On some effects of utterance finality, with special consideration of South Asian languages

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ABSTRACT

Pitch lowering, avoidance of prosodic prominence, and segmental reductions in utterance-final position are well known crosslinguistic tendencies. In verb-final languages the prosodic effects of Utterance Finality intersect with an independent, crosslinguistic tendency of verbs to receive relatively weak prominence within larger prosodic domains. As a consequence, verbs in SOV languages are special targets for the effects of Utterance Finality. After providing crosslinguistic illustrations of these effects I focus on a number of phenomena in South Asian languages which can be explained in terms of the intersection between Utterance Finality and Verb Finality. These include the relative order of negation and verb and the apparent optionality of 'be'-deletion in Hindi, the difference in verb accentuation between main and dependent clauses in Vedic, and (possibly) the fact that Kashmiri *ki/zi*-clauses, unlike relative clauses, have V2, rather than verb-final order.

1 Introduction

As a historical process, the crosslinguistically common phenomenon of final devoicing (Hock 1986/1991: 88, 92–93, 95–96) has been known at least since the 19th century, and as a synchronic phenomenon it has figured prominently in both Praguian and generative phonology. Although its domain is commonly considered the word, it has also been suggested that it originates in a larger prosodic domain, i.e. the utterance. In Hock (1999) I have presented arguments and evidence for the view that utterance-final position is indeed the most likely point of departure, not only for final devoicing but for many other processes or phenomena, both segmental and suprasegmental, that are commonly referred to as word-final; that word-final processes or phenomena generally result from extension of utterance-final developments; and that utterance-final changes can, by similar extensions, give rise to other, even more far-reaching developments.

This paper focuses on Utterance Finality and its effects on verbs in verb-final languages, with special attention to South Asian languages. Phenomena to be considered include apocope and accent retraction in finite verbs and their consequences, as well as apparent optionality in the order of negation and verb and in the deletability of 'be' in Hindi.

Section 2 establishes the conceptual framework for the rest of the paper, arguing for the utterance as the relevant domain for the issues to be discussed, rather than the word or the sentence. Section 3 addresses the prosodic properties of utterance finality and their interaction with the tendency for verbs to be less prominent in context than nouns or NPs, resulting in the fact that verbs in SOV languages are subject to special segmental and suprasegmental changes. Section 4 illustrates synchronic consequences in Hindi of the interaction of utterance finality and the prosodic weakness of verbs. Section 5 addresses historical developments in South Asian languages that can be explained by this interaction. Finally, Section 6 presents conclusions and discusses further implications.

2 Word finality, sentence finality, utterance finality, and the relation between syntax and phrasal prosody

Summarizing arguments in Hock (1999), this section establishes a conceptual framework for the rest of the paper by arguing for Utterance Finality as a more insightful prosodic motivation than word or sentence finality for phenomena such as final devoicing or accent retraction. In addition, following earlier work such as Selkirk (1984), Nespor & Vogel (1986), it accepts the position that there is no one-to-one correspondence between syntax and prosodic phrasing.

2.1 Word finality vs. utterance finality

Opinions have varied as to whether words are the proper focus of phonology (both segmental and suprasegmental) or larger domains such as the sentence or the utterance. The Praguians opted for a *phonologie du mot* and so did many generativists. Exceptions include Vennemann (1974), Hooper (1976), and Hyman (1977) who account for final devoicing or neutralization as an extension of utterance finality effects. The situation is similar in phonetics. Ohala (1993) claimed that the "domain of change is overwhelmingly the word or possibly phrases which occur so often that they could also be said to be lexicalized." In contrast, Keating (1988) argued that "final devoicing of obstruents can be motivated physically by aerodynamic considerations, but only for utterance-final position; languages that employ devoicing rules in word- or syllable-final positions are no longer responding only to physical considerations."

While notions such as word-final devoicing have a place in descriptive phonology, the utterance-based proposals of Keating, Vennemann, Hooper, and Hyman explain how such processes come about.[1] Word finality has no clear phonetic correlate and thus provides no phonetic motivation for devoicing or neutralization. Utterance Finality, by contrast, does provide such a motivation. At the same time, words are potentially minimal utterances and most utterances end in a full word. Utterance Finality and word finality, therefore, may coincide, and this coincidence can make extension from utterance-final to word-final position possible.

In most cases, this perspective is only an explanation in principle, but there is at least one case that clearly establishes the extension of an originally utterance-final development to word-final position, and beyond. In two important papers, which unfortunately have not received the visibility they deserve, Becker (1977, 1979) draws on dialectal data to argue that the well-known phenomenon of Serbian-Croatian (or "Bosnian-Croatian-Montenegrin-Serbian") accent retraction originated in utterance-final position. The geographically most peripheral, also otherwise conservative varieties (dialects of Čakavian) show no accent shift at all (1a); neighboring Čakavian dialects exhibit the change only utterance-finally, as a shift of high pitch from the final to the penultimate mora (1b); in the standard (Štokavian) language, by contrast, the change has been extended to general word-final position (1c) and has been further extended as generalized accent retraction (1d–e). (Interestingly, as (1e) shows, accent retraction may lead to new contour tones on short vowels, with ` indicating a rising contour and `` a falling contour.)[2]

(1) Serbian-Croatian accent retraction (Becker 1977, 1979)
  a. Čakavian 1   *krãlʸ*   =   [kraálʸ]   'king'
  b. Čakavian 2   *krâlʸ*   =   [kráalʸ] / ___ ##
       vs.   *krãlʸ*   =   [kraálʸ]   elsewhere
  c. Štokavian   *krâlʸ*   =   [kráalʸ] / ___ #
  d. Štokavian   *lopàta*   >   *lòpata*   'shovel'
  e. Štokavian   *vodá*   >   *vòda*   'water' (N sg.)
       vs.   *vódu*   >   *v̏odu*   'water' (A sg.)

2.2 Sentence finality vs. utterance finality and the relation between syntax and phrasal prosody

Not only does utterance finality generally coincide with the end of a full word, in many cases it also coincides with the end of a full sentence, and so it may be tempting to define prosodic finality in terms of sentence boundaries. Doing so, however, ignores the rich literature, initiated by Selkirk (1984) and Nespor & Vogel (1986), showing that there is no one-to-one correlation between syntax and phrasal prosody.

Especially interesting is the finding of Vogel (1986) that sandhi phenomena like English *r*-linking (e.g., *the idea[r] is*) can apply across clause boundaries, given the right prosodic phrasing and discourse conditions. Vogel concludes:

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[1] See also Hock (1986/1991: 80), Crowley (1992: 55), and Trask (1996: 60).
[2] Here and elsewhere # indicates word boundary, ## utterance boundary.

> In prosodic terms, such sandhi rules apply within the phonological utterance, the largest domain in the phonological hierarchy, and the one that may include more than one sentence, depending on certain aspects of the discourse structure. (Vogel 1986: 63)

Further, Hock & Dutta (2010, 2013) provide experimental evidence that English utterance-final vocatives generally are prosodically incorporated into the preceding structure, in spite of the fact that vocatives are syntactically separate from that structure.

3 Utterance Finality, prosodic weakness of verbs, and SOV

This section addresses the prosodic effects of Utterance Finality and its interaction in verb-final languages with the fact that verbs tend to receive less prominence in context than nouns.

3.1 The prosodic weakness of utterance-final position and its common effects

The initial step of example (1) above has parallels in many other languages. As early as 1917, Bloomfield noted that in Tagalog, "… an accent on the last syllable of a sentence often entirely loses its pitch-rise." Cheng & Kisseberth (1979: 34–35) posit a rule of Phrase-Final Lowering for Makua and justify it as "an expected accentual phenomenon – lowering of pitch at the end of an utterance." More far-reaching developments are found in Huichol, where utterance-final constituents lose their underlying tones and exhibit only the pitch properties of the sentence intonation (Grimes 1959); see (2) and (3), where the a-parts illustrate the finality effect, while the b-parts give corresponding forms with their normal tones (accents mark tone; numerals, final pitch contour).

(2) Huichol (Grimes 1959)
      a. *yaawi+kámʌ́+**maa³na**ˡ#*
         'Look! There's a coyote.'
      b. *hutăa+ríeka+tá **mána**+ pairéiku+tua³ni¹!*
         'She hauled him back there a second time.'

(3) Huichol (Grimes 1959)
      a. ***yaa⁴wi¹***
         'A coyote!' (uttered with surprise)
      b. ***yaawi**+kámʌ́+maa³na*ˡ#*
         'Look! There's a coyote.'

A plausible explanation for these and similar changes[3] is that in unmarked, declarative utterances, the final position has the lowest pitch of the intonational curve; see Figure 1. In fact, Pike (1948: 28) observed that utterance-final pitch is often realized at a much lower level than otherwise expected. See also Hyman (1977). Liberman (1975), and following him, Pierrehumbert (1980) and Beckman & Pierrehumbert (1986) have captured that insight by positing a L(ow) boundary tone at the right edge of Intonational Phrases (IPs), i.e. of utterances.

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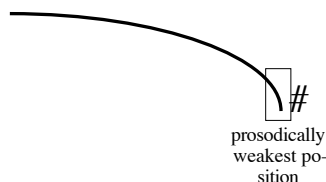prosodically
weakest po-
sition

Figure 1. Falling intonation and utterance-final prosodic weakness

Utterance-final position, thus, is the prosodically weakest position, with the smallest acoustic space

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[3] See Hock (1999) for other examples.

to carry prominence or to make tonal distinctions. Many tone languages deal with this situation by merely reducing the acoustic space between the contrasting tones; see Shen (1990) and Herman (1996) among others. Other languages evidently react by loss of underlying tone or accent distinctions (e.g., Huichol) or by retraction of prominence to the left (e.g., Makua and Serbo-Croatian). As argued in Hock (1999), the conflict between utterance-final prosodic weakness and prosodic prominence can also account for Hyman's (1977) observation that crosslinguistically word-initial and word-final prominence are quite common, prominence on the penult is also common, but prominence on the "pen-ant" (the second syllable) is quite rare: Penult accent can be accounted for as the result of accent retraction from word-final position, originating in utterance-final position, in response to its prosodic weakness.

3.2 Utterance Finality and its interaction with the prosodic weakness of verbs in SOV languages

In verb-final languages the prosodic effects of Utterance Finality intersect with an independent, crosslinguistic tendency of verbs to receive relatively weak prominence within larger prosodic domains; see already Mathesius (1911) and see also the syntactically oriented account of Kratzer & Selkirk (2007). Not surprisingly, therefore, Ladd (1996) states that final verbs in SOV languages crosslinguistically tend to have reduced prominence or lose their prominence. Let us refer to this phenomenon as Verb Finality.

There are, however, potential counterexamples to this generalization that deserve discussion, one of which is mentioned by Ladd and comes from Bangla (Bengali); the other comes from German. For Bangla, the data in Hayes & Lahiri (1991) suggest major prominence on the final verb. Ladd therefore considers the language an exception to the crosslinguistic tendency of Verb Finality.

However, an experimental study by Hock & Dutta (2006) shows that Bangla does in fact conform to the crosslinguistic tendency. Consider for instance the utterance *Maya Malar baṛi ḍhuke jae* 'Maya enters Mala's house' in Figure 2, where prominence trails off on the verb *ḍhuke jae*, and where the final syllable of the verb is accompanied by creaky voice.
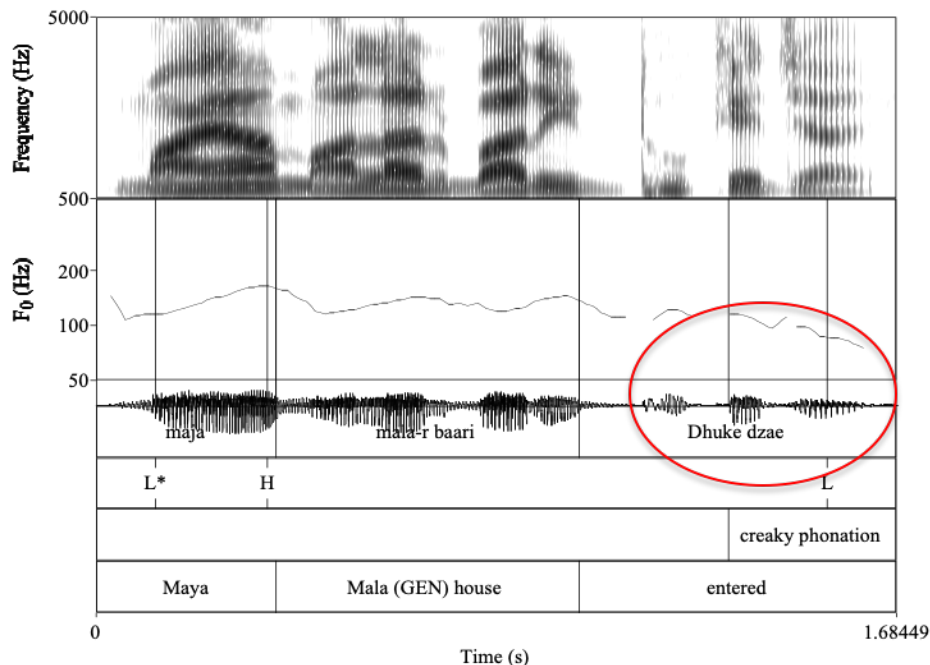

Figure 2. Utterance-finality effect on final verb in Bangla

In one instance, a participant in the experiment produced the sentence *Šêmoli uthonṭa dhobe* 'Shyamoli will clean the courtyard' with the final prominence predicted by Hayes & Lahiri (1991);

Figure 3. But when the utterance was played back with the request to rate whether it sounded acceptable, (s)he said "no" and when asked to speak the sentence in a more natural fashion produced the version in Figure 4, thus confirming that final prominence is marked.
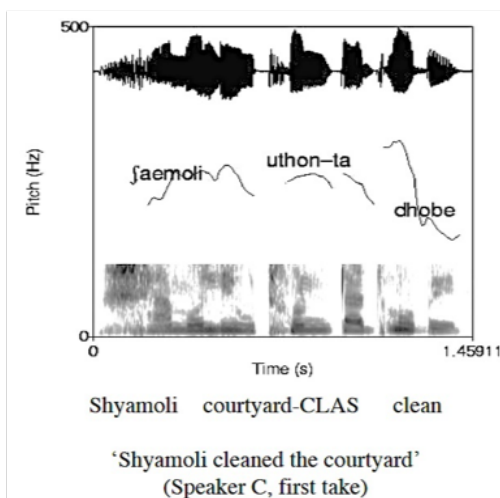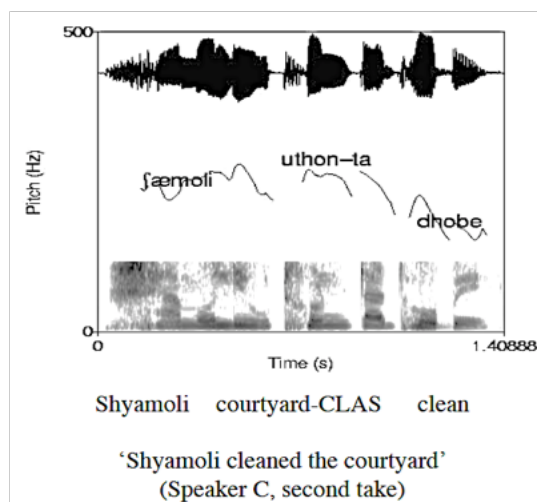

Figure 3. Utterance with final prominence

Figure 4. Utterance with self-correction

A possible explanation of the final prominence in Hayes and Lahiri's (1991) data may be that it is an artifact of their experiment, in which every phonological phrase was placed under focus, leading to a highly marked intonational pattern.

A second possible problem was suggested by Manfred Krifka (p.c. 2004), who argued that in German sentences such as (4), the final participle *gesehen* 'seen' carries prominence (represented with the acute accent), rather than the preceding definite object, *den Mann* 'the man'; see (4a). This judgment contrasts with mine (and that of other speakers of German) who would normally have highest prominence on the object (4b). See also Kratzer & Selkirk (2007).[4] Interestingly, Krifka and I agree on placing highest prominence on the object if it is indefinite (4c). The solution seems to be that in Krifka's variety of German, definiteness is interpreted as indicating that the object is given information, and hence the following participle, providing new information, receives prominence. On the other hand, an indefinite object does not convey old information and hence receives prominence. By contrast, my variety does not make this distinction; rather, the subject is construed as old information, and the entire rest of the utterance as new information. Note however that, given the right pragmatic context, I can produce a version in which *gesehen* is treated as new information; see 4(d). But as the example shows, in that case I have prominence on both *den Mann* and on *gesehen*, and the latter accent is downstepped (represented with the "!" diacritic).

(4) German
    a. *Er hat den Mann geséhen* (Krifka)
    b. *Er hat den Mánn gesehen* (Hock)
    c. *Er hat einen Mánn gesehen* (Krifka and Hock)
    d. *Er hat den Mánn !geséhen* (Hock alternative)
       he has the man seen
       'He has seen the man.'

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[4] Kratzer and Selkirk's intuitions, however, differ from mine in structures such as (i), with intransitive "unaccusatives or eventive unergatives" in "all-new" utterances. Kratzer and Selkirk consider a. to display the correct accentuation; but I find a. to be marked, with *Bayern* carrying focus accent, and only b. strikes me as a natural out-of-the-blue utterance.

    (i) a. *Ich hab' gerade im Radio gehört, dass der König von Báyern ertrunken ist*
       b. *Ich hab' gerade im Radio gehört, dass der König von Bayern ertrúnken ist*
         'I have just heard on the radio that the king of Bavaria has drowned.'

A possible case similar to (4) may be found in the Bangla data of Dutta & Hock (2006).[5] In Figure 5, the final verb *dao* 'give.IMP' has higher prominence than expected, especially considering that the initial consonant is voiced and hence would be expected to lower F_0. Since the preceding pronoun is marked as definite (by the case marker *-ke*), it is possible to interpret this utterance as an example of prominence both on the pronoun and on the verb, but with downstep on the latter.
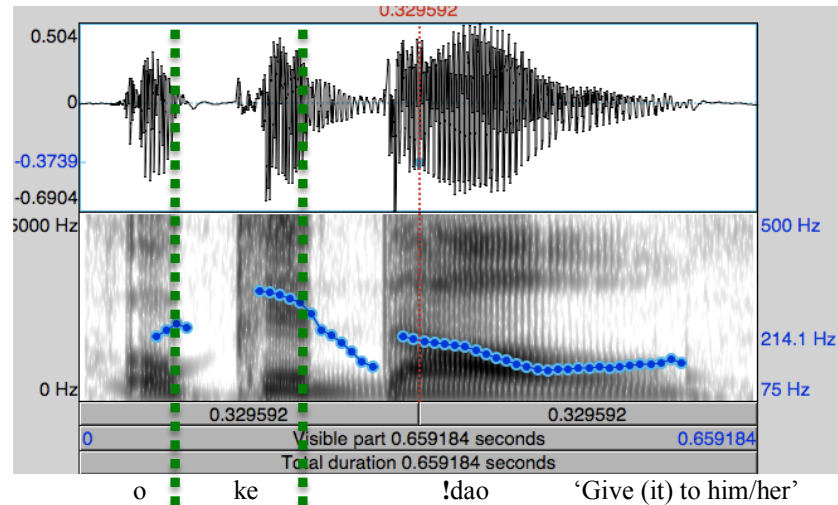

Figure 5. Final downstep

It thus seems safe at this point to conclude that, with some minor, pragmatic or discourse-conditioned exceptions, Verb Finality holds crosslinguistically for SOV languages.

3.3 (Un)markedness and similar issues

The preceding conclusion still requires modification. First, as mentioned earlier, the highly reduced acoustic space responsible for the Utterance-Finality effect holds true only for unmarked, declarative statements. Yes-no questions, which crosslinguistically favor a rising intonation, do not have the same characteristics. If, then, phenomena such as loss or accent retraction also occur in questions,[6] that must be attributed to extension from unmarked, declarative statements.

Further, the accent reduction or loss on finite verbs in SOV languages seems to be generally limited to transitive structures with overt complements; intransitives usually do not seem to synchronically show the same effects. Consider the Hindi example in (5), where (5b) is acceptable only with strong contrastive accent on *maiṁ* 'I'. If, then, historical changes affect all verbs in an SOV language, irrespective of whether they are transitive or not, that must be attributed to extension from transitive to intransitive constructions.

(5) Hindi
      a.   *maiṁ*   *gáyā*
      b.   ?*maíṁ* *gayā*
          I   went
      'I went.'

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[5] I am grateful to Aditi Lahiri for pointing out this problem at the 2nd Workshop on Tone and Intonation: Models, Computation and Evaluation, February 2013, at EFLU, Hyderabad. The following is based on discussion between Indranil Dutta and me following the Workshop.

[6] An example would be the following from Modern Persian which has the accent retraction discussed in Section 3.4 below, even though it does not have falling intonation.

     hanúz   *harekat* *ná-kard-i?*
     still   leave   NEG-do.PST-2SG
     'Haven't you left yet?'

3.4 Some diachronic effects of Verb Finality in SOV languages

The hypothesis that Verb Finality can lead to special developments targeting verbs in SOV languages turns out to be highly productive, in that it provides a straightforward sound-change analysis for what otherwise would have to be an analysis in terms of the problematic notion of grammatically conditioned sound change.

On the segmental level, Harms (1964, 1990) argued that the apocope of *-e* in Finnish finite verbs, but not in other morphological categories, can be attributed to the fact that the original Finnish word order was SOV. Similarly, in a variety of early Indo-European languages, final *-i* underwent more extensive or earlier apocope in finite verbs than in other morphological categories; see Hock (2012). Thus, in Latin nouns, apocope takes place only if the *-i* is preceded by more than one syllable (6a), while in verbs there is no such restriction (6b). In both Finnish and early Indo-European, it might be tempting to claim that the special developments, targeting finite verbs, are simply grammatically conditioned; but what would be the grammatical motivations that single out finite verbs for special treatment? A prosodic account, taking note of the fact that these are (or have been) SOV languages can provide a principled prosodic explanation in terms of the Verb Finality effect.

(6) Latin

		animali	>	*animal*	'animated'
---	vs.	*mari*	>	*mare*	'sea'
		pedi	>	*pede*	'by foot'
	b.	*esti*	>	*est*	'is'
		eyti	>	*it*	'goes'
		weniti	>	*uenit*	'comes'

a. *animali* > *animal* 'animated'
vs. *mari* > *mare* 'sea'
pedi > *pede* 'by foot'
b. *esti* > *est* 'is'
eyti > *it* 'goes'
weniti > *uenit* 'comes'

On the suprasegmental level, Modern Persian offers an interesting case of accent retraction on finite verbs, whose original prosodic motivation is still discernible.

As is well known, the default accent of Modern Persian is word-final. Final finite verbs of main clauses, however, retract the accent as far to the left as possible, even onto the preceding complement; see (7a–c); the only complication is that negation may block further retraction (7d). Finite verbs of preposed dependent clauses, by contrast, do not retract the accent (7e). (The accent on main-clause *níst* is conditioned by the negation *n(á)*.) So far, everything looks like it is completely prosodically conditioned: utterance-final verbs undergo accent retraction (with further retraction blocked by negation), verbs in other contexts do not. Example (7f) may at first sight conform to this generalization, in that the postposed dependent clause, whose verb is utterance-final, shows accent retraction. Note, however, that the verb of the preceding main clause also shows retraction, even though it is not utterance-final. Evidently, some kind of grammaticalization has taken place, with accent retraction generalized in main clauses, no matter whether they are utterance-final or not. For further details see Lazard (1957, 1989) and Windfuhr (1987).

(7) Persian

a.	*ráft-am*		'I went'
b.	*bé-rav-am*		'I would go'
c.	*kǻr mi-kon-am*		'I always do the work'
d.	*ná-raft-am*		'I did not go'
e.	[*àgar*	*be-rav-ád*]DC	'If he goes, there will be no-one left.'
	if	go.3SG.SBJV	
	[*kàs-i*	*digàr*	*níst*]MC
	anybody	left.over	NEG.be.3SG.PRS
f.	[*hàqq-aš*	*ín*	*ast*]MC	'The truth of it is that I do not have money.'
	truth-of.it	this	be.3SG.PRS
	[*ke*	*púl*	*nà-dār-am*]DC
	that	money	NEG-have.PRS-1SG

Again, only a prosodic account in terms of Utterance Finality and Verb Finality is able to account for the different behavior of finite verbs in main clauses and *ke*-clauses vs. preposed dependent

clauses. At the same time, as in all other cases, we have to accept extensions that go beyond the original triggering context — in this case, extension of accent retraction to main clauses with final finite verb,[7] no matter whether they follow or precede dependent clauses.

4 Synchronic consequences of Verb Finality in Hindi

In this section I address two Hindi phenomena for which Utterance- and Verb-Finality prosodic accounts offer attractive explanations. These are the deletability of the verb 'be' and the placement of negation.

4.1 Hindi 'be'-deletion and Utterance Finality

The verb 'be' is frequently deleted in Hindi negative sentences. The common wisdom on 'be'-deletion is that it is an optional process, with the possible exception of existential 'be', which may be stable.[8]

However, examples such as (8) vs. (9) suggest that 'be'-deletion is not entirely optional, in that 'be' can be deleted only if the preceding element is prosodically non-prominent, and not if the preceding element is prominent. Put differently, deletion is possible only if the output leaves behind an utterance-final prosodic slope or declination; this Slope principle requires that the final lexical element have lower prominence than the penultimate one, as shown in (8). If deletion violates the Slope principle, as in (9), then it is blocked.

(8) Hindi
    a. *vah kitāb   nahī́m̐   acchī   hai*
         that book   not   good   is
         'That book is not good.'
    b. *vah kitāb   nahī́m̐   acchī   Ø*

(9) Hindi
    a. *vah kitāb   acchī   nahī́m̐   hai*
         that book   good   not   is
         'That book is not good.'
    b. *vah kitāb   acchī   nahī́m̐*   *?Ø

Further support for the Slope principle comes from utterances like (10) in which *bilkul* 'really' is

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[7] If main-clause verbs are not clause-final, accent retraction apparently does not occur, as in colloquial *mi-ra-vám tehrún* 'I am going to Tehran'.

[8] The question whether existential 'be' is in fact stable deserves further investigation. In utterances such as (i–ii) below, the fact that 'be' cannot be deleted may simply be a consequence of the fact that the only thing that can precede is the negation, and therefore (i) follows the same pattern as (8).

    i. *yahām̐ par   acchī kitābem̐   nahī́m̐   haim̐*
       here   good books   not   are
       'There are no good books here.'
    ii. *yahām̐ par   acchī kitābem̐   nahī́m̐*   *Ø

A decision whether this is the correct analysis, or whether existential 'be' is really stable, would depend on the grammaticality of (iv), in which *bilkul* 'really' is prominent, and *nahīm̐* 'not' is not. Example (10) might suggest that it is, but 'be' here is not the existential verb. This issue clearly deserves further testing.

    iii. *yahām̐ par   acchī kitābem̐   bílkul   nahīm̐ haim̐*
        here   good books   really   not   are
       'There really aren't any good books here.'
    iv. *yahām̐ par   acchī kitābem̐   bílkul   nahīm̐* ??Ø

prominent, and not the negation (and where an additional element, *pasand* 'liked', follows *nahī́ṁ* 'not'). As (10b) shows, because of the prominence on *bílkul*, the following *nahī́ṁ pasand* forms a sufficient downward slope such that 'be'-deletion is permitted.

(10) Hindi

      a. *yah   mujhe   bílkul   nahī́ṁ   pasand   hai*
           this to me really not   liked   is
           'I really don't like this.'
      b. *yah   mujhe   bílkul   nahī́ṁ   pasand   Ø*[9]

Examples like these suggest that the apparent optionality of 'be'-deletion is in fact governed by the prosodic principle of Utterance Finality: Deletion is permitted only if what remains has a prosodic Slope and thus avoids prosodic prominence in utterance-final position.

4.2 The order of negation and finite verb in Hindi

While in the preceding case a prosodic surface filter could possibly be invoked (because 'be'-deletion may be considered a "surfacey" phenomenon, close to the syntax/phonology interface), the situation is different for the relative order of negation and finite verb in expressions of the type (11) and (12). For, unlike 'be'-deletion, the different order in (11) vs. (12) would, in current transformational approaches, have to be accounted for by syntactic movement, presumably to different left-peripheral landing sites, whatever these sites may be.

(11) Hindi

      a. *vah   kām   nahī́ṁ   kar-t-ā*
           he   work not   do-IPFV-MSG
           'He doesn't do the work.'
      b. *?vah   kām   nahī́ṁ   kár-t-ā*
           'He doesn't do the work.'

(12) Hindi

      a. *?vah   kām   kar-t-ā   nahī́ṁ*
           he   work do-IPFV-MSG   not
           'He doesn't do the work.'
      b. *vah   kām   kár-t-ā   nahī́ṁ*
           'He doesn't do the work.'

Significantly, however, the permissible (or felicitous) orders – (11a) and (12b) – are precisely those which conform to the prosodic Slope principle and thus conform to the expectations of Utterance Finality; the unacceptable orders violate the principle.

    If we wanted to account for this fact syntactically, we would have to generate both surface orders without any restrictions through some kind of movement (which would violate the principle that movement must be conditioned), with a (prosodic) surface filter weeding out structures that violate the Slope principle. However, as Maling & Zaenen (1981) observe, surface filters are difficult to constrain and therefore are in principle excessively powerful. Moreover, even if a filter account were to be accepted, it would support the claim that prosody plays a larger role than commonly assumed in what ordinarily is considered Hindi syntax.

    An alternative would be a purely prosodic account which directly correlates prominence and final Slope – prosodic phenomena par excellence – with word order, presumably in the syntax/prosody interface.

    Until recently I myself expressed a fair amount of qualms about this proposal. My concern was that such a direct correlation of prosody and word order comes at a price, for it requires the assumption that at least some aspects of word order are not syntactically, but prosodically determined; put differently, that there is (or can be) prosodic movement. True, in Hock (1996) I had offered evidence

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[9] This is an utterance that my wife used in exasperation when our dog was misbehaving.

and arguments that second-position (P2) ordering of clitics can – or even must – be attributed to prosodic factors. But neither the finite verb nor the negation in (11) and (12) are clitics. Attributing the word order preferences in (11) and (12) directly to prosodic considerations may therefore not be any better than invoking a prosodic filter; for it may be argued that like the prosodic filter approach, it is difficult or even impossible to constrain. Most important, we do not (as yet) have a well-developed theory of phrasal prosody and prosodic movement.

Recent publications suggest that these qualms may be excessive, and that there is increasing evidence for prosodic movement, at least as confined to the edges of prosodic domains, including utterance-initial and utterance-final position (the domains of P2 and of Utterance or Verb Finality). See e.g. Agbayani & Golston (2010), Agbayani, Golston, & Hederer (2011).

5 South Asian developments that can be attributed to Verb Finality

This section presents two phenomena in South Asian languages that are explainable in terms of Verb Finality, one (in Vedic) that involves accentuation, a second, more speculative one (in Kashmiri) involving word order. In both cases the Modern Persian accent retraction (section 3.4) provides a likely parallel.

5.1 Vedic verb accentuation

In Vedic Sanskrit, finite verbs are unaccented in main clauses (unless initial in the clause or the poetic line[10]), but accented in dependent structures (13).

(13) Vedic Sanskrit

[*tásmai*	*víśaḥ*	*svayám*	*evá̄*	*namante*]MC
CP.DAT.MSG	people.NOM.FPL	self	PCLE	bow.PRS.3PL
[*yásmin*	*brahmá̄*	*pū́rva*	*éti*]DC	
RP.LOC.MSG	brahmin.NOM.MSG	first.NOM.MSG	go.PRS.3SG	

'Even the common people bow to him for whom the brahmin goes first.' (RV 4.50.8)

A comprehensive, prosodically motivated account for this difference was first proposed by Klein (1992) with reference to Hock (1986/1991). According to Klein, non-accentuation of MC verbs arose in unmarked, or canonical constructions with the MC verb in sentence-final position, and with resolution of the conflict between the high pitch of the verb accent and the low pitch of sentence-final falling intonation through loss of verb accent.

Klein's account is further developed by Hock (2014), who argues that the main-clause accent loss results from an earlier stage of accent retraction in canonical utterance-final position and that this retraction also accounts for the well-known accent retraction of Greek finite verbs. The major ingredients of the account for Sanskrit are as follows: Given canonical SOV word order (14i) and canonical clause order DC + MC (14ii), the verb of the main clause occurs in utterance-final position, while the DC verb does not (14iii). It is the MC verb, therefore, that is subject to the Verb Finality effect and (via accent retraction) loses its prosodic prominence (14iv). Up to this point, the developments are remarkably similar to those of Modern Persian. In both languages the Verb Finality effect applies in MCs, no matter whether utterance-final or not. The developments differ in their treatment of DCs. Modern Persian postposed complement clauses have accent retraction, but preposed DCs do not. In the prehistory of Vedic, grammaticalization extends lack of accent retraction to all DCs, whether postposed or preposed, and thus leads to a complete polarization of main and dependent clauses; see (14v). A parallel for this polarization can be found in German, Dutch, and Frisian, where V2 gets generalized in main clauses, verb-final order in dependent clauses. In both cases, the polarization introduces a secondary feature that further distinguishes dependent clauses from main clauses, beyond the complementizer or relative pronominal.

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[10] Other exceptions, motivated by poetic prosody or by discourse considerations, are discussed in Klein (1992), Hock (1996).

(14) i.   Original canonical word order: S   O   V #
     ii. Original canonical clause order: RC   MC
     iii. Hence: [S O V]$_{DC}$ [S O V]$_{MC}$ ##
     iv. Finality-conditioned accent loss: [S O V]$_{DC}$ [S O V]$_{MC}$ ##
                                                                              [-accent]
     v.   Polarization: DC   :   MC
                                                  [verb +accent]   [verb -accent]

As in other cases, Utterance and Verb Finality (plus further extensions) provides a prosodically motivated explanation for Vedic non-accentuation of verbs in main clauses, while notions such as grammatical conditioning fail to provide a meaningful account.

5.2 Kashmiri word order

As is well known, Kashmiri resembles German, Dutch, and Frisian by exhibiting an innovated second-position order of finite verbs in main clauses. There are some interesting differences such as the placement of interrogatives into pre-finite-verb position in Kashmiri, but not in German and related languages; see e.g. Bhatt (1999). These details, however, need not concern us here.

A more remarkable difference is that Kashmiri, unlike its European counterparts, does not retain verb-final order in all dependent clauses, but only in relative clauses; complement *ki/zi*-clauses, by contrast, have the same V2 order as main clauses. See the examples in (15) vs. (16).

(15) Kashmiri (adapted from Koul 2003: 918–919)

[*yɔs*   *kūr*   *tse*   *pasand*   **chay**]$_{RC}$
RP   girl   you.DAT   pleasing   be.PRS.DAT.2SG
[*sɔ*   *kūr*   **cha**   *me*   *ti*   *pasand*]$_{MC}$
CP   girl   be.PRS.DAT.1SG   I.DAT   also   pleasing
'The girl that you like I like too.'

(16) Kashmiri (adapted from Koul 2003: 918–919)

[*me*   **chu**   *patā*]$_{MC}$
I.DAT   be.PRS.DAT.1MSG   known
[*ki/zi* *təm'*   **h'ot**   *nov kōṭh bāzrɨ*]$_{DC}$
that   he.AG   buy.PST.3SG   new coat bazaar
'I know that he bought a new coat in the bazaar.'

While the V2 in the complement clause can be syntactically accounted for by assuming that *ki/zi*-structures are obligatorily double-Comp constructions, the obligatoriness of the phenomenon in *ki/zi*-structures and its obligatory absence in relative clauses remain unexplained; but given its assumptions and constraints that may be the best synchronic analysis that current transformational syntax can offer.

From the historical perspective, an alternative – even if speculative – prosodic analysis is possible. As a starting point, note the parallelism between Kashmiri verb position in (15) and (16) and Modern Persian verb accentuation in (7e) and (7f), repeated as (17a) and (17b), respectively, in modified form.[11]

(17) Persian

     a.   [*àgar*   **be-rav-ád**]$_{DC}$
          if   go.3SG.SBJV
          [*kàs-i*   *digàr*   **níst**]$_{MC}$
          anybody   left.over NEG.be.3SG.PRS
          'If he goes, there will be no-one left.'

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[11] Note that Kashmiri relative clauses are canonically left-peripheral and follow their main clauses much less frequently than in other Indo-Aryan languages (Rakesh Bhatt, p.c. 2009).

b. [*hàqq-aš*   *ín*   ***ast***]MC
    truth-of.it this   be.3SG.PRS
    [*ke*   *púl*   ***nà-dār-am***]DC
    that   money   NEG-have.PRS-1SG
    'The truth of it is that I do not have money.'

If we assume that at an earlier stage Kashmiri had a similar pattern as Modern Persian, with accent retraction on final verbs in main clauses and right-peripheral complement clauses, but not in left-peripheral dependent clauses, the following (speculative) account becomes possible.

As in Germanic (Hock 1982) the change to V2 may have been initiated by the movement of clitic 'be' (*ch-* < Apabhr. *acchai̇*), followed by other light verbs. Now, as Modern Persian examples like (7c) and the pre-Vedic developments in (14) show, accent retraction on utterance-final verbs may lead to complete accent loss. A similar development in Kashmiri would have led to utterance-final verbs becoming unaccented and hence, in effect, prosodically light verbs, thus being included in the shift to V2. This would account for the change to V2 not only in main clauses (where it was subsequently generalized to all occurrences) but also in right-peripheral complement clauses. Left-peripheral relative clauses, by contrast, would fail to undergo the change. See the summary in (18).

(18) i.   Original canonical word order: S O V #
     ii. Original canonical clause orders: DC   MC
                                                  MC   *ki/zi*-clause
     iii. Hence: [S O V]RC   [S O V]MC ##
                                             [S O V]MC   [S O V]*ki/zi* ##
     iv. Finality-conditioned accent loss: [S O V]RC   [S O V]MC ##
                                                                                    [-accent]
                                             [S O V]MC   [S O V]*ki/zi* ##
                                                                                    [-accent]
     v.   Generalization of [V -accent] to all MCs
     v.   Shift to V2:   [S O V]RC   [S V2 O V]MC ##
                                                                                    [-accent]

                                             [S V2 O V]MC   [S V2 O V]*ki/zi* ##
                                                           [-accent]   [-accent]

If this scenario is on the right track, Kashmiri shares strong similarities with both Modern Persian and Vedic. However, given the chronological gap between Vedic on one hand and Modern Persian and Kashmiri on the other, it is not likely that there is any direct connection between the developments. Rather, it seems that we have to accept developments of this sort as possible independent responses to Verb Finality.

6 Conclusions and implications

As I hope to have demonstrated, Utterance Finality — especially in the form of Verb Finality — plays an important role, both synchronically and in linguistic change, both crosslinguistically and more specifically in South Asian languages. However, there are also questions as to how prosodic effects such as the sensitivity of 'be'-deletion, or the ordering of finite verb and negation in Hindi, can be accounted for in synchronic grammar.

In principle, Chomsky's (1995) Minimalist Program opens ample opportunities for exploring such effects in terms of the interfaces between the syntax and other components of the grammar, including the prosodic one.

With some notable exceptions, however, syntacticians have been reluctant to entertain accounts that pay serious attention to phrasal prosody and its interface with syntax. Consider for instance many of the contributions on P2 clitics in Halpern & Zwicky (1996), such as Hale (1996) on Vedic

and Progovac on Serbo-Croatian.[12] Prosodic approaches, such as Radanović-Kocić (1996) and Hock (1996) regarding P2 clitics, have tended to be side-lined or ignored by syntacticians such as Erschler (2009) regarding Radanović-Kocić, and Hale (1996), Lowe (2014) regarding Hock (1996), in spite of strong empirical evidence showing that P2 can only be accounted for prosodically, at least in Serbo-Croatian and Vedic Sanskrit. Consider Serbo-Croatian (19), which shows that when the first element of the clause is followed by an appositive elaboration, P2 clitics cannot occur after the first word (19b) or after that word together with its appositive extension (19c), but must appear after the first prosodically prominent element that follows the prosodic break after the appositive (19a). Similarly, Vedic Sanskrit (20) shows that P2 elements may occur after the first word that follows a poetically imposed prosodic break (in this case a caesura, indicated by a colon).

(19) Serbo-Croatian

    a. *Ja* | *tvoja mama* | *OBEČALA*   **sam**   **ti**   *igračku*
        I   your Mom   promised   AUX.1SG.CLT you.SG.CLT toy
        'I, your Mom, have promised you a toy.'
    b. **JA* **sam ti** | *tvoja mama* | *obečala*   *igračku*
    c. **JA* | *TVOJA MAMA* | **sam ti**   *obečala*   *igračku*

(20) Vedic Sanskrit

    apā́ṁ   *tokásya*
    water.GEN.FPL   offspring.GEN.NSG
    tánayasya   *jeṣá* |
    offspring.GEN.NSG   winning.LOC.MSG
    índra   *sūrī́n*
    Indra.VOC.MSG   patron.ACC.MPL
    :   *KṚṆUHÍ*   **smā**   **no**   *ardhám*
      make.IMPV.2SG   PCLE   our.CLT   part.ACC.MSG
    'In the winning of water for our offspring, Indra, make our patrons (take) part.' (RV 6.44.18cd)

In light of evidence of this sort it is possible to take the strong position that those continuing to argue for purely syntactic approaches to P2 clitic placement do so at their own risk, by ignoring clear empirical evidence or, in the case of Vedic, by shunting it aside under the assumption that poets can treat certain poetic prosodic contexts as if they are clause-initial (e.g. Hale 1996).

Only relatively recently have prosodic accounts found wider recognition, such as Bošković (2001), Agbayani & Goldston (2010), and Agbayani, Goldston, & Hederer (2011). This is an encouraging sign, and it is to be hoped that the work will continue and lead to an increasingly well-developed theory of phrasal prosody.

I hope that the present paper will be a useful contribution in this context by adding to the number of cases for which a prosodic account is required or, at least, a viable alternative to purely syntactic explanations.

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[12] The closest that many of these contributions come to recognizing the relevance of prosody to P2 clitic placement is by accepting Halpern's (1992) notion of Prosodic Flip from initial position to the position after the first word.

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