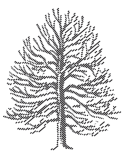
Farnah

Indo-Iranian and Indo-European Studies

in Honor of

Sasha Lubotsky



Beech Stave Press
Ann Arbor • New York

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Typeset with LaTeX using the Galliard typeface designed by Matthew Carter and Greek Old Face by Ralph Hancock. The typeface on the cover is Yxtobul by Steve Peter.

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Library of Congress Cataloging-in-Publication Data

ISBN 978-0-9895142-4-8 (alk. paper)

Printed in the United States of America

21 20 19 18 4 3 2 1

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Prosody in Indo-European Corpora

ROSEMARIE LÜHR

1 Introduction

Listeners are predisposed to interpret accents or utterances as being categorically either "normal," i.e. neutral, or "emphatic" (Ladd and Morton 1997; Erekson 2010). In this decision, a variety of acoustic and pragmatic parameters play a role, including pitch range, voice quality, lexical content, discourse background, the relationship between the speaker and listener, etc. But in the case of written languages, only a few features are suited for detecting the speaker's or writer's emotional state, for example written markers for special pitches, emphatic stresses and contours, or expressive lengthening in utterances exhibiting a special pragmatic or paralinguistic function. Those markers provide direct evidence for prosodic structure. Unlike the direct evidence, the indirect evidence is elusive (Hale 1990). However, in the case of contrast the context supplies indirect evidence.

One old Indo-European language that has written markers for emphatic prosody and hence direct evidence for emphasis is Vedic. It has expressive lengthening, emphatic stress, and emphatic *pluti*. Therefore, this language is at the center of the following investigation. But not every secondary lengthening is of emphatic origin. As Lubotsky (1993; cf. 1983) has shown, in certain accent patterns, *pluti* is found with neutral prosody. This case will be treated first, because it provides information about emphatic prosodic structures. Next we will discuss utterances with markers for emphatic prosody. Finally the indirect evidence for emphatic prosody in contrastive constructions will be discussed. For this topic, we will also adduce data from Hittite and Ancient Greek.

2 Direct evidence for prosody

2.1 Nasalization of final *ă̆* in the Ṛgveda

In his seminal article on nasalization of final *ă̆* in the Ṛgveda, Lubotsky (1993) specifies the conditions under which this vowel is nasalized.

(1) *-ă̆* > *-ă̆m̆*/__{*é-*, *ó-*}
-ă̆ > *-ă̆m̆*/__*r̥-*

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The reciters had difficulty with Ṛgvedic *pāda*-final accented *-ắ* in hiatus. Realization of two tonal movements on one syllable led to protraction of this syllable and to its nasalized pronunciation (Lubotsky 1993:206).[1]

Lubotsky sees a parallel to this phonetic phenomenon in Vedic *pluti*, a trimoraic rising contour usually provided with an *udātta* for a rising tone (Strunk 1983); cf. the yes-no question in (2):

(2) a. RV 10.129.5d
adháḥ svid āsī́d upári svid āsīt "Was it above? Was it below?" (Etter 1985:49, 56, 120)

b. AV 9.6.18
idáṃ bhū́yā́ idā́ṃ íti "Is this larger? Or this?"

Let us now consider the functional aspect of *pluti*.

2.2 Lengthening with and without nasalization and rising contour

2.1.1 Vocatives

What distinguishes the vocative from the nominative is always a special exclamatory or appellative intonation, as well as a pause preceding any following sentence. As the examples discussed by Strunk (1983) and results from experiments in modern languages show, both situational and social factors govern the choice of a particular vocative intonation. Intonation may reflect the speaker's attitude to the hearer as in (3). Therefore, it can be regarded as representative of emphatic prosody.

(3) ŚB 14.6.1.3 *etā́ḥ saumyódaja sāmaśravā́ íti*
"Lead these (cows) to my house, dear Sāmaśravas"
"Treib nur diese (Kühe) hinaus, lieber Sāmaśravas" (Strunk 1983:26)

2.2.2 Polar questions

While in many languages a falling pitch movement is associated with statements, a rising pitch turns a statement into a polar or yes–no question. According to the *World Atlas of Language Structures* (WALS), most languages employ rising intonation at the end of such questions.[2] Formally, polar questions present an exclusive disjunction, a pair of alternatives of which only one is acceptable:

(4) *He's going ↗**home**?*

But there also exists another type of answer to a polar question. The answer may consist of a so-called *verum* focus. In assertions, this emphasizes the propositional truth. The emphasis lies on what is expressed by the verb. The verb must have been mentioned previously:

[1] For *ū́* in RV 1.165.6 and 10 in the phrase *ahám hy ùgrás* cf. Schnaus (2008:19 n. 35, "durch übertriebene Betonung") and Zimmer (2015:3).

[2] Appleton (2012:33) considers *pluti* as a phonological autosegment (perhaps a phonological feature like [tense]) associated with the C position, and so it could be seen as a type of final complementizer.

(5) Speaker A: *Karl hat bestimmt gelogen.* Speaker B: *Karl HAT gelogen.*
Karl has for-sure lied. Karl HAS lied.
"Karl surely lied." "Karl DID lie." (Höhle 1992)

The same kind of answer appears with Vedic polar questions:

(6) ŚB 11.6.1.3
sá hovācā́stīhá prā́yaścittī́ʒr ity astī́ti?
"He said, 'Is there atonement for this?' 'Yes, there is'" (Strunk 1983:39)

And with incomplete *pluti* writing:

(7) ŚBM 8.3.20
agān agnīd íty agan . . .
"Has he gone, Agnīdh?' 'Yes, he has . . . '" (Strunk 1983:47)

Romero and Han (2002) describe *verum* focus as focus on a high degree of certainty, not just on polarity. Thus, since in polar questions special implicatures appear, their pragmatic description varies. To put it simply, polar questions are asked to check whether one should really revise one's previous state of information with the incoming information. As they exhibit a strong appeal to the hearer for confirmation, they can undoubtedly carry emphasis.

2.2.3 Requests

Especially requests are an appeal to the hearer. Compare (8), again with *pluti*:

(8) AĀ 5.1.1: 145, 15–6
ehy evāʒ idaṃ madhūʒ idaṃ madhu imaṃ tīvratsutaṃ pibāʒ idaṃ madhūʒ idaṃ madhv iti
"Come over! This here is mead! This here is mead! Drink this spicy Soma! This here is mead! This here is mead!" (Hoffmann 1967:94 n. 192; Strunk 1983:33f.)

Alongside two times *pluti* on the object, the text contains the lengthened particle *evā* and one imperative with *pluti*. If Strunk's translation of *evā* with 'doch' is correct—"Komm doch her!"—the first imperative is not a command in the strict sense, but an encouragement, whereas the *pluti*-imperative is an offer or invitation. Due to the situation, the hearer already knows the wish of the speaker. The hearer fulfills his desire. Rising intonation on the *pluti* is therefore the appropriate intonation pattern. As in polar questions, the speaker uses the rising tone to indicate an unfinished and continuative speech act, showing overtones of encouragement and pleading, etc., and hence emphatic features in his utterance.

Cf. further with incomplete *pluti*:

(9) MS 1.4.12: 60, 14–5
aṅgá no yajñáṃ vyācákṣvā íti
"Explain the sacrifice to us!"
"Erkläre uns doch das Opfer!" (Strunk 1983:32; Delbrück 1888:44)

2.2.4 Affirmative particles

A fourth type of *pluti* appears with confirmations:

(10) TS 7.1.6
tắv abravīd ástu mé 'trắpíty ástu hí̀ɜ́ íty abrūtāṁ
"He (Yama) said to the two (Soma and Indra): 'Something of that should belong to me!' 'It should indeed', both said."
"Er sprach zu den beiden: 'Mir soll davon auch (etwas) gehören!' 'Es soll, fürwahr!' sprachen die beiden." (Strunk 1983:30)

In the sense of confirming German *jawohl*, Skt. *hí̀ɜ́* can get a rising contour: "Es soll, jawóhl!" It expresses the speaker's or writer's feelings about the truth-value of a proposition. Like Latin, Vedic has no single word for *yes*. Its function is taken up by sentence adverbs that are classed as truth-value adverbs (Pinkster 2004). Cf. further *tví́* 'well' in (11) with Latin *certe* as emphatic foci (11):

(11) TS 2.4.12.6
tát te prá dāsyāmíti tví́ íty abravīt
"'I will give you this,' (said he). 'Well!' the other said." (Delbrück 1888:533; Strunk 1983:33)

In languages like German and English with a nuclear pitch accent, affirmative particles like *yes* bear such an accent. Cf. further with nasalization:

(12) AB 7.22.3
tad tad itīɜ́ṁ
"'So, just like that' (he said!)"
"'So, (genau) so' (sagte er!)" (Strunk 1983:91)

A ritual spell must have exactly the wording just mentioned.

To sum up so far: Only nasalization of final *-ắ̃* in the Ṛ̊gveda shows neutral prosody according to Lubotsky's rule. The other usages of *pluti* are motivated differently. *Pluti* on affirmative particles represents a clear emphatic prosody and *pluti* with vocatives, polar questions, and requests is a device for appealing to the hearer. In the latter instances *pluti* can serve to indicate overtones for attitudinal meanings. This explains why their denotation is always optional. *Pluti* appears on the last syllable of a colon, i.e. a rhythmic unit of one or more words which form a discourse-structuring entity or rather speech act.[3] Here, pre-boundary or domain-final lengthening takes place. This pattern of temporal modification of segments near the end of a prosodic constituent before a prosodic boundary is a universal phenomenon (Blevins 2004; 2006): in an active process, speakers lengthen vowels at the right edge of a prosodic boundary in order to cue juncture location. This cue facilitates speech comprehension and is thus a condition of spoken language (Byrd 2000; Krivokapić 2007; Cho 2015).[4]

[3]Overlong syllables are avoided in Ṛ̊gvedic cadences (Hoenigswald 1989; Kobayashi 2004).
[4]For onomatopoetic *pluti*, cf. Hoffmann 1967:94 n. 192.

2.3 Lengthening of vowels in Ṛgvedic auslaut

It is generally accepted that in the Ṛgveda long vowels mostly appear in places where a long vowel is expected metrically, and short *a i u* in the 6th syllable of octosyllabic verses and in the 8th and 10th syllables in verses of eleven and twelve syllables if the following word does not start with a vowel or with more than one consonant (cf. Benfey 1875:46–80 for counterexamples). However, a prosodic feature again representing an appeal strategy is claimed by Krisch (2009), who extends the following rule of Wackernagel by the functional aspect of intensification (Wackernagel 1896:310): "Auslauting vowels normally remain unchanged before anlauting consonants. But there is ample lengthening of *-a*, *-i*, *-u* in the metrical Saṁhitās and the liturgical sayings . . . Lengthening only appears inside the sentence and verse before a single consonantal anlaut." Ibid. 312: "One has to assume that in living discourse of the oldest times most of the final sounds of a word which are short vowels could be lengthened under [these, Krisch] conditions." According to Krisch, optional lengthening is used in the Ṛgveda "to underline a summons to a partner who is directly (or, in case of a god, virtually) present in communication" (2009:264). Indeed, most forms are second-person imperatives.

We may compare long-vocalic imperatives, which, as Krisch (ibid. 265) shows, often turn up in a series of imperatives. The long vowel is on the "prominent" form as in (13) and (14).

(13) RV 3.62.8
tā́ṃ juṣasva gíram máma vājayántīm avā dhíyam |
"Be fond (*juṣasva*) of this praise of mine, support (*avā*) the song which is longing for a reward!"

(14) RV 1.1.9
sá naḥ pitéva sūnávé, 'gne sūpāyanó bhava | sácasvā naḥ svastáye ||
"You, o Agni, be (*bhava*) easily accessible to us like a father to the son! Escort (*sacasvā*) us to benefit!"

Another view could be that the lengthened vowel *-ā* in the Vedic imperative is an extension of a length alternation, caused by Brugmann's law for example. Hale (1990; 1999) would consider such a distribution as a type of morphological analogy for metrical convenience, restricted to the poetic grammar. But since the imperative of the thematic stems continues the Proto-Indo-European ending **-e*, it is questionable if such an analogy would work here.

However, there are a lot of other words ending in a lengthened vowel in the Saṁhitā (but in a short vowel in the Padapāṭha); cf. (15):

(15) RV 1.120.8b *akútrā no*, RV 1.2.2b *áchā jaritā́raḥ*
RV 1.163.05c *átrā te*, RV 1.055.5c *ádhā caná*

As regards the type of consonant after a lengthened vowel, it is agreed that lengthening may occur when the vowel is followed by a voiced consonant (Blevins 2006:146f.). In the Saṁhitā lengthening also appears before voiceless consonants. But if Wackernagel's assumption that most of the auslauting short vowels could be lengthened in living discourse is

correct, in the case of requests an original neutral intonation must have been reinterpreted as an expressive one, since vowels can commonly undergo expressive lengthening.[5, 6]

2.4 Stress on verbs

2.4.1 Stressed verb . . . unstressed verb

Since affirmation by particles, requests, vocatives, and polar questions concern speech acts with appeal character, the following rising intonation may also be included, such as stress on verbs. As recently shown by Klein (1992) and Lühr (2008), all relevant Old Indic examples are coordinating structures. In discussing Oldenberg's material Klein uses intonation to explain the verb stress: stress on the verb of the first coordinated clause is a signal to expect a second clause. This stress is again an *udātta*, the sign for rising stress.[7] It is compulsory in bipartite phrases of the type "either X or Y," "X as well as Y," "the one X the other Y," and with antonyms; cf. (16) with *vā . . . vā* "either . . . or":

(16) RV 7.104.9

áhaye ***vā*** *tā́n* ***pradádātu*** *sóma*
snake(M):DAT.SG either the:ACC.M.PL surrender:IMP.PRES.ACT3SG Soma(M):NOM.SG
ā́ ***vā dadhātu*** *nírṛter* *upásthe*
PFX or bring:IMP.PRES.ACT3SG destruction(F):GEN.SG womb(M):LOC.SG

"Those who conscientiously twist simple speech or want only to make the good bad, those Soma either shall surrender to the snake or bring to the womb of destruction."

With *ca . . . ca* "X as well as Y":

(17) RV 1.120.9

rāyé ***ca*** *no* ***mimītáṃ*** *vā́javatyai /*
wealth(M):DAT.SG and us:DAT.PL help:IMP.PRS.ACT2DU bringing.reward:DAT.SG
iṣé ***ca*** *no* ***mimītaṃ*** *dhenumátyai*
food(F):DAT.SG and us:DAT.PL help:IMP.PRS.ACT2DU rich.of.milk:DAT.SG

"Entitle us to wealth, bringing reward, and entitle us to food and cows, full of milk!" (Oldenberg 1906:716)

[5] Moulton (1962) refers to the "short" *a* of Dutch *dag* 'day' that is very frequently long when this word is used in the meanings 'hello' and 'goodbye'.

[6] Instead of the suggestions given above, Lubotsky (p.c.) considers the following development: On the assumption "that final lengthening was . . . of Proto-Indo-Iranian date, then, Sanskrit also had a stage when all final vowels were long and which later were all shortened, except for some fixed formulas that are preserved in the RV. In other words, there was no metrical lengthening involved, but rather preservation of the original length. This scenario is concordant with the fact that many imperatives have a final long vowel, because we usually find it in the formulas with an aberrant word order IMPV + OBJECT (type *śrudhī́ hávam*). One of the difficulties with this new scenario is, however, that the long final vowels in the nom.sg. of *r*- and *n*-stems (the type *pitā́*, *rā́jā*) were not shortened (*ā*-stems still had *-aH*, so they are no problem). This can be solved by assuming older forms in a resonant, like in Greek (**pitā́r*, **rā́jān*), but then the loss of this final resonant must have happened independently in Iranian and Indo-Aryan."

[7] Klein (1992:38, 89, 91) assumes "two fundamentally different phonetic bases for verbal accentuation in the Rigveda: salience/emphasis and heightened intonation".

And with *anyá-* . . . *anyá-* 'the one . . . the other', the verb is always stressed when both this clause and the following clause form a *pāda* (Oldenberg 1906:724). In (18) *anyád* . . . *anyád* are contrastive or Intonational Topics:

(18) RV 1.123.7

ápānyád ***éty*** *abhy* ***ànyád***
away:PFX=one:NOM.N.SG go:PRS.IND.ACT3SG to:PFX other:NOM.N.SG
eti *víṣurūpe* *áhanī*
come:PRS.IND.ACT3SG in.different.shapes:NOM.N.DU day.and.night(N):NOM.DU
sáṃ *carete /*
together:PFX go:PRS.IND.MID3DU

"The one (half of the day) goes, the other comes: both dissimilar halves of the day meet."

The hearer knows that the utterance is about day and night both from the context and from his world knowledge.

Searching for comparable structures in modern languages, where the intonation in the first conjunct is caused by the expectation of a second conjunct, we refer to Lang's (2004:58) analysis of German bipartite coordinated clausal structures:

(19) *Was machen denn deine Eltern?*

Mein Vater *ist ernsthaft* *krank,*
[[[Mein VAter↗]$_T$ [ist ernsthaft KRANK↗]$_F$ ^{IP}]
L*H L*H H

meine Mutter *geht* *arbeiten*.
[∘ [meine MUtter↗]$_T$ [geht ARbeiten↘]$_F$ ^{IP}]^U]
L*H H*L L

"What are your parents doing? – My dad is seriously ill, my mom is going to work." (Lang and Umbach 2002:155)

The two essential properties of this construction are:

a. *mein Vater*, *meine Mutter* are evoked by the previously mentioned *deine Eltern* . . . Prosodically they are contrastive topics, marked by "↗" ("L*H").

b. Both conjuncts form prosodically symmetrical Intonational Phrases (IPs) with a difference at the end of both conjuncts: the first conjunct has ↗, a rising accent, the second ↘, a falling accent. Thus, the rising accent denotes openness iconically or that the sentence is not yet finished. It is an open proposition.[8]

[8]Klein (1992:88, 91) interprets the verb stress in Vedic subordinate clauses as a signal that "the accented clause is incomplete." If this is true, verb emphasis must have started in preposed subordinate clauses, being transferred from there to postposed subordinate clauses (ibid. 91).

The contour described differs from contours in neutral contexts. Whereas a contour in neutral contexts consists of one (high) accent on the focus exponent, utterances formulated in contrastive contexts are often produced with two very prominent accents, a rising one and a falling one, whereby the pitch remains high between the two accents. This contour is therefore generally called "hat pattern" or "hat-contour" (Braun 2004).

In a similar way, the *udātta* on the clause-final verb *éti* "he goes" in the first conjunct of (18) is a rising contour comparable to that (L*H H) in the German example, which was probably accompanied by a rise in volume and/or pitch ("von einer Stimmverstärkung") (Wackernagel 1896:284; Klein 1992:86).

A contrast can also be expressed by antonyms.[9] In (20) 'truth' and 'untruth' are contrastive foci:

(20) a. first conjunct . . . vérb↗ / . . . préfix verb second conjunct

b. RV 1.152.3

ṛtám ***píparty*** ***ánṛtaṃ*** *ní*
truth(N):ACC.SG foster:PRS.IND.ACT3SG untruth(N):ACC.SG down:PFX
tārīt
press:PRS.IND.ACT.3SG
"Truth he fosters, untruth he suppresses"

2.4.2 Stressed verb . . . stressed verb

There are also instances in which the first conjunct is stressed and in final position. The verb of the second conjunct is stressed as well and is in clause-initial position:

(21) first conjunct . . . vérb↗ / vérb . . . second conjunct

Oldenberg (1906:728; cf. Klein 1992:33ff.) terms the middle of the *pāda*, where both (stressed) verbs clash, the culmination point. But I assume here as well that the *udātta* in conjunct-final position on the verb of the first conjunct is a signal for bipartiteness. Lexical means are lacking:

(22) RV 1.135.8

yám *aśvatthám* *upatíṣṭhanta*
which:ACC.M.SG aśvatta-tree(M):ACC.SG reach:PRS.IND.MID3PL
jāyávo *'smé* *té* *santu*
winner(M):NOM.PL we:LOC.PL those:NOM.M.PL be:IMP.PRS.ACT3PL

[9]Tichy (2000:43) assumes that clausal structures in Vedic and Proto-Indo-European had a similar intonation to the Modern German type: *Hätt' ich's gewusst* (↗), *hätt' ich's gesagt* (↘) "If I had known it, I would have said it." We do not gain much, however, from a comparison with Modern German clauses that contain a complex predicate, as Proto-Indo-European surely had no such predicates. The assumption that main-clause verb stress started from cases with contrastive focus on this part of speech (*Der eine kommt* (↗), *der andre geht* (↘)) is not very likely either. Expectation of another proposition seems to be a much more plausible starting point.

jāyávaḥ / sākáṃ gắvaḥ
winners(M):NOM.PL simultaneously cow(M/F):NOM.PL
súvate ***pácyate*** *yávo*
give.birth:PRS.IND.MID3PL ripen:PRS.IND.MID3SG grain(N):NOM.SG

"Those who stepped underneath the Asvattha tree (= tree of life) as winners, those shall be winners with us. At this time cows give birth and the grain ripens."

The hearer knows that the soma sacrifice causes wealth and happiness for human beings. Thus 'cows' and 'grain' are again Intonational Topics.

2.4.3 Stressed verb . . . gapping

Gapping constructions are also of interest here (Lang 2004; Lang and Umbach 2002:161; Selkirk 1995:555; Hartmann 2000:126); cf.

(23) a. *ER trank BIER und WIR ~~tranken~~ WEIN.*
b. *MAX wurde KRANK und WIR ~~wurden~~ GESUND.*

In these constructions the following principle is at work:

(24) Maximal Contrast Principle
In a Gapping construction, maximize the number of contrasting remnant-correspondent pairs (Hartmann 2000:165).

This principle only works if two constituents are identical in structure. The result is increasing stress on the remaining contrasting pairs, here the nominal phrases.

In Vedic such constructions are documented, too. With gapping of the second verb the remaining verb is stressed, again signaling expectation of a second conjunct:

(25) ŚB 3.6.2.2

diví vaí sómaḥ ***ắsīt*** *átha ihá*
heaven(M):LOC.SG PART soma(M):NOM.SG be:IPF.IND.ACT3SG and here
devắḥ
god(M):NOM.PL

"In heaven there was Soma and here the gods."

diví and *ihá* are Intonational Topics and *sómaḥ* and *devắḥ* contrastive foci.[10]

2.4.4 Unstressed verb . . . unstressed verb

Finally, there are cases in which the verb in the first conjunct is unstressed if it is identical to the verb of the second conjunct. An example with identical verbs, too, but stress on the verb of the fist conjunct was (17). The difference between these two examples is that (17) has the double conjunction *ca . . . ca*, whereas (26) has no such conjunctions:

[10]Cf. also Bodewitz (2001:20) for stress on parenthetical ŚB 10.6.3.2 *nắsti vicikitsắ* "there is really no doubt (that this will happen)."

(26) RV 1.103.5

sá *gā́* ***avindat*** *só*
he:NOM.M.SG cow(M/F):ACC.PL find:IPF.IND.ACT3SG he:NOM.M.SG=PART
avindad *áśvān* *sá* *óṣadhīḥ*
find:IPF.IND.ACT3SG horse(M):ACC.PL he:NOM.M.SG plant(F):ACC.PL
só *apáḥ* *sá* *vánāni*
he:NOM.M.SG=PART water(F):ACC.PL he:NOM.M.SG tree(N):ACC.PL

"He (Indra) won the cows, he won the horses, the plants, the rivers and seas, the trees."

The Maximal Contrast principle may be in effect here, too. Phonological deaccenting could have occurred here to increase stress on the remaining contrasting elements "cows" and "plants, rivers, seas, trees." However, the two conjuncts are not completely parallel, because the second is longer and contains a tetracolon. It is therefore possible that the poet did not intend contrast but accumulation, so the verbs are unstressed as otherwise in main clauses.

However, with (26) we already have an example without special markers for prosody. We now turn to indirect evidence for prosody.

3 Indirect evidence for prosody

3.1 Partial contrastive topics

Whereas in examples like (18) two contrastive topics are to be found, in the case of implicit contrasts there is only one Intonational Topic. The other has to be derived from a specific intonation, again a hat-contour. Büring (1997) speaks of a partial contrastive topic in these cases. Like two contrastive topics, partial topics are semantically and pragmatically elements of alternative sets. Cf. German:

(27) *Ein ↗HAUS haben sie sich noch ↘KEINS gekauft. Sie wohnen immer noch in diesem grässlichen Plattenbau.*

A sentence with a continuous sequence of words does not fit into the context of (27). In order to obtain a certain scope, reading the discontinuous order of the quantifier phrase is obligatory. Such sentences also exist in Vedic. In the following example a vocative separates the quantifier phrase such that a hyperbaton arises. The verb remains unstressed:

(28) ŚB II.1.6.10

ná *te* *amítraḥ* *maghavan* ***káścana***
not you:DAT.SG enemy(M):NOM.SG Maghavan(M):VOC.SG any:NOM.M.SG
asti
be:PRS.IND.ACT3SG

"You have not a single enemy, Maghavan," lit. "No enemy (exists) for you, anyone"

The Intonational Topic *amítraḥ* and the Contrastive Focus exponent *káścana* appear within one clause, but the corresponding phrases need to be separated in order to provide different positions for the accent distribution. Two adjacent sentence accents within a single nominal phrase are not possible (Mehlhorn 2001).

In our corpus we did not find special denotations for stress in such sentences.

3.2 Contrastive focus with focus particles

With focus particles too, no markers for emphatic prosody are documented. Focus particles are focus-sensitive operators binding parts of the utterance as their focus exponent.

3.2.1 Unstressed focus particles

An example of an unstressed focus particle is (29):

(29) RV 4.16.6

áśmānaṃ ***cid*** *yé* *bibhidúr* *vácobhiḥ*
rock(M):ACC.SG even who:NOM.M.PL cleft:PF.IND.ACT3PL word(N):INSTR.PL

"who with their songs cleft open even the mountain"[11]

cid 'even' is a scalar focus particle assigning to its domain an extreme position on a scale formed by its contextually relevant alternatives (cf. Krisch 1990:65). These alternatives are contextually given or at least derivable (Steube and Sudhoff 2007; Sudhoff 2010:34).

While the contrastive focus *áśmānaṃ* is not provided with an additional stress marker, in the following example with *cid* connected to a contrastive focus, the negation *ná* is lengthened:

(30) RV 10.34.8c

ugrásya *cin* *manyáve* ***nā́*** *namante*
mighty:GEN.M.SG even rage(M):DAT.SG not bow:PRS.IND.MID.3PL

"They do not bow even to the rage of the mighty."

According to Joseph (1991), *nā́* is either an instance of metrical lengthening or else represents an inherited long vowel alternant; cf. Latin *nē* or Gothic *nē*. But also an emphatic lengthening of the negation could have occurred, as suggested for the lengthened imperative endings in §2.3.

3.2.2 Stressed focus particles

With stressed focus particles, no special accent markers on the contrastive focus appear either:

[11] A different notion is Bayer's (2001) "emphatic topicalization." It is a type of movement to the specifier of a dependent CP found in Bavarian, distinct from wh-movement.

(31) RV 8.6.10

ahám ***id*** *dhí pitúṣ* *pári medhā́m*
I:NOM.SG especially for father(M):GEN.SG PFX wisdom(F):ACC.SG
ṛ́tasya *jagrábha*
truth(N):GEN.SG have.received:PF.IND.ACTISG

"For I, especially, have received knowledge of the truth from my father"

(32) RV 10.4.4

mūrā́ *amūra* *ná vayáṃ* *cikitvo*
foolish:NOM.M.PL wise:VOC.M.SG not we:NOM.PL sagacious:VOC.M.SG
mahitvám *agne* *tvám* ***aṅgá*** *vitse*
grandeur(N):ACC.SG agni:VOC.SG you:NOM.SG alone understand:PF.IND.MID2SG

"We foolish ones, o wise and sagacious Agni, do not (understand) your grandeur. You alone understand it."

In German, postposed stressed *auch* is comparable. Following the contrastive focus *auch* itself is stressed; cf. the additive focus particle *auch* in:

(33) *auch PEter* vs. *Peter AUCH*

In accordance with the phenomenon, association with focus *auch* takes the preceding focus exponent in its scope domain.

In connection with focus particles, the *udātta* on the contrastive foci is apparently strong enough to denote contrasts. Its volume may be reinforced. As with partial contrastive topics in hat-contours, the contrastive meaning of the nominal phrases results only from the context.

4 Hittite and Ancient Greek

4.1 Direct evidence for prosody

Let us now look for corresponding emphatic structures in the oldest Indo-European language, Hittite.

Plene-writing sometimes appears in polar questions. As Hoffner and Melchert (2008:348) point out, this use in writing is likely derived from scribes in Assyria and Babylonia.

(34) KBo 22.1 rev. 30′–1′, CTH 272: A Royal Reprimand of the Dignitaries
*nu kiššan AWĀT ABI=ŸA arḫān ḫar-te-****ni-i***
"Is this the way you have performed my father's word?"

And in a New Hittite letter:

(35) KBo 18.22 obv. 6, CTH 209
[*IŠTU*?/*PANI*?] *ABU=KA=ya* GIM-*an ešer nu me-ma-aḫ-****ḫi-i***
"And shall I tell (you) how they were [with(?)] your father?"

Since to date this phenomenon has only been rarely found, Melchert and Hoffner conclude that it did not become a regular scribal method of indicating an interrogative contour. But, similar to the Vedic findings, there may have been a rising contour.

Also in Ancient Greek some direct evidence for emphatic prosody is documented, for example the imperative *κλῦθι* 'hear!' (ved. *śrudhi*) or emphatically prominent words as *Πῦθων* (Watkins 1995:461); cf. Vedic *śáṁsā* 'recite!' with affective lengthening of *a* to *o* or *snīhan-* 'snot' with expressive lengthening denoting disgust (Hoffmann 1976a:552; 1976b:451).

4.2 Indirect evidence for prosody

4.2.1 Contrastive topics

More often contrastive constructions are documented in Hittite. They consist of two conjuncts as in Old Indic. Special prosody markers are not present:

(36) KUB 29.1 i 19–20 (OH/NS), CTH 414.1: Rituals for Building a New Palace
zik ammel É-*na lē uwaši ug=a tuēl parna ŪL uwāmi*
"*You* must not come to *my* house, and *I* will not come to *your* house"

Hoffner and Melchert's (2008:278) description agrees exactly with the Old Indic structures with contrastive or Intonational Topics: *zik* and *uk* are contrastive topics, and *ammel* É-*na* and *tuēl parna* contrastive foci. One can suppose that the two conjuncts represent the hat-contour mapped in (19).

Or, with *=tta* 'you' and *ug=a* 'but me' as contrastive or Intonational Topics as well (Lühr 2015b):

(37) a. KUB 6.45 iii 59, CTH 381
nu=tta DINGIR^{MEŠ} *ŠAMÊ* ḪUR.SAG^{MEŠ} Í[D^{MEŠ} *waliy*]*anzi*
"The gods of the sky, the mountains, the rivers praise thee."

b. Ibid. iii 60–1

ug	*=a*	*=kán*	*ANA* ^{M}NIR.GÁL	[*ANA* ÌR	*=K*]*A*	ZI-*anza*	*anda*	
I:DAT	but	PART	to Muwatalli	to	servant	your	soul:NOM.C.SG	inside
dušgai								
rejoice:PRS.IND.ACT3SG								

"As for me, Muwatalli, your servant, my soul will rejoice inside me"

4.2.2 Partial contrastive topics

Partial contrastive topics are also found. As mentioned, such topics are semantically and pragmatically elements of alternative sets. The preceding context of (38) is: and he/she takes the *kurtali* vessel of dough with the tongues and speaks as follows:

(38) KBo 15.10+20.42 i 13–4, CTH 443: Ritual

kē *=wa* *idālawēš* [. . . -]*ešiyanteš* EME$^{ḪI.A}$
this:NOM.C.PL QUOT evil:NOM.C.PL NOM.C.PL tongue:PL
iššišta *=ma =aš* ^{f}*Ziplantawi*[*aš*]
make:IPF.IND.ACT3SG but he:ACC.C.PL ziplantawiya(C):NOM.SG

"Diese bösen [. . .]-en Zungen, geschaffen aber hat sie Ziplantawiya"
"These evil . . . tongues: Ziplantawiya has made them" (Lühr 2015b)

The contrastive focus is on *Ziplantawiya*.

Finally, indefinite pronouns may appear as contrastive foci. In (39) the alternative set consists of 'inhabitants of Neša' and 'nobody':

(39) KBo 3.22 i 7–8, CTH 1: Proclamation of Anitta, King of Kuššara

U DUMU^{MEŠ} ^{URU}*Nēš*[*aš*] [*id*]*ālu* *natta kuedanikki*
and inhabitant:PL of.Neša:GEN bad(N):ACC.SG not anybody(C):DAT.SG
takkišta
inflict:PRET3SG

"of the inhabitants of Neša he inflicted harm to nobody" (Lühr 2015a:216; 2016)

In Ancient Greek there are such intonation patterns, too:

(40) Titus Flamininus 6
τὰ μὲν οὖν ἄλλα προσεχώρει καθ' ἡσυχίαν αὐτῷ . . .
"Die anderen Gebiete (Griechenlands) schlossen sich ihm nun (Titus) friedlich an . . . "
"The other areas of Greece, however, joined him peacefully now . . . "

τὰ . . . ἄλλα refers to an evoked alternative reference quantity. The quantities form part of a partially ordered set, "die einen" vs. "die anderen," denoting a special kind of contrast. As in the Hittite example the contrastive or Intonational Topic is connected to a contrastive particle, here *μὲν*, viz. in *τὰ . . . ἄλλα μὲν*. The contrastive focus is on *ἡσυχίαν* 'peacefully' (Lühr 2015a).

4.3 Focus particles

In Hittite as well as in Ancient Greek there are, of course, focus particles. Examples are (41) and (42):

(41) KUB 13.35 i 30–1, CTH 293: Court Protocol Concerning Ukkura

nu =wa =za apēda[*n*]*i =ya memini*
and QUOT PART that:DAT.SG also cause(C):DAT.SG
išḫiulaḫḫanza
being.committed.by.contract:NOM.C.SG

"Auch jener Sache bin ich durch Vertrag verpflichtet."
"I am also committed to that thing by contract."

(42) Homer, Odyssey 1.10
τῶν ἀμόθεν γε, θεά, θύγατερ Διός, εἰπὲ καὶ ἡμῖν.

tṓn hamóthen ge theá thugátēr
this:GEN.N.PL from.somewhere certainly goddess(F):VOC.SG daughter(F):VOC.SG
Diós eĩpon ***kaì*** *hēmĩn*
zeus(M):GEN.SG tell:PRS.IMP.ACT2SG also we:DAT.PL

"Of these things, goddess, daughter of Zeus, beginning where thou wilt, tell thou even unto us." (Perseus)

However, neither in Hittite, in Ancient Greek, nor in Vedic Sanskrit do special graphic prosodic markers for emphasis caused by contrast exist in our corpora. This is of relevance for sentences with two contrastive topics and partial contrastive topics with hat-contour and structures with contrastive foci connected to focus particles.

5 Conclusion

So what does it mean if there are no graphic markers on contrastive constructions? Graphic markers for emphatic prosody are not necessary in the case of direct contrast with antonyms:

(43) *John is tall but Bill is short*. (Lakoff 1971:133)

With an antonymy-based semantic opposition the hearer expects the proper intonation, since there is a tendency for antonyms to be in focus. The same is true for other terms of opposites that are triggered by contrastive topics. That Vedic Sanskrit, Hittite, and Ancient Greek agree on this point is not coincidental, but seems to be a universal. These languages still have in common the fact that focus particles highlight the focus exponent. Here too, special markers are superfluous, even if it is written language of whatever type of text.

The situation is different with written records reflecting oral speech. Appeals to the addressee that require a response from him or her, an answer to polar questions, the execution of an instruction as a result of an imperative, the acceptance of a statement affected by affirmative particles, attention to managing interactions elicited by vocatives with additional attitudinal functions, the expectation that a second conjunct is to come in bipartite structures—all these types of address demand emphatic prosodic features in dialogues. In Old Indic they are sometimes encoded in writing. As Wennerström (2001) accurately describes this state of affairs, in these cases the language gives insight into the music of everyday speech.

Abbreviations

Perseus = Perseus Digital Library. http://www.perseus.tufts.edu.

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