# 'Subordination' versus 'Coordination' in Sentence and Text

A cross-linguistic perspective

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# Old Indic clauses between subordination and coordination[1]

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In Old Indic main clauses, the verb is usually unaccented. If it has a prefix, the stress lies on the prefix. However, in subordinate clauses that are introduced by a complementizer or a relative pronoun, the verb does bear an accent, whereas any prefix remains unstressed. Apart from that, we find clauses in Old Indic that have the same prosodic properties as subordinate clauses, but are not introduced by a complementizer or a relative pronoun. This paper deals with two questions: Are sentences with an accented verb but no complementizer main sentences or subordinated sentences and under what conditions do sentences with or without stress on the first verb appear. We will see that information structure plays an important role in explaining all these phenomena.

Keywords: verb accentuation, Old Indic, information structure, subordination, coordination

## 1. The Problem

This paper is about a certain verb accentuation in Old Indic that at first glance seems to indicate subordination rather than coordination. A possible solution is influenced by the information-structural and prosodic description of a certain German coordinated clause type. If the following analysis is correct, the description of the German phenomenon is relevant for other languages as well and can be applied not only to modern Indo-European languages but also to historic ones.

In Old Indic main clauses, the verb as a rule does not bear the accent. If it has a prefix, the prefix bears the accent. However, in subordinate clauses that are introduced by a complementizer or a relative pronoun, the verb does bear accent, whereas any prefix remains unstressed.

(1)  main clause   subordinate clause
           verb                                    vérb
     préfix    verb             prefix    vérb

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(2)      RV V,31,6

  a.  **prá**  *te*         *púrvāṇi*      *káraṇāni*
     PFX  of thee-GEN.SG  early-ACC.PL.N  deeds-ACC.PL.N
     **Vocam**                  *prá*  *nűtanā*
     I will proclaim-1.SG.INJ.AOR.ACT  PFX  newest-SUPERL.ACC.PL.N
     *maghavan*
     rich in giving-VOC.SG

  b.  *yắ*                  **cakártha /**
     which-REL.ACC.PL.N  hast done-2.SG.IND.PFV.ACT

  c.  *śáktīvo*          *yád*          **vibhárā**
     powerful-VOC.SG    that-SUB     dividest-2.SG.SBJV.PRES.ACT[2]
     *ródasī*          *ubhé*
     worlds-ACC.PL.N   both-ACC.PL.N
     'I will proclaim your former deeds, the most recent ones that you, full of gifts, have done, that you, powerful one, divided both halves of the world.'

In Old Indic there are also clauses which are stressed like subordinate clauses, but which do not have an overt complementizer or relative pronoun to introduce them.

(3)  clause  verb
     préfix  verb

(4)      RV V,45,3

  a.  *ví*[3]       *párvato*       **jíhīta**
     apart-PFX  mountain-NOM.SG.M  opens-3.SG.INJ.PRES.MED
     **sādhata**[4]                *dyáur*
     reaches goal-3.SG.INJ.PRES.MED  sky-NOM.SG.M/F

  b.  *āvívāsanto*             *dasayanta*
     trying to win-PRT.PRES.ACT.NOM.PL.M  they wear down themselves-
                                          3.PL.INJ.PRES.MED
     *bhűma*
     earth-ACC.SG.N
     'The mountain opens up, the sky reaches the goal. To win the earth, they (the Aṅgiras) wear down themselves (with spells).'

Clauses such as (4) are viewed controversially in Indo-European philology: Dunkel (1985: 51ff.) thinks they are paratactic and interprets the accent on the verb as a sign of emphasis. Hettrich (1988: 166f.), on the other hand, assumes that "Verbalbetonung […] vom vedischen Sprachteilhaber primär als Signal der Unterordnung empfunden [wurde], sobald der implizit gegebene semantische Bezug des betreffenden

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2.  The subjunctive refers to past events here (Hoffmann 1967: 244).

3.  The prefix is stressed because of emphasis in initial position.

4.  On the stress of *sādhata* see below.

Satzes zu seinem Nachbarsatz dies zuließ"[5]. But these main clauses that are stressed like subordinate clauses are "illokutiv selbständig"[6]. Therefore he dubs such clauses "Ergänzungssätze"[7] (Hettrich 1988: 157). Oldenberg (1906) thought on similar lines: Inasmuch as it is about "Nebeneinander- oder Gegenüberstellung"[8] he regards these clauses – which are stressed like subordinate clauses – as subordinate.[9] In that he, for part of the clauses, follows Delbrück (1888: 42), who wrote in his *Altindische Syntax*: "The first clause is the basis for the second one".

Some examples can in fact be interpreted in this way. The relation *postea ergo propterea*, which is depicted in the order of the clauses (Abraham 1976: 14; Lühr 1989), could underly (5):

(5)  RV VI 4,7

 *tvā́ṁ*        *hí*        *mandrátamam*
 thee-ACC.SG   namely   most pleasing-SUPERL.ACC.SG.M
 *arkáśokaír*            *vavṛmáhe*
 songs of flames-INSTR.PL.M   we have chosen-1.PL.IND.PF.MED
 *máhi*     *naḥ*   *śróṣy*          *agne /*
 big-ACC.SG.N   of us   listen-2.SG.IMP.AOR   Agni-VOC.SG.M
 'For you, the most pleasing one, we have chosen with songs of flames, [because we wish], hear our big [prayer], oh Agni!'

In that case it would be a final relation: The consequence would be in accordance with the wishes of the referent and the proposition of the *hí*-clause is something that is – in the speaker's opinion – the condition for the consequence in the background sentence ("As we worshipped Agni with songs of flames, our wish that he hears our prayer is legitimate") and that is therefore realized by the referent (Pasch 1987: 138ff.).

But if one interprets these two hypotheses in an information-structural way and first scrutinizes the subordination hypothesis, then the difference in verb stress could be seen in connection with the *in-focus-form* and *out-of-focus-form* found in many languages (Drubig & Schaffar 2001: 1096ff.; cf. also Gussenhoven 1992). Alternatively one could see the structural strategy of different verb stress at text level as a signal of 'embossing', in that the syntactic difference between main and subordinate clause corresponds to the communicative difference between foreground and background

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5. 'The speaker of Vedic saw verb stress primarily as a sign of subordination, if the implicitly given semantic reference of this sentence to its neighboring sentence allowed for that' (trans. RL).

6. 'independent with respect to their illocution' (trans. RL).

7. 'supplement clauses' (trans. RL).

8. 'juxtaposition or opposition' (trans. RL).

9. Klein (1992) has discussed Oldenberg's material and uses intonation as explanation for the different verb stresses, as I do in this paper. But he does not refer to information structure.

information (Hartmann 1984; Klein & von Stutterheim 1992: 70ff.). As with all other subordinate clauses, the speaker would "durch die Wahl der Nebensatzform zu erkennen [geben], dass es sich nicht um assertierte Information handelt, sondern um eine Voraussetzung zur Einschätzung der eigentlichen Aussage, die ihrerseits in Form eines Hauptsatzes präsentiert wird" (Hetland & Molnár 2001: 630).[10] Hartmann (1984) goes one step further: By using a subordinate clause a speaker can signal that the content of the subordinate clause will not be part of the subsequent discourse.

In the other case, i.e., the hypothesis of verb emphasis, contexts must be given in which the verb is actually emphasized. In German we find such cases. The Verum Focus, for example: Here the feature [FOC] is assigned to the finite verb.-

(6)   A: *Jura will never agree to rework his article.*
      B: *Jura WILL rework the article.*

In such cases the emphasis lies on the fact that is associated with the verb. The verb must be previously mentioned (Szucsich 2002: 221). As Anita Steube (2001: 236) showed with sentences like in (7), Verum-focus is one of several correction sentences with contrastive focus:

(7)   a.   *Peter hat es [geSAGT]$_{CF}$*          corrects lexical meaning
      b.   *Peter [HAT]$_{CF}$ es gesagt*          corrects time
      c.   *Peter [HAT]$_{CF}$ es gesagt* - Verum-focus corrects sentence force
      d.   *Peter [SAGte]$_{CF}$ es*          corrects lexical meaning
      e.   *Peter [sagTE]$_{CF}$ es*          corrects time etc.

I had better say right now that neither of the two hypotheses, neither the subordination hypothesis nor the hypothesis of verb emphasis, can be applied to the following material. This can be seen if a main clause and a clause of the problematic type, i.e., with stress typical for a subordinate clause, are compared. Note however that also in real main clauses the verb can be stressed under certain circumstances. It is stressed, for example, if it is the first word of the clause (cf. above to *sádhata* in (4)).

## 2.   Analysis

### 2.1   Obligatory Stress

True, among the Old Indic sentences that are stressed like a subordinate clause there are no sentences such as (7) where the verb is in contrastive focus (cf. also Hettrich 1988: 165f.). Contrast, however, is a conditioning factor for verb stress in any case.

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10.   '[the speaker would] signal by choosing the subordinate mode that it is not asserted information but a presupposition of the actual statement that is presented in the main clause' (trans. RL).

This is demonstrated by certain bipartite structures. They consist of a preposed clause with accent on the verb and a main clause that contains a verb, regularly unstressed. Regularly there is verb stress in the first conjunct of bipartite structures introduced by *vā – vā* 'either …. or …'; cf. (8):

(8)  VII 104,9
*yé*                      *pākaṣaṁsáṁ*              *vihāranta*
which-NOM.PL.M        simple speech-ACC.PL.N   dishevel-3.PL.IND.PRES.MED
*évair*                *yé*                  *vā bhadrám*
as usual-INSTR.PL.M   which-NOM.PL.M   or   good-ACC.SG.N
*dūṣáyanti*                    *svadhā́bhiḥ/*
make bad-3.PL.IND.PRES.ACT    by own impetus-INSTR.PL.F
*áhaye*          *vā*       *tā́n*              **pradádātu**
snake-DAT.SG.M   either   the-ACC.PL.M     shall surrender-3.SG.IMP.PRES
*sóma*        *ā́*     *vā* **dadhātu**
Soma-NOM.SG.MPFX   or   shall bring-3.SG.IMP.PRES
*nírṛter upásthe*
destruction-GEN.SG.F
'Those who conscientiously twist simple speech or wantonly make bad the good, those Soma either shall surrender to the snake or bring to the womb of destruction.'

In addition, there are the examples with *ca – ca* 'X as well as Y'; cf. (9):

(9)  RV I 120,9
*rāyé*                *ca*     *no*      **mimītám**
wealth-DAT.SG.M   and   us-DAT.PL   help-2.DU.IMP.PRES.ACT
*vā́javatyai/*              *iṣé*              *ca*   *no*
bringing reward-DAT.SG   food-DAT.SG.F   and   us-DAT.PL
**mimītaṃ**                    *dhenumátyai*
help-2.DU.IMP.PRES.ACT   rich of milk-DAT.SG
'Entitle us to wealth, bringing reward, and entitle us to food and cows, full of milk!' (Oldenberg 1906: 716) (but cf. 2.3. to the identical verbs).

Whereas the first *vā* or *ca* occurs here after an element of the first conjunct, simple *vā* 'or' and *ca* 'and' appear after a word of the second conjunct; cf. (10) and (11).

(10)  RV I 6,9
*átaḥ*   *parijmann*              *ā́*       *gahi*
thence   wandering-VOC.SG.M   here-PFX   come-2.SG.IMP.PRES.ACT
*divó*            *vā*   *rocanā́d*      *ádhi*
sky-GEN.SG.M   or   light-ABL.SG.N   from
'Come here from there, oh wandering one, or from the sky's empire of light!'

(11)  RV I 10,5
*ukthám*          *índrāya*          *śáṁsyam*
song-NOM.SG.N   Indra-DAT.SG.M   must be recited-NOM.SG.N

> *várdhanam*                          *puruniṣṣídhe /*
> nourishment-NOM.SG.N         giving many gifts-DAT.SG
> *śakró*              *yáthā   sutéṣu*                      *ṇo*
> powerful-NOM.SG.M   so that  Soma-juices-LOC.PL.M  of us-GEN.PL
> *rāráṇat*                                 *sakhyéṣu*              *ca*
> may have fun-3.SG.SUBJ.PRES.ACT           societies-LOC.PL.N     and
> 'A song be recited for Indra for his nourishment; him, to whom we are obliged,
> so that the powerful one be joyful in our company, with our soma-juice.'

Thus, in bipartite structures with double coordinator, the position of *vā* and *ca* in the first conjunct signals to the hearer that a second conjunct is to come.

A third kind of sentences with fixed verb stress on the first clause are those containing *anyá- – anyá-* 'the one – the other'. Here the first verb is always stressed, when both this clause and the following clause form a Pāda, i.e., a verse (12) (Oldenberg 1906: 724):

(12)  RV I 123,7
> *ápānyád*[11]                       *éty*                        *abhy*
> away-PFX-one-NOM.SG.N         goes-3.SG.IND.PRES.ACT   to it-PFX
> *ànyád*              *eti*[12]                            *víṣurūpe*
> other-NOM.SG.N   comes-3.SG.IND.PRES.ACT    in different shapes-NOM.DUAL.N
> *áhanī*                          *sám*              *carete /*
> day and night-NOM.DUAL.N   together-PFX      go-3.DUAL.IND.PRES.MED
> 'The one (half of the day) goes, the other comes: both dissimilar halves of the
> day meet.'

The hearer knows that it is about day and night both from the context ('the burning flames have risen. The shining Uṣas, the dawns, bring to light the treasures, worth to be desired, that have been hidden in darkness') and from his world knowledge.

Types (8) through (9) and (12), i.e., the types with fixed verb stress, have in common that the hearer expects a second conjunct: 'either X … or Y', 'both X … and Y', 'the one … the other'. The hypothesis presented here is that the verb stress in the first conjunct is caused by the expectation of a second conjunct.

Searching for comparable structures in German, we have to refer to Ewald Lang's (2004: 58) analysis of bipartite coordinated clausal structures for (13):

(13)  *Was machen denn deine Eltern?*
> L*H                                L*H H %
> *[[[Mein VAter ↗ ]$_T$ [ist ernsthaft   KRANK ↗ ]$_F^{IP}$]*

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11.  Cf. (19) as to stressing the prefix.

12.  Cf. Tichy's (2000: 43) assumption that verb stress in main clauses is caused by an 'antithetic accent'.

L*H                                    H*L L %
*[0 [meine MUtter ↗ ]ᴛ [geht    ARbeiten ↘ ]ꜰ^{IP}]^U]*

<div align="right">(Lang & Umbach 2002: 155)</div>

'What are your parents doing? – My dad is seriously ill, my mom goes to work.'

<div align="right">(Transl. RL)</div>

The two essential properties of this construction are:

a.   Within the utterance domain [...^U] the subjects *mein Vater, meine Mutter* are evoked by the previously mentioned *deine Eltern* and thus belong to the background. Prosodically they are contrastive topics, marked by "↗" and "L*H H".

b.   Both conjuncts form prosodically symmetrical Intonational Phrases (IPs) with a difference at the end of both conjuncts: The first conjunct has ↗, the second ↘. Also "der steigende Akzent bildet ikonisch[13] Offenheit bzw. Unabgeschlossenheit ab und evoziert dadurch eine Alternativmenge mit einer nicht leer laufenden offenen Proposition …"[14] (Molnár & Rosengren 1996: 82; Jacobs 1997: 124).

We now have to check whether we find these properties also in the Old Indic example (12)! Property (a) is present in any case: 'The one day-half goes, the other comes' contains two contrastive topics whose referents are known from the context and because of world-knowledge. About property (b) my approach is: The accent on the clause-final *éti* 'he goes' in the first conjunct is comparable to the rising contour L*H H in the German example.[15] In fact, the Old Indic accent marked by the *Udātta* must be a rising contour, as the name ('high', 'exalted') suggests. The *Udātta* in the contrastive topics *anyád – anyád* 'the one – the other', on the other hand, was probably accompanied "von einer Stimmverstärkung"[16] (Wackernagel 1896: 284; Klein 1992: 86).

A contrast can be expressed also by antonyms, as exemplified in (14). The structure is:

(14)   first conjunct   …   vérb↗   / …   préfix verb   second conjunct

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13.   The term 'indexalic' is to be preferred here (O.Panagl, p.c.).

14.   'the rising accent denotes openness iconically or that it is not yet finished and by that evokes an alternative set with an open proposition that is going to be filled' (trans. RL).

15.   Klein (1992: 38ff.) also traces back the verb accent in such bipartite structures to "incompleteness". He refers to it as "intonational accent", or as "anti-final contour" (1992: 89). In addition he assumes – justifiably – "two fundamentally different phonetic bases for verbal accentuation in the Rigveda: salience/emphasis and heightened intonation" (1992: 91).

16.   'by a rise in volume and/or pitch' (trans. RL).

(15)   RV I,152,3

| *ṛtám* | *píparty* | *ánṛtaṃ* |
|---|---|---|
| truth-ACC.SG.N | fosters-3.SG.IND.PRES.ACT | untruth-ACC.SG.N |
| *ní* | *tấrī* | |
| down-PFX | presses-3.SG.IND.PRES.ACT | |

'Truth he fosters, untruth he suppresses.'

Since (15) as a whole is the answer to the focus question 'what does the god do?', the antonyms 'truth' and 'untruth' are contrastive foci. As in other languages too, 'contrast' is no intrinsic property of either focus or topic constituents (Molnar 2002; Vallduvi & Vilkuna 1998).

Thus the consequence of this interpretation of the Old Indic verbal stress in the first conjunct is: The *Udātta* on the verb serves to structure the text.[17] By choosing a rising verb accent on the verb of the first intonational phrase it is hinted that this is an initial conjunct of a coordinated bipartite structure and that a final member is to follow.[18]

(16)   first conjunct      …         vérb↗ / …      verb second conjunct
                    … prefix   vérb↗ / préfix   verb

(17)   first conjunct      …         vérb↗ / …   préfix   verb second conjunct

Let us look at two other comparisons of Vedic and German.

Firstly, Delbrück (1871) utters the following to the state of affairs in Proto-Indoeuropean (but compare his contradicting statements quoted in 2.1):

> Haupt- und Nebengedanken und folglich Haupt- und Nebensätze existirten schon in der Periode des einfachen Satzes vor der Entstehung des Relativums und der Conjunctionen, nur dass sie kein sprachliches Zeichen hatten, ausser dem freilich sehr mächtigen und mannigfaltigster Nüançen fähigen Satzbetonung[19].
> (Delbrück 1871: 98)

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17.   Klein (1992: 88), too, interprets verb stress in Old Indic subordinate clauses as a signal that "the accented clause is incomplete". If, however, the emphasis on the subordinate clause verb is a signal that the hearer should expect another clause, in this case a main clause (as 'two-verb' coordinated structures suggest, Lühr 2007), this verb emphasis would have to have started in preposed subordinate clauses and from there would have to have been transferred to postposed subordinate clauses (H.Hettrich, Th.Krisch, p.c.; Klein 1992: 91ff.).

18.   Cf. German, when guiding person into a parking space: *Weiter!, Weiter!, Weiter!, Stopp!* 'On! On! On! Stop!' (Peters 2005: 111).

19.   'main thoughts and subordinate thoughts, consequently main clauses and subordinate clauses, were in existence already in the period of the simple sentence, before complementizers and relative pronouns came into being. They only had no linguistic sign assigned to them, save for the powerful and finely grained sentence stress' (transl. RL).

Furthermore, Delbrück assumed that the special stress of a verb in a subordinate German clause is comparable to the Vedic accentuation and that it has something to do with importance (Kümmel, p.c.):

> Der Nebensatz [enthält] sehr oft gerade das …, was im Zusammenhange der Rede das Allerwichtigste ist, und im Sanskrit, wo z.B. die Relativsätze zum allergrössten Theile 'nothwendige' sind, ist das besonders häufig der Fall. Dadurch allein schon ist eine stärkere Betonung des Nebensatzverbums gerechtfertigt. Nun kommt noch die Gewohnheit des Sanskrit hinzu, die Nebensätze voranzustellen, wodurch unläugbar in dem Hörenden eine Spannung auf den Hauptsatz hervorgerufen wird.[20]                                        (Delbück 1871: 96ff)

At least the last assumption – that the hearer expects a following phrase, if a verb is stressed in Vedic – is compatible with our solution, while the importance criterion of the subordinate clause does not convince.

Secondly Tichy (2000: 43) assumes that clausal structures in Vedic and Proto-Indo-European had a similar intonation as a certain Modern German sentence type. She compares:

(18)   *Hätt' ich's gewusst (/), hätt' ich's gesagt (\).*
       'If I had known it, I would have said it.'                          (Transl. RL)

Under certain circumstances also the main clause verb could have been stressed, "so bei der Gegenüberstellung mit einem inhaltlich kontrastierenden Verbum ('antithetischer Akzent')"[21]:

(19)   *Der eine kommt (/), der andre geht (\)*
       'One comes, the other leaves.'                                     (Transl. RL)

and "ferner in Verbindung mit affirmativen (= bekräftigenden, wie ved. *íd*) oder kausalen (= begründenden, wie ved. *hí*) Partikeln;[22] vgl. nhd. *Ich hab's ja gewusst (/)*.[23]

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20.   'The subordinate clause often contains exactly that which is most relevant in the context of the text, and this goes especially frequently for Sanskrit, in which e.g., nearly all relative clauses are 'necessary'. This alone justifies a stronger emphasis on the subordinate clause verb. In addition there is the tendency of Sanskrit to prepose the subordinate clauses. This, beyond any doubt, evokes suspense for the main clause in the hearer's mind.' (Transl. RL).

21.   'if put in opposition to another verb with contrasting content (antithetic accent)' (transl. RL).

22.   'furthermore in connection with affirmative (as Vedic *íd*) or causal (as Vedic *hí*) particles' (transl. RL).

23.   'Well, I *knew* it' (transl. RL).

Diese Verhältnisse [seien] aus dem Vedischen erschlossen, wo die angegebenen Regeln gelten (allerdings gibt es dort keine konjunktionslosen Nebensätze mehr)".[24]

However, we do not gain much from a comparison with Modern German clauses that contain a complex predicate (*Hätt' ich's gewusst* (/), *hätt' ich's gesagt*), as Proto-Indo-European had certainly 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 andere geht* (\)) is not very likely either, for there are no examples in Vedic where the verb is in contrastive focus as mentioned above. Expectation of another proposition seems to be a much more plausible starting point.

After having dealt with the conditions under which sentences having an accented verb but no complementizer appear we can give an answer to the question if those sentences are main clauses or subordinated ones: The rising contour in the first intonational phrase does not signal subordination but coordination.

## 2.2   Optional stress

In the examples (8) through (9), (12) and (15) the rising contour on the verb (together with lexical means such as the bipartite *vā … vā, ca … ca, anyá- … anyá-*, or antonyms) causes an expectation for a second conjunct. We now have to scrutinize cases in which the bipartiteness in both conjuncts containing a verb is expressed purely by accent and not by lexical means. The relevant examples are of the following kind: The verb of the first conjunct is stressed and in final position, as in (12). The verb of the second conjunct is stressed as well. It is in clause-initial position and consequently shows the already mentioned main clause stress.

(20)   first conjunct   …   vérb↗ / vérb   …   second conjunct

Oldenberg (1906: 728; cf. Klein 1992: 33ff.) describes such structures as follows: In front of the first verb and behind the second verb usually there are elements that correspond to each other, such as two subjects or two objects. One also finds heterogenous material on both sides, e.g., first place nominative, second place instrumental. The middle of the Pāda, "wo die beiden [betonten] Verben zusammenstoßen"[25] he terms culmination point ("Gipfelpunkt"). But I assume also here that the *Udātta* in conjunct-final position on the verb of the first conjunct is a signal for bipartiteness, cf. (21):

(21)   RV I 135,8
    *yám*         *aśvatthám*         *upatíṣṭhanta*
    which-ACC.SG.M   Aśvatta-tree-ACC.SG.M   reach-3.PL.IND.PRES.MED

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24.   'This state of affairs has been concluded from the Vedic situation where the afore mentioned rules apply; there are, however, no more subordinate clauses without covert complementizer' (transl. RL).

25.   'where both (stressed) verbs clash' (transl. RL).

> *jāyávo*         'smé         *té*
> winners-NOM.PL.M at us-LOC.PL   those-NOM.PL.M
> *santu*                   *jāyávaḥ/*         *sākám*
> shall be-3.PL.IMP.PRES.ACT  winners-NOM.PL.M  simultaneously
> *gắvaḥ*         *súvate*
> cows-NOM.PL.M/F   give birth-3.PL.IND.PRES.MED
> *pácyate*                   *yávo*
> ripens-3.SG.IND.PRES.MED   grain-NOM.SG.N
> 'Those who stepped underneath the Aśvattha-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 the human beings. Thus 'cows' and 'grain' are again contrastive topics, and both conjuncts are the answer to the focus question 'what wealth is given to the human beings?'

Example (22) also refers to the situation of a sacrifice:

(22)   RV I 135,7
> *yátra   grắvā*                   *vádati*                   *tátra*
> where  millstone-NOM.SG.M   sounds-3.SG.IND.PRES.ACT   thither
> *gachatam*                   *gṛhám*         *índraś*[26]         *ca*
> come-2.DUAL.IMP.PRES.ACT   house-ACC.SG.M   Indra-NOM.SG.M   and
> *gachatam /*                   *ví    sūnṛtā*
> come-2.DUAL.IMP.PRES.ACT   PFX  glory-NOM.SG.F
> *dádṛśe*                   *ríyate*
> will be seen-3.SG.IND.PRES.MED   flows-3.SG.IND.PRES.MED
> *ghṛtám*
> lard-NOM.SG.N
> 'Where the stone sounds, thither come, you and Indra, come into the house!
> The glory is to be seen, lard is flowing.'                   (Kümmel 2000: 233)

The focus question here could be: 'what happens at the soma sacrifice, if rightly executed?'

In *ví sūnṛtā dádṛśe ríyate ghṛtám* not only is the verb *dádṛśe* in the first conjunct stressed, but also the initial prefix *ví*. This is in accordance with Old Indic language usage: Prefixes standing at the top of the clause are optionally stressed. As for optionality, cf. (23):

(23)   RV I 40,8
> *upa   kṣatrám*                   *pṛñcītá*
> PFX   government-ACC.SG.N   might multiply-3.SG.OPT.PRES.MED

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26.   A peculiar use of *ca* in the RV is to add one noun (nearly always in the nominative) to another, which has to be supplied.

> *hánti*                          *rā́jabhir*
> hits-3.SG.IND.PRES.ACT   kings-INSTR.PL.M
> 'He may extend his government, he hits (the enemy) with the kings.'

Thus (23) has the following intonational structure:

(24)    First conjunct   prefix … vérb↗   / vérb … second conjunct

Now we are in a position to analyse example (4), which also has the accent on the clause-initial prefix. The example is repeated below.

(4)    RV V 45,3
    a.    *asmā́*              *ukthā́ya*          *párvatasya*
            this-DAT.SG.N   saying-DAT.SG.N   mountain-GEN.SG.M
            *gárbho*           *mahī́nāṃ*          *janúṣe*          *pūrvyā́ya* /
            body-NOM.SG.M   exalted-GEN.PL.F   birth-DAT.SG.N   first-DAT.SG.N
    b.i    *ví*       *párvato*          ***jíhīta***
            apart-PFX   mountain-NOM.SG.M   opens-3.SG.INJ.PRES.MED
    b.ii   ***sā́dhata***                    *dyáur*
            reaches goal-3.SG.INJ.PRES.MED   sky-NOM.SG.M/F
            'The body of the mountain opens up to this spell for the birth of the exalted
            (dawns). The mountain opens up, the sky reaches the goal.'[27]

(4b.i) here refers to the preceding context (4a). Note that the missing verb in (4a) must be supplemented from (4b.i): 'The body of the mountain opens up to this spell for the birth of the exalted (dawns). The mountain opens up'. Thus (4b) is an answer to the focus question: 'What happens if the body of the mountain [does X] to this spell for the birth of the dawns?' Answer: 'The mountain opens up, the sky reaches the goal'.

Whereas the examples up to now have been coordinations of two conjuncts, there are also examples with four conjuncts (25): The preceding context is: 'The lion's thunders are rolling from afar, when Parjanya makes rain-bringing clouds.'

(25)    RV V 83,4
     *prá*       *vā́tā*          ***vā́nti*** /
     forward-PFX   winds-NOM.PL.M   blow-3.PL.IND.PRES.ACT
     ***patáyanti***          *vidyútaḥ*          *úd*
     fall-2.PL.IND.PRES.ACT   flashes-NOM.PL.F   upward-PFX
     *óṣadhīr*          ***jíhate*** /          ***pínvat***
     plants-NOM.PL.F   rise-3.PL.IND.PRES.MED   streams-3.SG.IND.PRES.MED

---

27.  Hettrich (1988: 160) here assumes a modal-adverbial relation and illustrates this by the following translation: "ebenso wie der Berg sich auftut, [gelangt] zum Ziel der Himmel" (Hoffmann 1967: 174: 'Der Berg tut sich auf und gelangt zum Himmel').

*svàḥ/*
sky-NOM.SG.M/F
'The winds start blowing, flashes fall, the plants rise, the sun overflows.'

Everybody knows what is going to happen if Parjanya excites a thunderstorm. The poet formulates the answer in two parallel Pādas with two conjuncts each and a rising tone at the end of the first conjunct. The structure is:

(26)  first conjunct  préfix ...  vérb↗ / vérb  ...  second conjunct
      third conjunct  prefix ...  vérb↗ / vérb  ...  fourth conjunct

If the structure is tripartite, only the first and the second conjunct have the intonational structure with an *Udātta* in the first conjunct, as in the answer to the focus question 'What does the Old Indic god Savitar effect?':

(27)  RV I 35,9
      *ápámīvām*                       *bằdhate*
      away-PFX-pressure-ACC.SG.F       dispel-3.SG.IND.PRES.MED
      *véti*                  *sū́ryam*       *abhí*
      drive-3.SG.IND.PRES.ACT  sun-.ACC.SG.M  towards-PFX
      *kṛṣṇéna*        *rájasā*          *dyā́m*
      black-INSTR.SG.N  mist-INSTR.SG.N  sky-ACC.SG.M/F
      *ṛṇoti*
      reaches-3.SG.IND.PRES.ACT
      'He dispels sickness, drives the sun; he reaches the sky with his black mist.'

(28)  a.  first conjunct   prefix ...  vérb↗ /  vérb ...  second conjunct
      b.  third conjunct   préfix ...  verb

Structure (28) with a stressed verb before a stressed verb in the middle of the Pāda is not compulsory, as (29) shows: In the first conjunct the verb *carati* is unstressed before the stressed verb of the second conjunct *titviṣé*. The passage is about Indra's battle in the Vala-myth:

(29)  RV I 52,6
      *pár-*      *īṃ*  *ghṛṇá́*       *carati*  /
      around-PFX  him   heat-NOM.SG.F  goes-3.SG.IND.PRES.ACT
      *titviṣé*                  *śávo*
      is incited-3.SG.IND.PF.MED  power-NOM.SG.N
      'The glowing heat goes around him, his power is incited.'

(Kümmel 2000: 224)

(30)  first conjunct       préfix  ...  verb  / vérb ...  second conjunct

By using the unstressed verb in the first conjunct the poet obviously signals that he regards both conjuncts as confined informational units. The subjects of the two conjuncts differ without being in contrast to one other. Thus, if no contrast is expressed

lexically, in the first conjunct both structures are possible, the one with verb stress and the one without. This is true if both conjuncts meet in the middle of the Pāda.

(31)  a.  first conjunct   prefix ...   vérb↗ / vérb ...   second conjunct
      b.  first conjunct   prefix ...   verb / vérb ...    second conjunct

But type (31a) is more common (Oldenberg 1906: 726ff.).

Furthermore, verb stress in the first conjunct is optional if both conjuncts are extended over several Pādas. Whereas in (32) the verb in the first conjunct is stressed, in (33) it is not:

(32)  RV I 164,20
      *dvā́*              *supaṇā́*              *sayújā*
      two-NOM.DUAL.M  birds-NOM.DUAL.M  connected-NOM.DUAL.M
      *sákhāyā*              *samānnám*        *vr̥kṣám*
      companions-NOM.DUAL.M  together-ADV  tree-ACC.SG.M
      *pári*        *ṣasvajāte /*
      around-PFX  keep hugged-3.DUAL.IND.PF.MED
      *táyor*              *anyáḥ*
      of them-GEN.DUAL.M  the one-NOM.SG.M
      *píppalaṃ*        *svādv*              *átty*
      berry-ACC.SG.N  sweet-ACC.SG.N  eats-3.SG.IND.PRES.ACT
      *ánaśnann*                          *anyó*              *abhí*
      not eating-PRT.PRES.ACT.NOM.SG.M  the other-NOM.SG.M  towards-PFX
      *cākaśīti*
      looks on-3.SG.IND.PRES.ACT
      'Two birds, close companions, are hugging the same tree. One of them eats the sweet berry, the other looks on, not eating.'          (Kümmel 2000: 591)

(33)  RV I 93,6
      *ā́nyáṃ*              *divó*              *mātaríśvā*
      PFX-the one-ACC.SG.M  sky-GEN.SG.M/F  Mātarisvan-NOM.SG.M
      *jabhāra*                      *ámathnād*
      has brought-3.SG.IND.PF.ACT  tore-3.SG.IND.IPV.ACT
      *anyám*              *pári*        *śyenó*            *ádreḥ*
      the other-ACC.SG.M  hither-PFX  eagle-NOM.SG.M  rock-GEN.SG.M
      'Mātariśvan brought one from the sky, the eagle tore the other away from the rock.'          (Kümmel 2000: 338ff.)

The lack of lexical marking of contrast and the distribution of conjuncts on two Pādas thus cause optional verb stress in the first conjunct. It is unknown whether this is a metrical or a linguistic phenomenon, or both.[28]

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28.  We know from other areas of Vedic syntax that the poets artificially equated pada and sentence, so we get pada-initial topicalization (Hale 1987: 8ff.).

### 2.3 Obligatory non-stress

Turning to cases in which the verb in the first conjunct is compulsorily unstressed, we see that there are only two patterns: Firstly, the verb in the first conjunct is unstressed if it is identical to the verb of the second conjunct.

(34)  RV I 103,5

| sá | gá | **avindat** | |
|---|---|---|---|
| he-NOM.SG.M | cows-ACC.PL.M/F | found-3.SG.IND.IPV.ACT | |
| só | | **avindad** | áśvān |
| he-NOM.SG.M-PART | | found-3.SG.IND.IPV.ACT | horses-ACC.PL.M |
| sá | óṣadhīḥ | só | apáḥ |
| he-NOM.SG.M | plants-ACC.PL.F | he-NOM.SG.M-PART | water-ACC.PL.F |
| sá | vánāni | | |
| he-NOM.SG.M | trees-ACC.PL.N | | |

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

Cf. also (35):

(35)  RV X 94,1

| praité | | **vadantu** |
|---|---|---|
| forward-PFX-these-NOM.PL.M | | shall speak-3.PL.IMP.PRES.ACT |
| prá | vayám | **vadāma** |
| forward-PFX | we-NOM.PL | want to speak-1.PL.SUBJ.PRES.ACT |

'They shall start to speak, we want to start to speak.'

(36)  RV I 134,5

| tvám | víśvasmād | bhúvanāt | **pāsi** |
|---|---|---|---|
| thou-NOM.SG | all-ABL.SG.N | world-ABL.SG.N | protect-2.SG.IND.PRES.ACT |
| dhármaṇā | -suryàt | | **pāsi** |
| kind-INSTR.SG.N | Asura-power-ABL.SG.M | | protect-2.SG.IND.PRES.ACT |
| dhármaṇā | | | |
| kind-INSTR.SG.N | | | |

'You protect from all the world, as it befits your kind, you protect from the Asura-power, as it befits your kind.'

With regard to deaccenting, the examples above are comparable to German sentences showing broad focus and deletion of an identical element or gapping (Hartmann 2000: 171), as for instance in (37):

(37)  a.  weil [$_{IP}$ Háns$_F$ [$_{VP}$[ eine ÈRDbeere]$_F$ isst$_F$]$_F$]$_F$ und
         because John        a      STRAWberry  eats        and
         [Péter$_F$ [$_{VP}$ eine KÌRsche]$_F$ ~~isst$_F$~~]$_F$]$_F$.
         Peter     a      CHERry
         'because John eats a strawberry, and Peter a cherry'

Those sentences, in which the second verb is deleted, are mostly to be found in spoken New High German. They may be reputed to be a marked option in comparison with

(37)(b) with deletion of the first verb. This is usual in written language. In the literature also the terms "Einsparung" (Duden 2005: 912) or "coordinate ellipsis" (Schwabe 2000: 248ff.) are used:

(37)   b.   *weil [$_{IP}$   Háns$_F$ [$_{VP}$ [   eine ÈRDbeere]$_F$   isst$_F$]$_F$]$_F$*
            because John         a                    STRAWberry
            *und [ Péter$_F$ [$_{VP}$ eine  KÌRsche]F  ~~isst$_F$~~]$_F$]$_F$*
            and    Peter     a      CHERry   eats

Nevertheless, sentences like (37a) do occur. Cf. also examples (38)–(39) with distinct morphological features (Lang & Umbach 2002: 161):

(38)   ER trank  BIER  und  WIR  ~~tranken~~  WEIN.
       he drank  beer  and  we   ~~drank~~    wine

(39)   MAX  wurde   KRANK  und  WIR  ~~wurden~~  GESUND.
       Max  became  ill     and  we   ~~became~~  healthy
       'Max went ill and we recovered.'

Here, the two identical verbs are focus-marked by focus-projection rule (40ii):

(40)   Focus Projection
       i.    F-marking of the head of a phrase licenses the F-marking of the phrase.
       ii.   F-marking of an internal argument of a head licenses the F-marking of the
             head                          (Selkirk 1995: 555; Hartmann 2000: 126).

(40ii) means, that the whole utterance can only be focused (maximal or *wide focus*) if the constituent carrying the nuclear accent (*focus exponent*) is in its base position and in the sister position of the verbal head, as for instance in (41):

(41)   *[$_{CP}$ Maria    hat  behauptet, [$_{CP}$ dass [$_{VP}$ die   Tante [$_{V'}$ die  Nichten*
       Maria    has  claimed     that   the  aunt    the  nieces
       *[vo begrüßt    hat]]]]*
       welcomed      has
       'Maria claimed that the aunt welcomed the nieces.'
       *Maria hat behauptet,       dass [die Tante [die NICHten begrüßt hat]*
       'Maria claimed that the aunt welcomed the NIEces.'

Moreover, (41) shows that the main stress of a phrase is assigned to its most deeply embedded constituent. If there is no other focus structural information given, the focus projects (Stolterfoht & Bader 2004: 261).

   The main factor in our examples, however, is maximal contrast of the determiner phrases in (42):

(42)   Maximal Contrast Principle
       In a Gapping construction the number of contrasting remnant-correspondent
       pairs is maximized.

This principle ensures that there is no remnant without an adequate correspondent. A verb will always remain unaccented, as long as it is not a focus (Hartmann 2000: 165, 170).

Thus, the Maximal Contrast Principle concerns phonological deaccenting in contrastive structures. It applies if two constituents are identical. In that case, gapping either of the first or the second constituent takes place. The result is increasing stress on the remaining contrasting pairs, here the determiner phrases.

In Old Indic such contrastive accents are obviously created intonationally by the complete lack of accent on identical verbs. While both verbs are preserved here, in German deaccenting results in deletion of one verb on the level of Phonological Form in consequence of source and target identity (Hartmann 2000). On the other hand, we expect a 'fortition of voice' on contrasting corresponding pairs, following the Maximal Contrast Principle as in the German examples.

An exception from our deaccenting rule are cases involving *ca ... ca* 'both ... and' and identical verbs, as in example (9), repeated here:

(9)  RV I 120,9

*rāyé*            *ca*   *no*        *mimītám*
wealth-DAT.SG.M  and   us-DAT.PL   help-2.DU.IMP.PRES.ACT
*vájavatyai /*           *iṣé*          *ca*   *no*
bringing reward-DAT.SG   food-DAT.SG.F  and   us-DAT.PL
*mimītaṃ*                  *dhenumátyai*
help-2.DU.IMP.PRES.ACT    rich of milk-DAT.SG
'Entitle us to wealth, bringing reward, and entitle us to food and cows, full of milk!'

Cf. also (43):

(43)  RV I 123,12

*áśvāvatīr*                   *gómatīr*
bringing horses-NOM.PL.M      bringing cows-NOM.PL.M
*viśvávārā*                   *yátamānā*
wished by all-NOM.PL.M        contesting-PART.PRES.MED.NOM.PL.F
*raśmibhiḥ*       *sūryasya /*      *párā*      *ca*   *yánti*
rays-INSTR.PL.M   Sūrya-GEN.SG.M    away-PFX    and   go-3.PL.IND.PRES.ACT
*púnar*      *á*   *ca*   *yanti*                *bhadrá*   *náma*
again-ADV    hither   and   go-3.PL.IND.PRES.ACT    lucky    names-ACC.PL.N
*váhamānā*                        *uṣásah*
bringing-PRT.PRES.MED.NOM.PL.F    dawns-NOM.PL.F
'Bringing horses and cows, wished by all, contesting with Sūrya's rays the dawns go and come, with names bringing luck.'

Remember that the Vedic *Udātta* on the verb of the first conjunct is not considered as a means of marking prominence but as a signal to expect another conjunct. But since *ca* already signals a following conjunct, stress on the identical verb of the first conjunct

seems to be redundant. Thus, there might exist a rule which overrides deaccenting of the first of two identical verbs in the surroundings of *ca ... ca*.[29] In Optimality Theory such a rule would be comparable to the constraint MAX(LEX),[30] which is not dominated by other constraints.[31]

On the contrary, expected deaccenting appears in the first conjunct with *ná ... ná* 'neither... nor', nearly without exception.[32] This is our second pattern for obligatory non-stress; cf. the sentences (44) and (45), which contain antonyms:

(44)   RV X 129,1

| *násad* | | *āsīn* | | *nó* |
|---|---|---|---|---|

neither-nonexistence-NOM.SG.N   was-3.SG.IND.IPF.ACT   nor-PART

| *sád* | *āsīt* | | *tadánīṃ* | *nāsīd* |
|---|---|---|---|---|

being-NOM.SG.N   was-3.SG.IND.IPF.ACT   then-ADV   not-was-3.SG.IND.IPF.ACT

| *rájo* | *nó* | *vyòmā* | *paró yát /* |
|---|---|---|---|

air space-NOM.SG.N   not-PART   sky-NOM.SG.N   above-ADV

'There was neither non-existence nor existence; neither was air space nor the sky above it.'

(45)   RV I 113,3

| *ná   methete* | | *ná* |
|---|---|---|

not   are in mutual fight-3.DUAL.IND.PRES.MED   not

*tasthatuḥ*

stand still-3.DUAL.IND.PF.ACT

'They do not start a fight, they do not stand still'          (Oldenberg 1906: 717)

In both examples sentence negation occurs, in (44) in combination with constituent negation. It has been unclear until now why the first verb is unstressed. We propose an explanation following Trautwein's (2005: 216f.) analysis of the semantics of sentence negation. Here, his assumption that negative sentences "tend to denote almost nothing" is decisive. Looking at a single negated sentence like

(46)   *Eli did non run/laugh/wait.*

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29.   The assumption that accentuation of the verb following the first *ca* is due to fact that there is no determiner phrase to put the stress on holds for example (43) but not for example (9), cf. *rāyé* at the beginning of the sentence.

30.   Cf. Wunderlich (2003): Max (lexF): Every lexically assigned (positively-valued) feature in the input has a correspondent in the output.

31.   Admittedly, as we are dealing with a dead language claims about obligatoriness are uncertain. We cannot extend the corpus by tests (as we do when dealing with living languages, combining intuition and corpus search). But every language has rules that are fixed in the lexicon.

32.   Counterexamples are to be found in RV I 62,12 und III 53, 14 with "Doppelgegensatz" (Oldenberg 1906: 717 footnote 2).

we find that almost everything could be the case in the situations denoted by (46). Although Eli did not run, it is possible nevertheless that she was moving somehow (driving, cycling etc.). Only the presupposed configuration which would also precede the situation denoted by the corresponding positive sentence remains "as the possible truthmaker of the negative propositional description". But many verbs, including several state and activity verbs presuppose no specific scenario at all. Anyway, the most important semantic feature is that sentence negation neutralizes the complete aspectual information. Therefore, no continuation of any event or state is expected if you do not have double coordinators like English *neither … nor* or German *weder … noch* containing different lexemes but only a general expression meaning 'not' and no specific word order information is available. Exactly this is the case in Old Indic (for word order cf. the Old Indic examples with double *vā … vā* or *ca … ca*). The verb of the first conjunct may be completely deaccented since nothing lets one expect a continuation of the first conjunct following the regularly accented *ná* 'not' at the top of the sentence. However, besides the negator the negated determiner phrases are stressed. Thus, negated sentences are instances of contrastive structures, too. They are similar to the above mentioned structures, which contain identical unstressed verbs but contrastive stress on determiner phrases.

## 3. Summary

All Old Indic examples that have been put forward are cases of coordination and not of subordination, although the verb in the first conjunct tends to be stressed as in subordinate clauses. Verb stress in the first conjunct, however, functions as a signal that a second conjunct is to follow. It is a rising tone, as is the usual realisation of the Old Indic *Udātta*. We find an *Udātta* of that kind obligatorily in bipartite phrases of the types 'either X or Y', 'both X and Y', 'the one… the other…' and with antonyms. The *Udātta* is optional if such lexical means are missing and two verbs clash in the middle of the verse, for instance. Generally, the *Udātta* is not present if the two verbs of the conjuncts are identical, as here the contrastive accents on the determiner phrases seem to be the main factor, similar to German gapping constructions. But sentences with *ca … ca* 'both X and X' and identical verbs show redundancy, since the first verb is stressed. Not only the semantics of *ca* but also the verbal accent signal expectation of a second conjunct. To explain this phenomenon there was no other way left but a lexical rule. On the other hand, in sentences with *ná – ná* 'neither – nor' both verbs are unstressed. Here, the determiner phrases are maximally contrasted and bear contrastive accents as in the gapping constructions. Probably, the specific semantics of sentence negation is of importance.

This paper is an attempt to make statements about information structure and accentuation even for very old languages.[33]

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33.  Cf. Klein 1992: 95.

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