

## Dittongo mobile and g infixation: reducing root allomorphy in Italian verbs

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**Data** In St. Italian, *e/o* can alternate with *jɛ:/wɔ:*, depending on the phonological context. Monophthongs occur in unstressed syllables, diphthongs in stressed open syllables. In stressed closed syllables, we find mid-low monophthongs. This alternating diphthong - dubbed *dittongo mobile* (henceforth DM) - can be found in the inflectional and derivational morphology. See e.g. 'dʒɛ:ʦi 'ten', 'wɔ:mɔ 'man' vs de'tʃi:na 'tenth', o'mi:no 'little man', and the IND.PRS of *tenere* 'to hold':

	SG	PL
1	'tɛŋgo	te'nja:mo
2	'tʃɛ:mi	te'nɛ:te
3	'tʃɛ:ne	'tɛŋgono

Note that (i) the forms with a closed stressed syllable (1SG/3PL) has a *g* infix, suggesting a relation between infixation and syllable closure, and (ii) syllable closure bleeds open syllable lengthening. Open syllable lengthening, in turn, suggests that the first segment of the diphthong does not belong to the nucleus: were this the case, 2/3SG would be trimoraic.

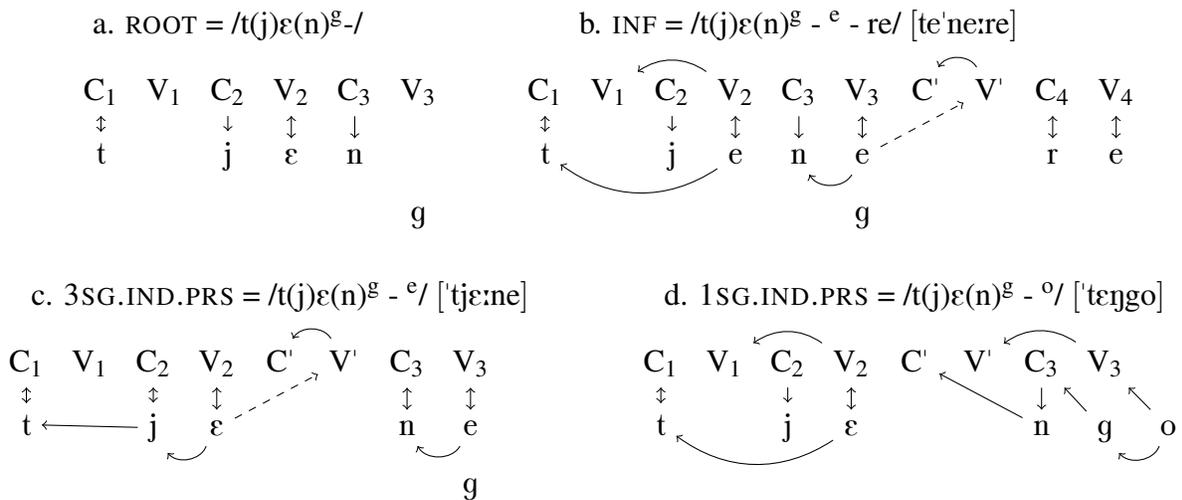
In St. Italian, not all mid vowels alternate with diphthongs when occurring in stressed open syllables, and not all diphthongs alternate with monophthongs when occurring in unstressed or closed stressed syllables. This has been considered an argument in favour of DM as a case of phonologically conditioned allomorphy: were open syllable diphthongisation still productive, we would wrongly predict that all *es* and *os* diphthongise in stressed open syllables, and all *jɛ:s* and *wɔ:s* monophthongise in the complementary contexts.

In this paper, we challenge such a view, and argue that a) DM can be accounted for as a synchronically productive phonological process, and b) the first segment of the diphthong should rather be considered as belonging to the preceding (branching) onset. Furthermore, we argue that c) also *g* infixation can be given a phonological explanation, and d) this process causes syllable closure.

**Analysis** The formal analysis builds on two previous observations concerning the licensing strength of nuclei, which have not been formalised yet. The first comes from Harris (1997), who claims that the asymmetry between stressed and unstressed nuclei can be reflected by an unequal capacity to sustain branching structure in adjacent non-nuclear constituents. The second comes from Cyran (2003), who argues that referring to melodic complexity to define the licensing strength of a nucleus may not be enough, and that we should refer to prosody, stressed nuclei being stronger licensors than unstressed ones. Furthermore, we build on studies arguing for the consonantal nature of the first segment of raising diphthongs on acoustic and distributional grounds (Marotta 1988), which support our claim that consonant-glide sequences are branching onsets.

We formalise these observations by means of strict CV and the stress CV hypothesis, combined with Turbidity Theory (Goldrick 2001), which decomposes the autosegmental relation in two asymmetric relations: projection (skeleton-to-melody) and pronunciation (melody-to-skeleton). This allows to representationally distinguish between a non-alternating diphthong and DM: whereas the former is identical to traditional branching onsets, where the lefthand segment is tied to the righthand one via infrasegmental government and both are pronounced, the latter is pronounced and infrasegmentally governs the lefthand segment only in open stressed syllables. Thus, whereas the righthand segment of non-alternating diphthongs is lexically endowed with both the projection

and the pronunciation relation, the one of DM is lexically represented as lacking the pronunciation one (a., c. and d.). The latter, though, is inserted/licensed in the course of the phonological derivation by a following stressed nucleus in open syllable (b.). The same holds for the segment following the ROOT nucleus, *n*, which, despite being lexically projected by its own C, is pronounced in the preceding (stress) C when the *g* infix needs to be integrated in the phonological string (d.). The latter, as well as the TH vowel *e*, is lexically represented as a floater, which can only be licensed by a following nucleus containing a back vowel, e.g. 1SG/3PL *-o-*. The relevant forms are represented below, where the arrows on top stand for government, the ones below for licensing, the dashed one for spreading, the leftward one connecting *t* and *j* for infrasegmental government, the downward ones for the projection relation and the upward ones for the pronunciation relation:



These mechanisms allows to formally account for the consonantal nature of the first segment of diphthongs and for the observations of Harris (1997) and Cyran (2003). Assuming that (i) the pronunciation of segments that are lexically endowed only with the projection relation need to be licensed, that (ii) such a licensing is provided by the following nucleus, and that (iii) the licensing strength of the latter is proportional to its complexity, we argue that (iv) branchingness contributes to the calculation of complexity, branching segments being more complex than non-branching ones. This crucially ties together complexity and prosodic prominence: stress translates in an extra CV structure, whose V can be filled in via spreading only in open syllables, thereby creating a branching structure. Note also that, by means of (i), we can formalise the observation that stressed nuclei (in open syllables) are better licenser than unstressed ones. Furthermore, Turbidity Theory allows (v) to formally distinguish between regular segments (projection-and-pronunciation), so-called yers (projection only) and floaters (no relation), thereby offering a solution to problems concerning the linearisation of the latter, and (vi) to account for *n* resyllabification in forms with the *g* infix. Finally, this proposal allows for a diacritic-free phonological account of allomorphy.

**References** Cyran (2003). Licensing strength and syllable structure in government phonology. *Poznan Studies in Contemporary Linguistics*, 38:41-73 • Goldrick (2001). Turbid output representations and the unity of opacity. *Proceedings of NELS* 30:231-245 • Harris (1997). Licensing inheritance. *Phonology*, 14(3):315-370 • Marotta (1988). The Italian diphthongs and the autosegmental framework. *Certamen Phonologicum*, 389-420. Torino: Rosenberg & Sellier.