about surface opacity vs. potential lexicalization)

6. Plans for research

- phonetic investigation of the PAC⁹ corpus

- perception test

⁹ The PAC project ('La Phonologie de l'Anglais Contemporain: usages, variétés et structure: The Phonology of Contemporary English: usage, varieties and structure')

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