Pre-cluster vowel length in Latin

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Question: what were the sound changes affecting vowel length in Latin, and when did they apply?

- Vowel length from PIE to Italic
- Rules removing long vowels before clusters in Latin
- Rules creating new long vowels before clusters in Latin
- Relative chronology
The Italic family
Vowel length in (post-)PIE

- PIE used vowel length to contrast the 'full-grade' and 'lengthened-grade' of a root, marking morphological information:
  - *CeC vs *CēC
  - *CoC vs *CōC

- New long vowels:
  - Contraction of vowel hiatus (e.g. nom.pl. **-o-es > *-ōs)
  - Loss of the laryngeal consonants (*VHC > V:C)
  - Other compensatory lengthening at word ends
Osthoff's Law in Indo-European

- Proto-Greek *V:RC > *VRC (Osthoff 1884: 84–85)
  - e.g. inst.pl. *-ōis > -ois
  - *é-stā-nt 'they stood' > étan(t)
- Also found in Celtic (Osthoff 1881; McCone 1996), Balto-Slavic (Osthoff 1879), Germanic (Ringe 2008)
- Not found in Indo-Iranian (Osthoff 1884) or Tocharian (Ringe 2008)
- What about Italic?
A problematic *Paradebeispiel*

- A textbook example (e.g. Beekes): Latin *ventus* 'wind'
- Vedic *vātas* scans as a trisyllable, so we must have earlier
  *vaHatas < *weh₁ṇtos
- But would this really give *vēntus* in Latin?
  - Assumption: loss of *h₁* causes lengthening, even though it wasn't in a coda
  - We could instead have [eʔn̥] being perceived directly as /en/, so the short vowel is not from OstL.
Osthoff's Law in Latin

- Survey of all the Latin text in the Perseus Digital Library, searched by substrings of the form *V(:)RC
- Potential cases:
  1. VRC from original *VRC - no change
  2. VRC from original *V:RC - example of OstL
  3. V:RC from original *V:RC - apparent failure of OstL
  4. V:RC from original *VRC - lengthening contrary to OstL

- 1 is uninteresting, and all examples of 3 are clear analogy (e.g. vindēmia 'grape harvest' next to vīnum 'wine'); but 2 and 4 are interesting.
Some Osthoff's Law examples

- *amant* 'they love', *amandus* 'needing to be loved', *amantis* 'of one who loves' < *amā-* 'love'
- *uncia* 'one-twelfth' < *ūncia < *oin-kia
- *nuncupō* 'call by name' < *noncupō < *nōmi-cap-
- *sinciput* 'half a head' < *sēnikaput
- *planta* 'sole of foot' < *plānta < *ph₂-nt-
- *membrum* 'limb' < *mēmsrum < *mēms-ro~
Vowel length after Osthoff's Law

- Some are clear analogy (e.g. vindēmia; undecim 'eleven' next to unshortened ūnus 'one')
- nūntius 'messenger' < *nowentios
- nūndinae 'market day' < *noweno-dinae
- cōntiō 'meeting' < conventiō
- prēndō 'take' < prehendō
$n + \text{fricative lengthening}$

- Deletion before fricatives, compensatory lengthening, analogical restoration (where possible)
- $cōnsul$ 'consul' (inscriptional $<\text{COSUL}>$)
- $cōnficiō$ 'I complete' ($<\text{COFECI}>$)
- $īnfrā$ 'below'
Lots of explicit marking of long vowels with the apex before *nct, nx*

- *cingō 'ring', cingere, cīnxī, cīnctus*
- *iungō 'join', iungere, iūnxī, iūnctus*
- *sanciō 'consecrate', sancire, sānxī, sānctus*
- *quīntus 'fifth' < *quīnktos*
- *cūnctus 'all' < *konkitos*
Origin of \textit{nct}, \textit{nx} lengthening

- Standard story (Parker 1986, Meiser 2003): \textit{nct}, \textit{nx} lengthening is a special case of \textit{n} + fricative lengthening
- \textit{nct}, \textit{nx} $\rightarrow$ \textit{nχt}, \textit{nχs}?
- Claimed homology with Sabellic:
  - Oscan and Umbrian have regular \textit{kt}, \textit{ks} $\rightarrow$ \textit{χt}, \textit{χs}
  - Some etymologies parallel to Latin: Oscan \textit{saahtum} (L \textit{sānctum}), Umbrian \textit{šihitum} (L \textit{cīntum})
- So are these lengthening rules in Proto-Italic?
Problems

- OstL didn't apply in Sabellic - Oscan has 3pl. -ínt < *-ēnt - so early nct, nx lengthening should feed OstL in Latin
- n + fricative lengthening is fed by Latin-specific sound changes: *an-an-slō > *an-en-slō > anēlō 'I pant'
- No general kt, ks > χt, χs change in Latin, and no textual evidence of fricatives (so we'd need a Duke of York change χt, χs > kt, ks)
- nct, nx and ns, nf undergo different changes: one deletes the medial consonant (quīntus), the other deletes the nasal (<cosul>)
$rC$ lengthening

- *ordō* 'line' < *ordō*
- *fōrtuna* 'fortune' < *fort-* (cf. *fors* 'chance')
- *ārma* 'arms' < *arma* (cf. *inermis* 'unarmed')
- *ārca* 'chest' < *arca* (cf. *coerceō* 'enclose')
- We have both *fīrmus* and *firmus* 'firm', other unlengthened vowels before $rC$, and near-minimal pairs like *fōrma* 'form' but *formus* 'warm' - probably a sporadic change
Relative chronology

- Some changes that precede OstL:
  - Laryngeal loss (*planta*)
  - *-sr- > -br- (*membrum*, -ember)
  - Monophthongization of *oi > ū (*uncia*)
  - Some rounds of syncope (*sinciput*, *nuncipō*)

- Some changes that follow OstL:
  - Lengthening before nct (*cīncus*, *iūncus*, etc.)
  - Lengthening before rC, sporadically (*ōrdō*, *fōrma*, etc.)
  - Later rounds of syncope (*prēndō*, *cōntiō*, *nūndina*, *nūntius*)
  - Raising *e, o > i, u* before NC (*nuncipō*, *sinciput*)
Weiss' chronology

- Weiss (2009): we need *three* rounds of OstL in Latin
- Crucial difference from my account: Weiss wants an early round of OstL to feed the weakening of *a* to *e* in unstressed syllables
- Examples:
  - *parentēs* 'parents' < *parantēs* < *parāntēs*, participle to *parāre* 'prepare, arrange'
  - *calendae* 'calends' < *calandae* < *calāndae* from *calāre* 'call' (cf. Greek *Kalándai* for an intermediate stage)
- Weakening (500 BCE) precedes monophthongization (200 BCE), which feeds OstL (*uncia*) - so if OstL feeds weakening, single-OstL accounts have an ordering paradox
Problems with Weiss' chronology

- Ockham's razor: multiple separate rounds of a sound change based on a few etymologies?
- We have cases where OstL counterfeeds weakening, as in *amant* (not **ament) < *amānt*
- Weiss wants to remove **ament** by analogy, but:
  - Why introduce a short vowel when the stem is amā-?
  - Other analogies needed: participle *amāns:* **amentis > amāns:amantis* (not *amāns:* **amāntis*)
  - Also need independent analogies for the gerundive, imperfect stem vowel, pluperfect stem vowel, and present subjunctive stem vowels of all other conjugations (*docant*, *trahant*, *audiant*)
Alternative etymologies

- Rather than *parō* 'prepare', *parentēs* should be from *pariō* 'beget' - short *e* expected with no weakening involved
  - Problem: *pariō* has participle *parientēs*
  - Meiser (1998): *parentēs* is from the aorist stem *par-*, so no *-i-* suffix
- We need an original *a* in *calendae* because of the Greek reflex, but could it have been short?
  - Schrijver (1991): *calāre* < *kelh₁-* - with a short theme vowel *-h₁-* > -ā-
  - Later transferred into the productive first conjugation with theme vowel -ā-
- So no pre-weakening OstL - only one sound change needed
Conclusion

- Osthoff’s Law applied in Latin, but only once
- OstL was counterfed by later vowel lengthening changes, like *nct* lengthening
- Both OstL shortening and the later lengthening are specific to the history of Latin, not shared by its common ancestor with Sabellic
Thanks!

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Speculation: *nct, nx lengthening is an extension of Lachmann's Law

Glottalic theory: 'plain voiced' *b d ǵ g gʷ are really pre-glottalized [ʔb ʔd ʔg ʔg ʔgʷ]

Lachmann's Law: *aǵ-tos [aʔǵ-tos] > [aʔktos] > āctus

*iung-tos [juŋʔǵ-tos] > [juŋʔk-tos] > [juŋʔk̩ktos] > iūnctus, with a glottal-nasal metathesis (cf. Sierra Popoluca; de Jong Bodreault 2009)?

But we also see lengthening in *quīnctus < *kʷ; so it was extended to all nct, nx contexts regardless of origin (or this story is wrong)