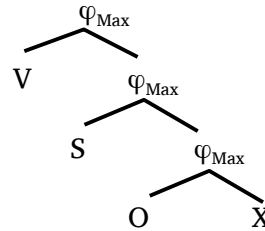
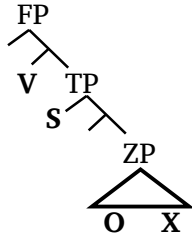


Recursivity and Binarity in Prosodic Phrasing: Evidence from Connemara Irish

There is increasing evidence that the recursivity of syntax is mirrored in prosodic structure (Wagner 2005; Itô & Mester 2007; Pak 2008). This runs counter to the assumptions of the Strict Layer Hypothesis (SLH, Selkirk 1981, 1995; Nespor & Vogel 1986), which sees prosodic structure as an independent, non-recursive system. In this paper, I discuss new data from the tonal analysis of pitch tracks collected from native speakers of Connemara Irish (CI) which provide support for the presence of recursivity in prosodic structure. The pitch tracks indicate that some, but not all, prosodic constituents are marked by a prominent H* tonal target (Dalton & Ní Chasaide 2005), and that the distribution of this H tone is predictable based on the assumption of recursivity: the tone appears only when there is a phonological phrase (φ) that dominates another φ . I show that this structure often mimics syntactic structure directly, but can deviate from syntactic constituency when it conflicts with a purely phonological constraint on prosodic binarity. The data thus provide support for a theory of the syntax-prosody interface in which prosody is recursive (counter SLH) but which at times allows prosodic constraints to override syntactic constituency (cf. Wagner 2005, Pak 2008).

The basic word order in Irish is VSOX, where X is an adverb or adjunct; the assumed syntactic structure is given in (1)a. (1)b illustrates a hypothetical recursive prosodic representation where the presence of a phonological phrase (φ) represents prosodic constituency:

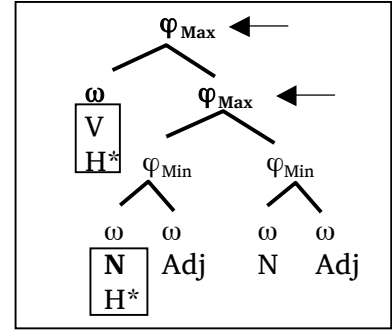
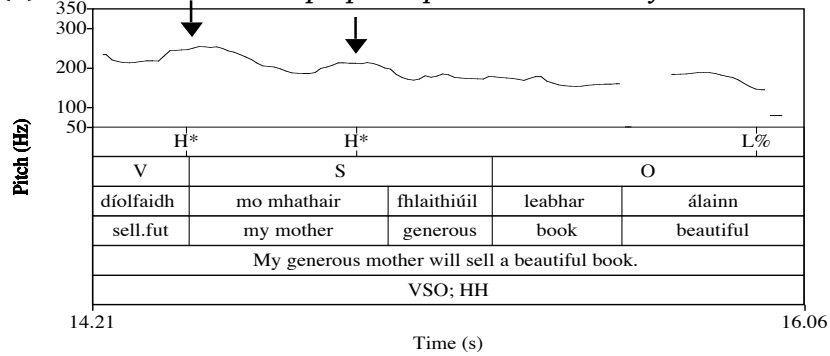
(1) a. Syntactic Representation (McCloskey 2005) b. Recursive Prosodic Representation



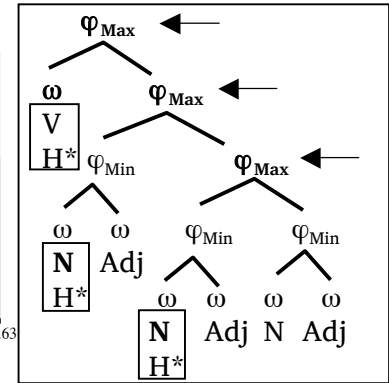
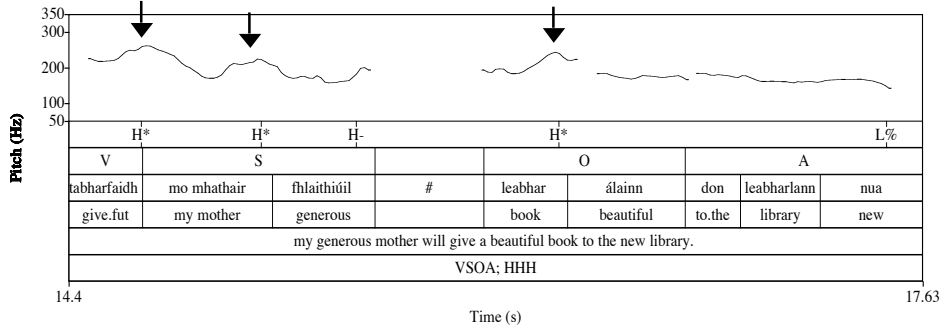
Tonal prosody in CI is marked by the presence of prominent H* tonal targets. The H* tone follows the stressed syllable of the left-most word in a recursive φ (φ_{Max}), which can be defined as any φ that dominates another φ . The H* marks the head of φ_{Max} , and can be interpreted as evidence for the existence of φ_{Max} in the sentence. For example, in VSO sentences, the H tone appears on V and S, but not on O. This is seen in the pitch track in (2), where the H* falls on the verb *díolfaidh* ‘sell.FUTURE’ and on first lexical word of the subject, *mhathair* ‘mother’. This contrasts with what is found in a ditransitive sentence as in (3), where V, S, and O, but not the indirect object, are each marked with the H tone. The presence of the indirect object creates an additional layer of recursive prosodic structure not present in the VSO sentence, necessitating the presence of the H tone on the object in (3) but not in (2).

The presence of the H* tone is dependent on the presence of a recursive φ_{Max} , and the presence of recursivity appears to mirror syntactic structure in the above examples. However, additional data indicate that the formation of a φ is also dependent on the satisfaction of a prosodic binarity constraint, $\text{BIN}(\varphi, \omega)$, calling for φ to dominate at least two ω (Inkelas & Zec 1990). The H* accent in CI disappears under certain contexts where a φ is not created because it would dominate only one ω . This can change the number of recursive levels in the structure, leading to a reduced number of φ_{Max} levels and fewer H* accents. For example, (4) shows a sentence with a single- ω subject (*mo mhathair* ‘my mother’ vs. *mo mhathair fhlathiúil* ‘my generous mother’). Here, the H* of the subject is absent, but the verb and the object continue to carry it. This suggests that the subject noun does not form its own φ_{Min} , but is instead forms a binary φ with the verb. Binarity in this case overrides syntactic constituency to form an unexpected prosodic constituent, providing support for a model of the syntax-phonology interface in which prosodic constraints and syntactic constituency are related and correspond when possible, but can deviate under certain conditions (cf. Wagner 2005, Pak 2008).

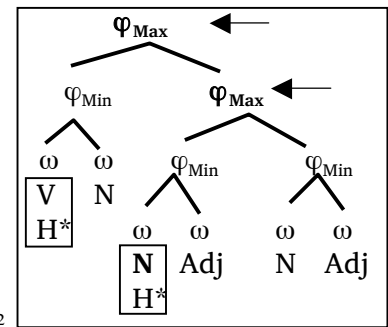
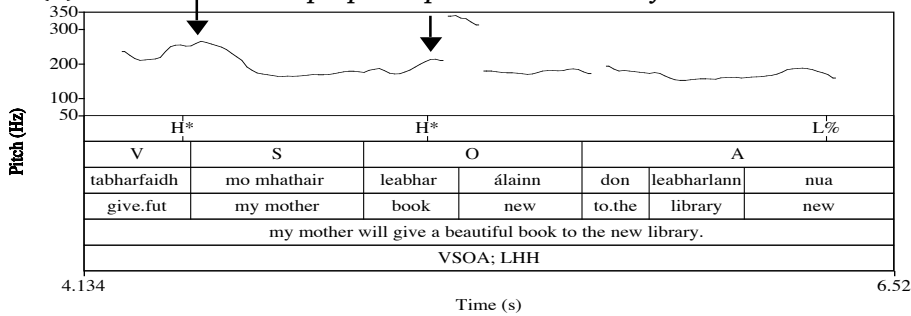
(2) Pitch track VSO and proposed prosodic structure for VSO sentence



(3) Pitch track and proposed prosodic structure for VSOX sentence



(4) Pitch track and proposed prosodic structure for VSOX sentence



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