

Is the Syntax-Prosody Interaction ‘Unidirectional’?

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1 INTRODUCTION

The three major components of linguistics – sounds, meaning, and syntax – have been believed to interact with each other, and an interesting area of research which became active since the 1980s was the interplay between sounds and syntax, for example, [Selkirk \(1980\)](#). Since syntax predominantly deals with the structure of sentences and constituency of utterance components, the subfield within sounds that received most attention from linguists was prosody, which – in phonology – is concerned with how sounds are hierarchically organised together, that is, prosodic structure ([Féry 2017](#)). Interestingly, the more phonetically defined prosody, which refers to the ‘phenomena that involve the acoustic parameters of pitch, duration and intensity’ ([Ladd & Cutler 1983: 1](#)), has also been found to interact with syntax, for example [Truckenbrodt \(1995\)](#). This essay aims to review and summarise the key research done on the interface of syntax and prosody, in both phonological and phonetic senses.

In the remainder of the paper, [section 2](#) will look at the connection between syntactic structures and prosodic structures in phonology, while [section 3](#) will focus on how the suprasegmental measurements of sounds in phonetics respond to syntactic structures and phenomena. Within each section, my goal is to challenge the idea that syntax is having impacts on prosody and such influence is ‘unidirectional’,¹ for example [Zwicky & Pullum \(1986\)](#), and to demonstrate with empirical evidence that prosody is, in fact, having significant impacts on syntax too. [Section 4](#) will conclude and make some final remarks.

2 ‘PHONOLOGICAL PROSODY’ VS. SYNTAX

2.1 *Syntax* → *prosody*

As a common goal of linguistic theories is to investigate the architecture of grammar, the interface of phonology and syntax thus focuses on how these two areas define and represent structures – *constituency* in particular – in a similar way ([Elfner 2018](#)). In other words, what is the relationship between the prosodic and syntactic hierarchies? In the next two sections, I will introduce the two famous approaches to

¹ Although this term is usually used to describe the relationship between syntax and *phonology* for example [Agbayani, Golston & Ishii \(2015\)](#) – meaning that syntax must precede and receives no feedback from phonology – in this essay I will use it on the interplay of syntax and phonetically-defined prosody too.

the syntax-prosody interface – indirect and direct reference theories – as evidence supporting the influence of syntax on phonological representations although these theories disagree on how strongly phonological representations should depend on syntactic structures. In [section 2.1.3](#), I will show how different phonological phenomena owe their existence to different syntactic classes.

2.1.1 Indirect reference theories (IR)

The main advocate for IR is Elisabeth Selkirk, who has published numerous books and papers on prosodic structure theories and the prosodic hierarchy since the 1980s (e.g. [Selkirk 1980, 1981, 1986, 1995, 2009, 2011](#)). The main ideas of IR are summarised in (1):

- (1) a. Prosodic organisations of sentences are represented in a hierarchically ordered but non-recursive structure distinct from syntactic structures.
- b. Prosodic structure mediates between the syntactic constituent structure and the phonetic representation ([Selkirk 1986](#)).
- c. The domains in prosodic structures are defined by the universal prosodic hierarchy (see [Figure 1](#)) which are used in all languages ([Selkirk 1981](#)).

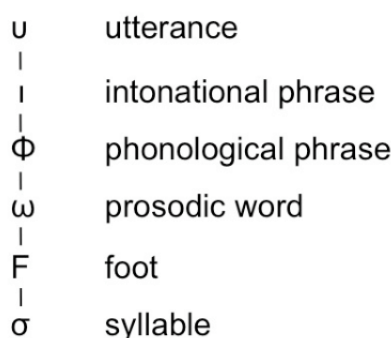


Figure 1 Prosodic hierarchy ([Selkirk 2011](#)).

The reason why IR theorists believed that a ‘distinct’ level mediating between syntax and phonetic output was given in [Selkirk \(1986\)](#). Evidence was drawn from Chi Mwiini where vowel shortening must never happen at positions where the main stress lies. Past work also suggested that vowel length alternations happen at a higher-than-word level ([Kisseberth & Abasheikh 1974](#)) and determining stress positions requires knowing the ‘ends’ of the operating domains at such levels. In other words, vowel alternations and stress are domain sensitive. In response, [Selkirk \(1986\)](#) proposed a representation requirement for the operating domain for stress and vowel shortening:

- (2) *The Representation of Domain*
 $\alpha[\dots]_{\alpha}$ where α = syntactic or phonological category

But in Chi Mwini, the possible domain for α determined by phonological processes does not always correspond to a syntactic constituent, as shown in Figure 2.

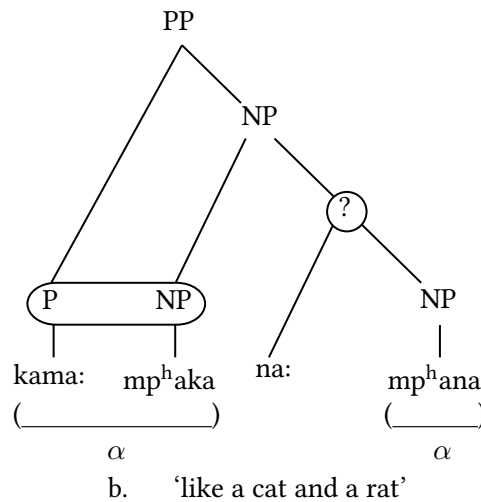
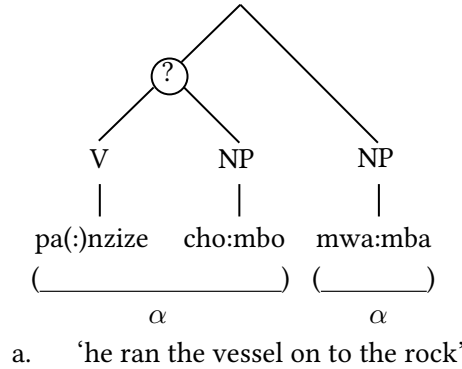


Figure 2 α in Chi Mwini (Selkirk 1986).

Although α seems to occupy a position with syntactic constituency, Selkirk argued that 'there is no consistent theory possible of what the specification for α is, if α is syntactic,' as α is not a maximal projection (p. 382). Therefore, a separate level of prosodic structures becomes necessary.

Despite the dissociation from one-to-one mapping between syntactic and prosodic constituents, IR researchers actually acknowledge that prosodic structures are rather precisely defined with respect to syntax. An important approach reflecting this correlation is the Edge-based prosodic alignment theory, which demands one edge of a major syntactic constituent (maximal projection) to coincide with one edge of a prosodic constituent (Phonological or Intonational Phrases) (Cheng & Downing 2007, 2009, Selkirk 1986, Truckenbrodt 1995, 1999, 2007). (3) is an example of the edge-alignment constraint in Optimality Theory (OT henceforth) terms:

- (3) ALIGNR[PHASE, INTPH]: Align the right edge of every phrase with the right edge of an Intonation Phrase
 ALIGNR[INTPH, PHASE]: Align the right edge of every Intonation Phrase with the right edge of a phrase.
- (adapted from Cheng & Downing 2012: 4)

In this way, prosodic and syntactic constituents are clearly correlated because of the asymmetrical alignment of edges. Many works done, for example, Truckenbrodt (2005) and Cheng & Downing (2012), have also argued that the IR approach is better than the DR because it smoothly accounts for more data, such as the phonological phrasing in Bantu languages. Therefore, I will introduce the DR theories for a comparison.

2.1.2 Direct reference theories (DR)

Early pioneers of DR (Cooper & Paccia-Cooper 1980, Gee & Grosjean 1983, Kaisse 1985, Odden 1995) believe that domain-sensitive phonological behaviours operate in syntactic constituents, and there is no need to refer to a separate prosodic structure where the latter is subject to its own well-formedness constraints. These early versions of DR were criticised for not accounting for enough phonological behaviours and the clear mismatch between syntactic and prosodic constituents as discussed earlier. However, after the emergence of Phase-based theories (Chomsky 2001), new forms of DR started to define these phonological domains with respect to *spell-out* domains. In short, if sentences are spelt-out in a cyclic, phased, incremental fashion, then these ‘spell-out’ chunks just lay boundaries for phonological interpretations. Figure 3 is an example of spell-out domains for a simple SVO-order sentence:

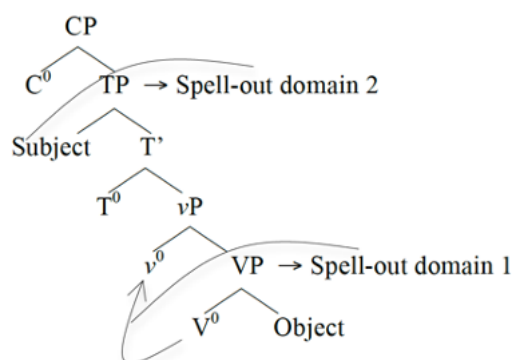


Figure 3 Spell-out domains for an SVO-ordered sentence (Cheng & Downing 2012).

Within the camp of DR, two versions gradually developed because of linguists' different understandings of the extent to which these domains are syntactic or prosodic in nature. The ‘strong’ version of DR insisted that syntactic domains are just prosodic domains and the proposal of a distinct level of prosodic structures is completely superfluous. Main advocates of strong DR include Seidl (2001) and Wagner (2005, 2010, 2015). For example, in Wagner (2005: 20), he maintained that

the domains in which phonological processes operate should be ‘recursive’ and ‘cyclic’, reflecting the nature of syntax and radically contrasting with the ‘fixed and non-recursive prosodic hierarchy’ proposed by IR – as illustrated in [Figure 1](#).

On the other hand, the ‘weak’ version of DR – which is more commonly considered as a branch of IR because it recognises the necessity of prosodic structures – believes that phasal and prosodic structure theories should not be incompatible ([Kratzer & Selkirk 2007](#), [Selkirk 1995, 2009](#)). Recently, a new approach – Match Theory – has been proposed in this framework ([Bennett, Elfner & McCloskey 2016](#), [Clemens 2014](#), [Elfner 2012](#)). The key tenet of Match Theory is the correspondence between syntactic and prosodic constituents, as given in (4). For example, ‘a given phrasal-level syntactic constituent must be matched with a ϕ -level prosodic projection’ ([Bennett et al. 2016](#)), as formalised in (5):

(4) MATCH constraints ([Selkirk 2011](#))

MATCH-CLAUSE: syntactic clause $\rightarrow$ intonational phrase (ι)

MATCH-PHASE: syntactic phrase $\rightarrow$ phonological phrase (ϕ)

MATCH-WORD: syntactic word $\rightarrow$ prosodic word (ω)

(5) MATCH-PHASE ([Elfner 2015: 1178](#))

For every syntactic phrase (XP) in the syntactic representation that exhaustively dominates a set of one or more terminal nodes α , there must be a prosodic domain (ϕ) in the phonological representation that exhaustively dominates all and only the phonological exponents of the terminal nodes in α .

In this way, syntactic and prosodic structures are compatible without sacrificing either one. Meanwhile, the strong interplay between syntax and prosody is also reflected, as ‘prosodic categories are syntactically grounded’ ([Selkirk 2009](#)).

Finally, I shall return to the main point of this paper and reemphasise that the goal is not to provide a critical comparison of these two accounts, but rather to show from a structure-theoretical angle that syntax undoubtedly affects prosody. In the following two sections, I will show how syntax correlates with prosody in areas besides structures.

2.1.3 Word class

It has been well-noted that different syntactic classes bear different prosodic properties, for example [Kaisse \(1985\)](#) and [Nespor & Vogel \(1986\)](#). Here, prosody does not refer to phonetic specifications like pitch or intensity measurements, but rather phonological well-formedness such as the ability to bear stresses or tones. Cross-linguistic evidence suggests that although functional words can be realised as a prosodic word, they are more prone to become prosodic clitics – a morphosyntactic word but not itself a prosodic word – compared to lexical words.

For example, in English, monosyllabic function words may appear either stressed or stressless, depending on their position – among other factors such as information structures – in the sentence. But lexical words, regardless of length, appear in

their stressed unreduced forms (Selkirk 1995). Another example comes from Serbo-Croatian where functional words are allowed to bear no tone at all but lexical words always have a high tone on one of their syllables. Similarly, in Tokyo Japanese, a high-tone functional word loses its tone when preceded by another accented phrase, but such a phenomenon never happens on lexical words. All these examples suggest that syntactic class distinctions can lead to prosodic property discrepancies.

2.2 Prosody → syntax

Section 2.1 used multiple studies to show that syntax indeed affects prosody significantly, from both structure-theoretical and prosody-behavioural angles. Meanwhile, cases of prosody influencing syntax are not uncommon as I shall present below.

2.2.1 Movements

A good indicator of the effects on syntax by prosody is the language's attitude towards *wh*-movements. Traditionally, the question whether *wh*-words are overtly moved in a language has been viewed as completely syntactic, and the Minimalists explained such contrast in terms of whether a language has strong or weak *wh*-features (Chomsky 1995). In contrast, Richards (2010, 2016, 2017) offered another account using prosody, arguing that syntactic operations of *wh*-movements actually only happen when prosody requires them. More specifically, every language tries to minimise the number of prosodic boundaries between the *wh*-word and its complementiser (Richards 2010: 145).

The example Richards used was Tokyo Japanese (Deguchi & Kitagawa 2002, Smith 2005). It was observed that in *wh*-questions, the *wh*-word usually had a boosted pitch compared to its statement counterpart, and the domain between the *wh*-phrase and its complementiser was characterised by pitch compression. As Japanese is able to form such a domain that is contrastable with the rest of the utterance, it allows the *wh*-phrase to remain in-situ. When the language does not construct such domains by default, the *wh*-phrase can be moved closer to the complementiser so that no prosodic boundaries intervene. This theory was schematised in Richards (2010) as follows:

- (6) by default: C [_φ] [_φ] [_φ wh]
 in-situ languages: [C wh]
 wh-movement languages: [wh C [_φ] [_φ] [_φ wh]]

To conclude, the previous example is a more 'radical' (Elfner 2018) approach which indicates that prosody is able to decide whether a syntactic movement should happen. From a less radical angle, prosody has also been shown to perform post-syntactic reordering of elements, which will be the focus of the next section.

2.2.2 Prosodic constraints outrank syntactic ones

Although the question whether syntax should always ‘feed’ phonology (Chomsky & Halle 1968, Tranel 1998) and the claim that phonology cannot influence syntax (i.e. ‘phonology-free syntax’; Zwicky & Pullum 1986) have long been under heated debate, the discussion about these two questions with respect to ‘constraints’ only emerged after OT was proposed (Prince & Smolensky 1993). The opinion that syntactic constraints should always dominate all prosodic constraints came out even later in Golston (1995). Currently, the majority of studies opposing Golston are inspired by Harford & Demuth (1999), which explicitly stated that syntactic constraints do not necessarily have a privileged status using evidence from Bantu languages.

More specifically, Harford and Demuth’s proposed that ‘certain prosodic constraints must be satisfied, even at the cost of violating lower-ranked syntactic constraints’ (p.3). Their argument was based on observations of Sesotho and Chishona object relative clauses, where the former preserved the SV order as in (7) (Demuth 1995) while the latter preferred verb-raising as in (8):

- (7) *dikobo tseo **basadi** ba-di-rekileng kajeno*
 blankets REL **women** bought today
 ‘the blankets which the women bought today’

- (8) *mbatya dza-v-aka-sona **vakadzi***
 clothes REL-sew **women**
 ‘the clothes which the women sewed’

(adapted from Harford & Demuth 1999)

The explanation given was that as the relative complementiser is monosyllabic in Chishona, actions must be taken because this language forbids monosyllabic words (MINPW constraint; McCarthy & Prince 1995, Myers 1987). Given that Chishona also has a syntactic constraint preventing movements (STAY; Grimshaw 1997), the only possible combination of constraints that can derive such a surface order is to rank prosodic constraints higher than syntactic ones and thus inviolable.

Numerous studies with similar beliefs were published since then. For example, Clemens (2014) found that the VSO/VOS alternation in pseudo noun incorporations of Austronesian and Mayan languages is actually a result of the higher-order prosodic well-formed constraints, asking the verb and object to be parsed into the same phonological phrase (i.e. Sense Unit Condition; Selkirk 1984). Another similar finding was in Romance languages. López (2009) claimed that the clitic right dislocation is actually because the Linearisation Correspondence Axiom (Kayne 1994) which dictates the default word order can be violated by the WRAP constraints on intonation.

A final case of prosodic well-formedness constraints taking precedence comes from instances of non-isomorphic mapping between syntactic and prosodic structure levels under Match Theory. The problem arises from the potentially non-universal syntactic definitions of *words*, *phrases* and *clauses*, on which the MATCH constraints depend. As a result, MATCH constraints may not even be interpreted universally either. For example, in Inuit, phonological ‘words’ may in fact be syntactically phrasal but correspond prosodically to prosodic words (Compton & Pittman 2010). The standard explanation given (Selkirk 1995, 2011, Truckenbrodt 1995, 1999) claims that syntax-prosody correspondence constraints can be violated by prosodic well-formedness constraints if necessary, leading to mismatches of structures. An example was given in Bennett et al. (2016) discussing Irish pronoun enclitic. It was proposed that the following two constraints conflict in Irish:

- (9) MATCH-PHRASE: syntactic phrase $\rightarrow$ phonological phrase (ϕ)
 STRONG-START: prosodic weak elements should not appear at the left edge of a phonological phrase (Elfner 2012, Selkirk 2011).

In Irish, if a pronominal object wants to remain in-situ, it must be enclitic onto its preceding strong word (usually the subject). Otherwise, it must move to the right edge of the phonological phrase. As an explanation, Bennett et al. proposed that Irish ranks the prosodic constraint STRONG-START higher than the MATCH constraint. In other words, the prosodic well-formedness constraint must be satisfied even at the cost of mismatches of syntactic and prosodic structures. The pronoun should have been in the same phonological phrase as the following adjunct, as in Figure 4a. But after the enclitic process, the pronoun forms a phonological phrase with the subject, violating MATCH-PHRASE, as in Figure 4b.

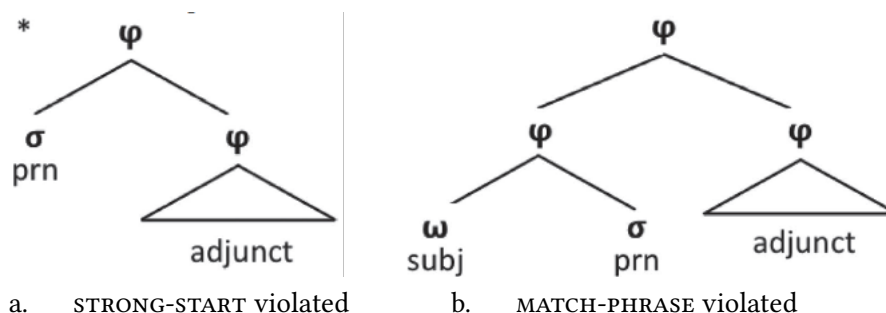


Figure 4 The structure of pronominal pronoun before and after clisis (adapted from Elfner 2018).

So far, by presenting evidence that prosody can affect syntax – especially in the linearisation of elements – I believe I have shown that the unidirectional model of syntax-phonology feeding is slightly biased. Although phonologists take different approaches to how strongly prosody is influencing syntax, the ability to alter word order is not syntax-exclusive has become more widely acknowledged.

3 ‘PHONETIC PROSODY’ vs. SYNTAX

Apart from referring to phonological structures, another definition of prosody lies in phonetics. Formally speaking, prosody refers to the suprasegmental aspects of sounds, for example, intonations, tones, stress and rhythm (Ladd & Cutler 1983). In this section, I will first show how manipulations of prosodic measurements such as pitch and speech rate are reflections of different syntactic structures, as evidence that syntax is impacting prosody. Then I will present evidence of how prosody affects syntactic analyses and the role of syntax in discourse. By balancing data on both sides, the final goal of this section is still to show that syntax-prosody interaction is not always unidirectional.

3.1 *Syntax* → *prosody*

3.1.1 *Clause type*

A convincing evidence of syntax affecting prosody is found in Mandarin, where different sentences types have different prosodic contours. By systematically examining the prosodic properties of Mandarin declaratives and questions, Gryllia, Doetjes, Yang & Cheng (2020) found not only that speakers use intonational cues to distinguish the two in the absence of morphosyntactic hints from the beginning of the utterance, but that listeners also anticipate the clause type using prosodic clues.

The production experiment studied the prosodic characteristics of the pre-*wh*-word area in *wh*-questions and their declarative counterparts. The sentential focus, tone composition and sentence length were all kept constant across all stimuli to isolate the sole contribution of prosody to clause type differentiation. As a result, *wh*-questions were found to have faster speech rates, higher mean F0, smaller F0 ranges in the pre-*wh*-word region and, additionally, a larger intensity range at the second syllable of the utterance. The perception part of the experiment used a gating paradigm (Grosjean 1980) and asked participants to complete the sentence by hearing its initial fragments. It was found that, overall, participants succeeded in matching the presented fragment with its correct type of continuing clause with an above-chance level. In particular, the information contained in the first two syllables was enough for clause discrimination – the maximum F0 of the second syllable was significantly higher for questions than declaratives.

3.1.2 *Argument structure*

The following study conducted by Bögels, Schriefers, Vonk, Chwilla & Kerkhofs (2009), interestingly, can be simultaneously interpreted as evidence for the effects syntax has on prosody and the impacts prosody has on syntax. I shall introduce the experiment first and analyse the results respectively.

In short, Bögels et al. wanted to find the effect of prosodic breaks (PB) and disambiguating-verb transitiveness on the syntactic analyses that listeners pursue, by fully crossing the two factors in locally ambiguous Dutch sentences. Examples of the stimuli are shown in (10):

- (10) a. *De leerling bekende de leraar te hebben **gespiekt** ...*
 NP1 V1 NP2 V2_{intransitive}
 the pupil confessed the teacher to have **cheated** ...
 ‘The pupil (NP1) confessed (V1) (to) the teacher (NP2) to have cheated (V2_{intransitive}) ...’
- b. *De leerling bekende de leraar te hebben **opgesloten** ...*
 NP1 V1 NP2 V2_{transitive}
 the pupil confessed the teacher to have **locked-up** ...
 ‘The pupil (NP1) confessed (V1) to have locked up (V2_{transitive}) the teacher (NP2) ...’

The two sentences above are ambiguous before one reaches the bolded V2. Whether NP2 is the object of V1 or V2 depends on whether the disambiguating V2 is intransitive or transitive. When V2 is intransitive, NP2 must be the object of V1; but when V2 is obligatorily transitive, NP2 must be the object of V2. Furthermore, the experiment distinguished whether V1 was a subject-control (SC) and object-control (OC) verb, depending on whether its indirect object is the subject/object of the infinitive complement (Comrie 1985). Therefore, by using the auditory fragment completion paradigm, Bögels et al. aimed to find whether PB and the transitivity of disambiguating verbs can impact listeners’ analysis of garden-path sentences with the structures in (10).

As a consequence, the researchers did find different responses to PB from SC and OC items. Firstly, the baseline experiment found that participants preferred to match SC items with transitive completions but OC items with intransitive answers. Such difference in argument-structure preference of the stimuli led to their different responses to PB effects. In the follow-up ERP study, it was found that N400 effects (i.e. confirming the violation of intransitive reading) appeared for SC items, both with and without PB. However, N400 was elicited in OC stimuli only when PB was present.

To conclude, the aforementioned research demonstrates that syntactic differences (e.g. clause type and argument structure) can lead to prosodic feature and response differences. However, as the next section will show, there is an abundance of evidence showing that prosody can affect syntactic analyses and manipulations, and that the conclusion of unidirectional syntax-prosody interaction should not be drawn too soon.

3.2 Prosody → syntax

3.2.1 Argument structure

Two findings of the Bögels et al. (2009) study showed the impacts of prosodic information has on the determination of syntactic analysis. On the one hand, as mentioned earlier, OC sentences witnessed the emergence of N400 effects caused by mismatches between PB and the following disambiguating verb, only under break

condition but not no-break condition. On the other hand, when PB was present, more intransitive completions were collected compared to when PB was absent. Both of these results could be strong evidence that prosody is able to affect listener’s syntactic analysis decisions.

3.2.2 *Wh-intermediates*

Another type of syntactic analysis that prosodic information can affect is that of *wh*-intermediates in various languages, especially East Asian languages such as Mandarin Chinese (Dong 2009, Hu 2002), Korean (Yun 2018) and Japanese (Deguchi & Kitagawa 2002, Ishihara 2002). *Wh*-intermediates refer to a class of words that can yield both interrogative and indefinite readings, as illustrated in the Korean example in (11):

- (11) *Ne nwukwu cohaha-ni?*
you WH-INTERMEDIATE like-INT²
a. ‘Who do you like?’
b. ‘Do you like anyone?’ (adapted from Yun 2018)

With respect to syntax, prominence on *wh*-intermediates was actually shown to increase to possibility of taking a wide-scope reading. For example, in (12) where the *wh*-intermediate appears within a conditional, Ha (2004) and Bruening (2007) believed that no wide scope reading is available, as banned for all languages having *wh*-intermediates that have identical forms for interrogatives and indefinites like Korean:

- (12) *Nwukwu(-nka)-ka o-myen Chelswu-ka cohaha-lke-ta*
WH-INTERMEDIATE come-if Chelswu-NOM glad-will-DECL⁴
‘Chelswu will be glad if someone comes.’ (Ha 2004: 92)

Yet, experiments by Yun (2018) clearly demonstrated that (1) wide scope readings are available for *wh*-indefinites although narrow scope readings are preferred (75% of the declaratives received narrow scope readings), and (2) by raising the pitch of the *wh*-indefinite, the proportion of wide-scope judgements increased significantly from 25% to 49%. Both results – the ability of distinguishing word uses and manipulating scope readings – indicate that prosody is effective in impacting syntax.

3.2.3 *Focus*

The final piece of evidence comes from the co-operation of prosody and syntax in focus marking. On the one hand, many languages that are famous for marking the focus syntactically (e.g. Spanish and Italian) have also been found to use in-situ prosodic marking strategies such as pitch raising and hyperarticulation of prominent

² INT = interrogative

vowels (Face & D’Imperio 2005, Gabriel 2010). However, the relationship between prosodic and syntactic focus marking has been claimed to be not mutually-exclusive but even reinforcing (Calhoun 2015). Traditionally, focus must receive the maximal prosodic prominence in an utterance (Truckenbrodt 1995). When these two position requirements conflict with each other, it has been found that syntactic constraints usually give way to prosodic ones to ensure the best intonational contour, for example, Italian (Samek-Lodovici 2005).

In more recent years, linguists started to take a more radical approach, proposing that syntactic focus-marking manipulations in fact happen under prosodic motivations (Büring 2009, Féry 2013). An exemplar phenomenon is that syntactic movements only happen when the prosodic structure of that language is rather inflexible. Firstly, for instance, in Castilian Spanish, the final position always received the maximal prominence (or nuclear accent) as shown in (13):

- (13) a. *¿Quién compró el periódico ayer?*
 who bought the newspaper yesterday
 ‘Who bought the newspaper yesterday?’
- b. *Ayer compró el periódico JUAN.*
 yesterday bought the newspaper JUAN
 ‘JUAN bought the newspaper yesterday.’
 (adapted from Büring 2009: 197)

Consequently, the capitalised focus JUAN, in order to receive maximal prosodic prominence, is moved to the right-edge of the sentence.

Another example comes from Samoan (Calhoun 2015). The general picture for syntactic marking strategies is rather obscured, because only two out of seven participants used syntactic means consistently in Calhoun’s production experiment and such strategy was employed for subject focus only. However, the initial phrase of the sentence always received maximal prosodic prominence, in the form of either ending in a high phrase tone (H–) or supressing the pitch accents and even the overall pitch of the following phrase. Indeed, the method taken by the two ‘syntactic-marking’ participants was fronting the focused constituents. It was found that over 50% of the responses for focusing the subject used a SVO order while the default order in Samoan is VSO, as illustrated in (14):³

- (14) a. *Na toso e Sione le maea.*
 PST pull ERG Sione DET rope
 ‘Sione pulled the rope (earlier).’ (VSO order)

³ Although the translation for *O* in (14b) looks like a cleft construction in English, it is actually a pragmatic use for showing emphasis and irrelevant to this paper’s discussion (see Mosel & Hovdhaugen 1992 for details).

- b. 'O Sione na tosoa le maea.
PRES⁴ Sione PST pull DET rope

‘It was Sione who pulled the rope (earlier).’ (SVO order)
(adapted from Calhoun 2015: 213)

4 CONCLUSION

This paper provides a literature review of the past publications discussing the interaction between prosody and syntax with respect to a frequently discussed question – whether the interface between them is from syntax to prosody *only* – from both phonological and phonetic angles.

Evidence supporting both directions of interplay was presented. At the phonology-syntax interface, I attempted to show that although prosodic structures are dependent on syntactic structures, certain syntactic phenomena such as movements are subjected to the prosodic constraints the language at issue. In OT terms, syntactic constraints do not always dominate all prosodic constraints either. As for the prosody-syntax interface in phonetic terms, past studies indeed demonstrated the influence of clause and argument structure on prosody. However, a number of experiments also showed that prosodic information can affect language users’ syntactic analyses of, for example, *wh*-intermediates and focus marking, and even argument structure in turn.

In a word, this essay does not aim to provide a final answer to nature of syntax-prosody interaction, but rather to provide evidence of prosody and syntax impacting ‘each other’ in a balanced way. I believe, with all the afore-presented data, I have shown that the conclusion of unidirectional prosody-syntax interplay should not be drawn too easily but urgently requires reconsiderations.

ABBREVIATIONS

DR	direct reference	OT	Optimality Theory
INT	interrogative	PB	prosodic breaks
IR	indirect reference	PRES	presentative
OC	object-control	SC	subject-control

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⁴ PRES = presentative

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