Indo-European syntax

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1 Grammatical reconstruction

The only sentence that can be reconstructed with some plausibility is Watkins' famous $*eg^{wh}ent\ og^{wh}im$ '[he] slew the dragon' (Watkins (1995:301)) – hardly more than a VP (for the convincing Greek evidence see Watkins (1995:359)). No other formula can be reconstructed with the same plausibility (cf. Keydana (2001:288)). Reconstructing PIE phrases or sentences, then, is a fruitless endeavour.

Syntactic reconstruction therefore differs markedly from traditional segmental phonological or morphological reconstruction. But this does not mean that the whole project of a PIE syntax is doomed to failure, as Fritz in Meier-Brügger (2002:244-5) seems to assume (cf. also Lightfoot (1980) and Jeffers (1976), and for a critique of these arguments Dressler (1971:6) and Harris & Campbell (1995:344-376)). The goal of IE studies is not the reconstruction of utterances, but that of linguistic competence. The reconstructed roots, words, or affixes are entries in the mental lexicon of an ideal PIE speaker, the phonological or morphological rules for manipulating them part of his grammar. Likewise, PIE syntax is not concerned with actual strings, but with the structure of complex syntactic objects and constraints on the wellformedness of such objects.

Contrary to my own skeptical assessment in Keydana (1997:32), I now think that grosso modo syntactic reconstruction is possible (cf. Keydana (2004), as long as we respect the limits (of external reconstruction) and restrain ourselves from speculating without sound empirical evidence. For similar positions cf. Dressler (1971), Balles (2006), and Speyer (in print b).

Still, studies in IE syntax face fundamental problems that restrict any attempts at reconstruction severely. The most important one is the fact that the languages we compare never provide negative evidence and that we do not have access to acceptability judgements. Modern corpus linguistics does not help to improve this situation, as statistical marginality does not neccessarily reflect inacceptability. Working with actually attested texts only, historical linguists must by hypothesis assume that all the utterances they are confronted with are valid and well-formed. This also holds true for poetic texts: Even if they stretch grammaticality to its limits, they never trespass the boundaries of grammar. "Poetic license" does not lead to agrammaticality (cf. Hock (2000)). Translated texts present us with more serious problems. The Gothic corpus is a case in point: Some phenomena attested in Gothic texts seem to be syntactic calques that could not be generated on the basis of Gothic competence alone (see Keydana (1997) on absolute constructions). Nonetheless, crucial differences between the Greek original and its Gothic translation allow for interesting glimpses into the nature of Gothic syntax (cf. Ferraresi (2005)).

The topics of this survey are (1) word order, (2) the structure of XPs and agreement phenomena, (3) case and argument structure, (4) latent arguments, (5) binding, (6) copula constructions, and (7) subordination. Some of the issues – like word order or case – have been discussed extensively since the emergence of IE syntactic studies. Others – like the structure of XPs or binding – have hardly ever been tackled. This disequilibrium is reflected in the present survey, so that some of the following sections are no more than hints for further research.

Information packaging will not be addressed in this overview as a topic of its own, although its relevance for the organisation of the sentence periphery (and maybe other topics of IE sentence topology) will be acknowledged. However, caution seems to be called for: The linguistic encoding of information packaging in the ancient IE languages is not neccessarily unambiguous (cf. below on the DF-slot), and the intonational part of it is not even transmitted (neither Hittite plene writings nor Vedic verb accentuation should be overestimated). Heuristics for analyzing text structure are not of much help either, as elements that can be identified with foci, topics, or other information structural entities based on textual analysis do not neccessarily have to be encoded as such.

One last preliminary remark: I am convinced that students of historical syntax cannot afford to ignore the developments in syntactic theory in the last 50 years and their repercussions for empirical studies in

syntactic phenomena. This paper is not written in any specific modern syntactic framework. I will try to keep the theoretical humdrum to the minimum. Still, some jargon cannot be avoided. There is hardly any evidence in the ancient languages as to the number and quality of functional heads, yet I will tentatively assume at least the functional categories C[omplementizer], I[nflection], and D[eterminer]. The term "dislocation" when used here refers to serialisations different from those assumed to be canonical; it is not meant to imply movement in the sense of Government & Binding Theory or the Minimalist Program.

2 The limits of reconstruction

PIE was a nominative-accusative language. As all attested old IE languages are of this type, hypothesizing any other syntactic type would be highly implausible.

Still, certain asymmetries in the case morphology of PIE (*-*s* in nom. and gen., no formal differentiation between nom. and acc. in the neuter) and the assumed original two-valued gender system as well as some peculiarities of Lithuanian or Hittite syntax have led numerous authors beginning with Uhlenbeck (1901) and Wijk (1902) to speculate on the syntax of a stratum preceding PIE as reached by external reconstruction. Wijk (1902) and his followers take the PIE *-*s* as an original agency marker, thus collapsing the later nom. and gen. into a single category. Two possible scenarios for "Pre-Indo-European", as Lehmann (1993) calls it, arise: In the first, Pre-IE is an ergative language, as was first proposed by Uhlenbeck (1901); authors like Kuryłowicz (1935), Martinet (1962), Shields (1978), and Schmalstieg (1987) follow suit. The other scenario is that of an active language, which was proposed by Schmidt (1977), Gamkrelidze & Ivanov (1984), Lehmann (1993), Bauer (1996), (2000), and others.

The phenomena addressed by these authors clearly exist and are probably remnants of an older system different from that of the attested languages. Yet established reconstruction techniques do not allow for any serious scientific assessment of the proposals given, especially as they are not backed by well-based typological work on active-inactive or ergative languages. Belonging to the realm of speculation, they will not be treated in this survey, which is devoted to PIE as the language reached by external reconstruction.

3 Word order

3.1 Basic word order

Lehmann (1974) and Friedrich (1975) were the first to discuss Indo-European word order from a typological point of view. While Lehmann found evidence for SOV in the oldest IE languages and reconstructed this pattern for PIE (cf. also Lehmann (1993), Gamkrelidze & Ivanov (1984), Stepanov (1989)), Friedrich argued for a basic SVO word order. The problem with both approaches was that, following Greenberg (1963), the authors took surface linearisation as the basis of their investigation. Lehmann (1993:35) for example takes the first words of the Odyssey

(1) ἄνδρα   μοι   ἔννεπε
     man-ACC me-DAT tell-of

     Tell me about the man . . .

as evidence for OV, although it seems obvious that ἄνδρα as the first word of the whole epos is in a highly marked position: It probably occupies a discourse functional slot in the left periphery. Both authors rely heavily on Greenbergian implicational universals (like postpositions implied by OV or preceding conjunctions implied by VO). Since pure tokens of the types Greenberg proposed scarcely exist, results derived from implicational universals have to be treated with caution (cf. Hock (1992)).

With the advent of generative syntax, a different approach came into play: Seemingly aberrant word order patterns were analyzed as a product of the interplay between basic word order and highly restricted dislocations, so that the dispute between Lehmann and Friedrich could be settled: Krisch (1997:302ff.) showed that (most of) Friedrich's SVO-sentences are best understood as sentences with right dislocated constituents. Another truth that emerged with a systematical treatment of dislocations is the fact that none of the attested IE languages has free word order. They are all configurational, as is PIE (cf. Krisch (1998) and Devine & Stephens (2000), (2006), who argue for grades of configurationality). As the problem of basic PIE word order seems to be solved, the interest in current studies in IE word order has shifted to a phenomenology of dislocations and the factors that trigger them (cf. for example Kiparsky (1995) and Krisch (1997)).

The generative approach advances our understanding of word order issues substantially. Still, a little caveat is in order: Dislocations not being marked as such in the linear sequence of syntactic objects in the sentence, they can only be hypothesized. This means that for any sentence with n constituents, we may assume at least n different dislocations. Cf. the following Vedic example taken from Krisch (1990:77):

(2) sá   ha$_u$vāca gā́rgyaḥ
     PTL PTL said Gārgya

     Gārgya said . . . ŚB.14.5.1.3

Taking *sá* as a sentence-initial particle, we have three possibilities for analyzing the linearisation of this sentence: (1) It displays the canonical word order. This solution is not advocated by anyone, as the low frequency of verb initial sentences in Vedic makes VS(O) as the basic pattern highly implausible. (2) The canonical word order is SV and the verb is dislocated. This analysis goes back to Wackernagel (1892:434), who takes the verb as being enclitic. Alternatively it could be derived following assumptions by Dressler (1969), who argues that the verb can be dislocated for information structural reasons. In this case, it is not enclitic. (3) The subject is dislocated to the right. This analysis is advocated by Krisch (1990:77), who takes the subject in Vedic as an "Apposition zu diesem impliziten Subjekt" encoded in the verbal ending. Being an apposition the subject can be extraposed to form an amplified sentence in the sense of Gonda (1959) (the dislocation types mentioned will be discussed in due course). None of these analyses can be falsified, but as mentioned earlier the first is highly implausible, whereas the second and third are not.

Coming back to basic word order, we may follow Krisch's aforementioned reassessment of Friedrich's data and conclude that PIE was of the SOV type (cf. Krisch (1997:301-303), (2001)). If we take dislocation patterns into account, we find evidence that SOV is the canonical word order in Old Latin and the Sabellian languages, the Old Indo-Arian languages and Hittite; cf. Bauer (1995) for Latin, Luraghi (1990) for Hittite, and Delbrück (1888) for Vedic. Typical SOV phenomena like the preference for postpositions (cf. Lehmann (1993)) confirm this picture. Despite the convincing evidence for SOV, however, it should be pointed out that one important IE language does not fit the picture: Ancient Greek. The canonical word order of alphabetic Greek is disputed (cf. Kieckers (1911), Frisk (1933), James (1960), and Cervin (1990)), and even the word order of Mycenean does not provide any conclusive evidence for canonical patterns (Panagl (1999), Babič (1997), Duhoux (1975)). SVO prevails and can hardly be attributed to information packaging in an underlyingly configurational SOV language (against Krisch (2001:165-6)). It seems possible that Greek developed into a discourse-configurational language (cf. Dik (1995), and Matić (2003)).

It is best to take SOV in PIE and the ancient IE languages as a product of syntactic principles and parameter settings. The exact syntactic structure leading to a SOV serialisation is still a matter of debate. As it is of no relevance for the present purpose, it will not be discussed here, but since word order patterns follow directly from structural configurations, it seems unneccessary to work with construction-like "Satzbaupläne" à la Krisch (2001), (2002).

3.2   The left periphery

The left periphery is that part of the sentence that precedes the subject in base position in the linearisation. In GB terminology we might identify the left periphery with anything preceding the IP. The left periphery of the IE sentence is of special interest, as it is a preferred slot for dislocations.

3.2.1   Wh and Comp

Wh-words in all ancient IE languages typically undergo left dislocation (cf. Hale (1987:43), Hettrich (1988) for Vedic, Garrett (1994:43-49), Lühr (2001) for Hittite). They occupy the [Spec,CP]-slot (on cases with Wh in second position cf. below section 9.1). Keydana (in prep.) argues that in Vedic subject Wh-words also undergo movement. As Wh-words co-occur with material left-dislocated for discourse functional reasons (Hale (1987:43-44)), they should not be mixed up with topics or foci (like e.g. in Krisch (1998:361), (2002)).

Complementizers can be found in all ancient IE languages. Against Kiparsky (1995:153) I will therefore follow Krisch (1998:358) and assume CPs for PIE. On subordinate sentences cf. section 9.2.

3.2.2 Discourse prominent elements

PIE had a slot in the left periphery that hosted a discourse prominent element. In most cases, this slot is occupied by one word only and the rest of the constituent remains in situ, but cases with full constituents in the left periphery exist (cf. Hale (1987:44)). The distribution of full constituents versus single words remains a field for further research.

This slot is often called the topic-position, but as Keydana (in prep.) has shown for Vedic, it hosted topics and foci alike. Therefore it may tentatively be called the D[iscourse]F[unctional] slot. There is no evidence for separate topic- and focus-slots in the left periphery as assumed by Kiparsky (1995:153) (who was forced to assume two distinct slots, as he dismissed a C-projection for PIE and still wanted to account for sentences with both a discourse prominent constituent and a Wh-word in the left periphery). As was argued in Keydana (in prep.) for Vedic, the left periphery is obligatory. It should be remembered that this observation does not imply that foci and/or topics have to be dislocated. They may as well be realized in a neutral position (cf. for Latin Devine & Stephens (2006:226ff.)).

Speyer (in print b) has shown that in Greek, Latin, and Germanic there is a strong preference to fill the DF-slot with frame-building elements.

3.2.3 The verb in the left periphery

In his seminal work on verb initial sentences in IE, Dressler (1969) argues convincingly that verbs in sentence initial position are restricted to "textuell gebundene Sätze", where the fronting "is roughly associated with salience" (Klein (1991:125), cf. also Luraghi (1994), (1995)). Anaphoric or, to a lesser extent, cataphoric use is typical. For an extensive study of Vedic data cf. Klein (1991), who refines and confirms Dressler's conclusions. For Mycenean cf. Panagl (1999:489).

Krisch extends the notion of verb movement to subsume cases of verb second (but cf. Schäufele (1991a)). According to him, verb movement to both initial and second position are a means of establishing cohesion (cf. Krisch (1997), (2001), (2002)). Krisch's argument is convincing, as cases like the following with a Wackernagel clitic of type 1 (cf. below) hosted by the verb show that the verb in second position can actually be part of the left periphery.

(3) asmā́m̐ avantu te śatám asmā́n sahásram ūtáyaḥ
     us-ACC shall help your hundred-NOM us-ACC thousand-NOM helps-NOM

     Your hundred, your thousand helps shall help us. RV 4.31.10

Following Krisch (Krisch (1997:299), (2001)), I assume that the verb in these cases is in the C^0 position. This analysis predicts that verbs in this position cannot co-occur with Wh-words or complementizers.

3.3 The right periphery

The right periphery is that part of a sentence following the base position of the verb in the serialisation of the sentence. Gonda (1959) calls sentences with a filled right periphery "amplified sentences," as according to the author, syntactic objects in the right periphery are never obligatory (cf. also Schäufele (1991a)). Gonda (1959) gave ample evidence for right dislocations in Vedic, for Hittite cf. McCone (1979), (1997), for Greek Krisch (1997:304-306). Krisch (1997:305) shows that at least part of the data can be understood as heavy XP shift. Cf.

(4) Ἰδαῖος δ' ἀπόρουσε λιπὼν περικαλλέα δίφρον
     Idaios-NOM PTL jumped off leaving-NOM beautiful-ACC cart-ACC

     Idaios jumped off, leaving the beautiful cart. Il.5,20

Several questions remain open: First, a precise definition of amplification would be needed, as the dislocated elements may be adjuncts, parts of bigger constituents or even subjects (cf. the somewhat startling conclusion of Schäufele (1991a:191) for Vedic, that "apart from sentential particles etc., any single 'constituent' can be extraposed"):

(5) Τυδείδεω δ' ὑπὲρ ὦμον ἀριστερὸν ἦλυθ' ἀκωκὴ ἔγχεος
     Tydeid-GEN PTL over shoulder-ACC left-ACC flew tip-NOM lance-GEN

     Over the shoulder of the Tydeid flew the tip of the lance. Il.5,16-7

Against Krisch (1997:304), it seems unreasonable to claim that the subject is "grammatisch schon im Verb enthalten, also nicht obligatorisch." From a syntactic point of view, the subject is obligatory because it satisfies the Extended Projection Principle (and there is no point in assuming that it is an apposition to a latent subject), and from a semantic point of view, it is neccessary as it introduces a discourse referent and a condition on this referent which both are crucial for interpreting the sentence. In the given example (taken from Krisch), the dislocated subject cannot therefore count as an amplifier in the sense of Gonda (1959). Its dislocation may rather be due to the fact that it is a complex NP that counts as heavy. This obviously leads to the second question: How can heavy XP be defined for ancient IE languages and PIE? What kind of heaviness counts, mere size or syntactic complexity? If amplification and heaviness both lead to right dislocation, it might be worth investigating whether the two concepts could possibly be conflated.

One last issue concerns the discourse structural state of right dislocations. Krisch (1997:306) assumes that at least in Greek obligatory syntactic objects can only be dislocated to the right if they are "stark rhematisch" (cf. his examples 30-34). This constraint is somewhat problematic, as in the absence of clear heuristics, it may be hard to decide what exactly a strong rheme is, but it certainly invites further research into the interaction of syntactic and discourse grammatical factors in right dislocation phenomena.

3.4 Wackernagel positions

Wackernagel (WL) clitics (cf. Wackernagel (1892)) are non-accented syntactic objects that always occupy the second position in the sentence. Two types of WL clitics have to be distinguished; a third type does not belong to WL clitics proper.

3.4.1 Type 1

WL1 clitics always follow the first word in a sentence except for cases where a Wh-word or complementizer is preceded by a filled DF-slot. In this case they follow the Wh-word. Cf.

(6) índraḥ   kím   asya sak^{h}yé   cakāra
    Indra-NOM what-ACC his   friendship-LOC made

    What did Indra do in his friendship? RV 6.27.1

Hale (1987) was the first to tackle this problem from a generative perspective. He concluded that "WL clitics take second position *defined before the topicalisation*, but after WH-movement places *ká-* in COMP" (Hale (1987:42)). Examples with WL1 clitics following a word that clearly occupies the DF-slot (for example *dyaúś cid* in RV 1.52.10) constitute evidence against Hale's derivational approach. Hale (1996) put forth another explanation. He assumed that WL1 clitics move to C^0 and undergo prosodic inversion if neccessary. Hock (1996) dismisses syntactic approaches to WL1 clitics and advocates a templatic account for the whole "initial string" including clitics and accented material alike. His template is descriptively adequate, but because of various provisos taken (omission and doubling of elements in the template), it is too powerful to achieve explanatory adequacy. Keydana (in prep.) combines insights from Hale and Hock: He too argues that WL1 cliticisation is a prosodic phenomenon, but in Keydana's approach only clitic placement is driven by prosody, whereas the serialisation of non-clitic elements in the left periphery is determined by syntactic structure. Following Keydana WL1 clitics are hosted by the first prosodic phrase of a sentence, which corresponds to the (syntactically defined) left periphery.

3.4.2 Type 2

WL2 clitics follow an obvious pattern: They are always hosted by the first word of a sentence.

(7) uraú   vā yé   antárikṣe   mádanti
    wide-LOC or who-NOM.PL. atmosphere-LOC rejoice

    . . . or who rejoice in the wide atmosphere. RV 3.6.8

This behaviour again can be modelled syntactically (Hale (1987:44)) or prosodically (Hock (1996), Keydana (in prep.)). The latter approach is less costly, as prosodic dependency is an obvious trait of WL clitics, whereas syntactical dependencies cannot be proven empirically.

Krisch's approach to WL clitics is based on the assumption of "Satzbaupläne" or "Schemata" (Krisch (1990), (1997), (2002)). Blurring the distinction between WL1 and WL2 and operating with ill-defined construction-like entities, it runs into serious descriptive and theoretical difficulties and will not be discussed here (for an assessment cf. Keydana (in prep.)).

3.4.3 Type 3

WL3 clitics (for example Vedic *cid*) have to be excluded from the realm of WL clitics proper (cf. Krisch (1990:65)). They are "enclitic to the constituent which they modify / emphasize" (Hale (1987:45)). The linearisation is trivial, as the scope of the particle could not be reconstructed if it were moved out of its constituent: Clitics that underlie some recoverability condition cannot be WL clitics. Their occurring in second position in the sentence is due to the fact that they modify words in the DF-slot.

3.4.4 Identifying the core sentence

Krisch (2002:252) claims that WL clitics can help us identify the core sentence ("Kernsatz"): Even if Krisch is wrong in assuming that "[w]enn Wackernagelsche Partikeln da sind, handelt es sich bei dem Teil links davon auf jeden Fall um topikalisierte Elemente," his general premise is correct: Placed after the first prosodic phrase of a sentence, WL1 clitics indirectly mark the left boundary of the IP, Krisch's "Kernsatz". They can also serve as a diagnostic tool for identifying the syntactic status of embedded nonfinite structures such as infinitive phrases, as every phrase containing a WL1 clitic must have a left periphery; in other words, it must be a CP.

The right periphery is less suitable for diagnosing sentence structure, as every sentence with a non-final verb allows for two competing analyses (cf. above (2)): Either the verb has moved to the left periphery, or some other syntactic object has moved to the right periphery. As unambiguous markers denoting the boundary of the right periphery do not exist, a principled decision between the two alternatives is impossible.

3.5 Ditransitives

Vedic double object constructions have been studied by Krisch (1994). He observes that the indirect object does not neccessarily precede the direct object. He argues for the direct object following the indirect object as the unmarked serialisation. Preceding direct objects are licensed only when the direct object is not rhematic.

On double object constructions cf. 5.

3.6 Scrambling

Scrambling may be defined as free word order phenomena inside the IP, i.e. in the core sentence that remains after stripping away the left and right periphery. Speyer (in print b) for Latin and Germanic and Schäufele (1991a) and (1991b) for Vedic suggest that scrambling may be due to information structuring (as is at least partially true for German, too). Further research is needed to back up this claim. On scrambling in Latin and ways of investigating scrambling phenomena in ancient languages cf. Devine & Stephens (2006:98ff.).

4 The structure of XPs

As this topic has not yet been seriously investigated, we know almost nothing about the structure and possible complexity of IE XPs. The only type of XP that has been studied at least occasionally is the NP/DP.

4.1 The structure of DPs

The syntactic status of nominal phrases in old IE languages has not yet been determined. In accordance with contemporary approaches since Abney (1987), we assume that nominal phrases have a DP structure. Hints at the internal structure of Vedic DPs can be found in Keydana (2003), who in an investigation into event nominals in the language of the Rigveda observed that no more than one argument of the event nominal can be realized in the DP. Arguments always show up as genitives, possibly in [Spec,DP] (cf. below section 5.2.2).

Adjectives agree with nouns in the DP, the only exception being nouns in the dual, which are combined with adjectives in the plural (cf. Lühr (2000b:268) with examples from Greek and Lithuanian), obviously due to a later development. The serialisation of modifier and head noun is open to variation. Old juxtapositions like Vedic *dámpati-*, Avestan *də̄ŋ paiti-*, Greek δεσπότης < PIE **déms póti-* indicate that the modifier preceded the noun in PIE.

Hyperbata are the result of dislocations out of DPs. Material may be dislocated to the left into the DF-slot or to the right. While the target slots of these dislocations are easily named, the process as such is not yet understood: Neither do we know what exactly triggers right dislocation (cf. above), nor are we in a position to identify factors for and possible constraints on extracting material out of DPs (but cf. Krisch (1998:374)). For examples of hyperbata in ancient IE languages cf. Krisch (1998), for an in-depth study of Greek hyperbata cf. Devine & Stephens (2000). It remains to be seen if hyperbaton may be reduced to the more general phenomenon of left branch extraction (cf. Ross (1986), Bošković (2005)).

4.2 Agreement in the IP

In all ancient IE languages the finite verb agrees with the subject. In some ancient IE languages like Greek, Hittite, and Avestan, we observe that number agreement fails with plural subjects of the neuter gender. This is either due to persistance in the grammaticalisation process turning a collective affix into a plural marker, or to the fact that inanimate nouns do not neccessarily trigger verbal agreement (Melchert (2008)). In most ancient IE languages incongruencies can also be observed with the dual, but these phenomena seem to be based on developments within the attested languages (cf. Lühr (2000b)).

4.3 Adverbs and Preverbs

The ancient IE languages have a closed set of (mostly monosyllabic) local adverbs that can with confidence be reconstructed for PIE. The exact status of these adverbs, however, is a matter of debate.

They often occur in postposition-like configurations, where they follow a DP, which they seem to govern. There are two reasons for addressing them as actual postpositions governing DPs in a PP: (1) They form a closed set, which is typical for adpositions, but not for adverbs. (2) At least in later strata of the IE languages, they definitely qualify as adpositions.

However, other observations cast doubt on the PP-analysis: (1) In ancient IE languages with rich case systems, the DP they allegedly govern is always marked for a case, which, being inherent, is in itself associated with the intended local role in the argument structure (cf. below). Lexical case selected by the adposition is obviously a later development (cf. for Vedic Hettrich (1991)). (2) The DP is not neccessarily adjacent to its alleged governor, which typically immediately precedes the verb (cf. Watkins (1963)).

Further evidence against PIE postpositions comes from the fact that the same closed set of adverbs can be used to modify verbs. In the attested IE languages they developed into preverbs, but in the most ancient strata they were autonomous, as in a so-called tmesis configuration they did not form a morphological word with the verb they modified (cf. Hettrich (1991) and Pinault (1995)).

As in both contexts these local adverbs do not seem to be heads of complex projections (neither of PPs nor of morphologically complex verbs), it seems safe to take them as simple adverbs throughout (cf. Boley (1985) for Hittite, Horrocks (1981) for Greek, and Lehmann (1983) for Latin).

5 Case

5.1 Traditional approaches to case

Case has been studied extensively since the groundbreaking papers of Gaedicke (Gaedicke (1880)) and Delbrück (Delbrück (1869), (1888), and (1897)). The central aim of traditional studies on case is to isolate the prime semantics of a given case, which is subsequently identified with its original meaning. Uses not covered by the prime semantics are taken to be marked functions of the case derived from its core function. The most prominent exponent of this line of research today is Hettrich, who in a series of papers on Vedic developed what he calls a semasiological approach to case (Hettrich (1990), (1994), (2002), (2007)). Hettrich's research is based on three assumptions: (1) Only a semasiological approach can lead to an adequate picture of the function of a given case. (2) The meaning of cases can best be covered by prototype semantics. Hettrich argues for a prototypical or core meaning, which becomes less prominent the more marked the use of a case is. In his paper on the instrumental (Hettrich (2002)), he takes the various aspects of meaning to be features. (3) (Nearly) every occurrence of a given case must be based on its meaning. Even if he acknowledges syntactic factors for case selection, a case is hardly ever desemantisized completely. This approach faces various difficulties. One concerns semasiology: As we can never go beyond philological interpretation, the proposed semantic features tend to be arbitrary. In Hettrich (2002) the author tries to capture the difference between *VAH rát^{h}ena* and *VAH rát^{h}e* by assuming a semantic feature 'manageability'. Pace Hettrich, both the instrumental and the locative

denote a means (of transport), the choice of the latter being due to the fact that because of its size a cart is no "handhabbare[s] Mittel" (Hettrich (2002:55)).

As Vedic is a dead language this analysis cannot be falsified, but immediately an alternative comes to mind: In the two constructions at hand, instrumental and locative might denote different, non-overlapping, and discrete thematic roles: This phenomenon, known in the syntactic literature as alternative projection, goes back to the fact that the human mind has (at least) two possibilities to conceptualize one and the same event of cart-riding. The cart can be taken as a means of transport or as the place occupied while travelling. The first conceptual structure is expressed by the instrumental, the second by the locative. In this scenario the optionality is not part of the language (or the case system), it simply manifests different ways of conceptualizing the world. The feature 'manageability' is therefore dispensable (cf. below 5.3 on the strikingly similar problem with the "deux modèles" of Haudry (1977)).

Further difficulties for the traditional approach arise from the fact that certain data force us to separate argument structure from case (cf. the following section).

5.2 Argument structure and case

Following major insights into the interplay of argument structure and case gained in recent studies in a generative framework, I will here pursue a different approach, which is similar though not identical to the one first introduced into the realm of IE studies by Krisch (1984) (cf. Krisch (2006) and for an early attempt Dressler (1971:10-13)). The fundamental hypothesis of modern approaches to case is that the levels of case and thematic roles (the traditional semantics of cases) have to be kept strictly distinct. They form discrete tiers linked by grammar. I will distinguish conceptual structure (not to be discussed in this overview), argument structure, and the syntactic level, where case is assigned.

5.2.1 Evidence for argument structure

Empirical evidence for the neccessity of discerning discrete tiers comes from different types of intransitives. In the ancient IE languages, unergatives like PIE $*g^w em$ and unaccusatives like PIE $*b^h u eh_2$ are attested side by side. Both types have nominative-subjects, yet they differ in crucial ways that cannot be accounted for by a monostratal theory: Only unaccusatives allow for attributive deverbal -tó-adjectives, only unergatives on the other hand are attested with cognate object constructions (cf. Garrett (1996) on Hittite and Keydana (in print b) on Vedic). This difference is easily captured (and even predicted) by recourse to argument structure: Unergatives are subcategorised for an AGENT, unaccusatives (like passives) for a THEME (on thematic roles cf. Dowty (1991)). As both thematic roles surface in the same case, a monostratal theory could in no way account for these differences.

This approach is strengthened further by observations on the distribution of case. A major problem for the traditional semantic approach comes from the difficulty of assigning a plausible core meaning to a given case. A striking example is the nominative, which may denote at least AGENTS, THEMES, EXPERIENCERS. Subsuming this broad spectrum under the notion of 'Sachverhaltsträger' (Hettrich (2007)) is not neccessarily convincing, especially as the notion of 'Sachverhaltsträger' is not properly defined. Another example for the difficulties of the traditional approach is the accusative: Hettrich (2007) claims that it "bezeichnet eine gerichtete Strecke, die vom SV-Träger ausgeht und deren Endpunkt, Ausdehnung oder Verlauf von dem Begriff im A bestimmt wird." This is a possible characterisation of the directive accusative, but severe semantic bleachings are neccessary to turn it into the object accusative in an example like Vedic

(8) áhann áhim
     slew   dragon-ACC
     He slew the dragon. RV 1.32.1 and passim

Looking at nominatives and accusatives, a striking empirical generalisation arises: One case can be linked to various discrete thematic roles, and one thematic role can be assigned to various discrete cases.

In dealing with the interaction of argument structure and case, three types of case have to be distinguished: structural case, inherent case, and lexical case. All of them are manifest in the early IE languages. They must therefore be assumed for PIE, too.

5.2.2 Structural case

Structural case is assigned solely for syntactic reasons. Its association with a thematic role is arbitrary. The structural cases in the IE languages are the nominative, the accusative, and the genitive. The

nominative is the case syntactically assigned to the first (or external) argument of a verb in the subject position, independent of the underlying thematic role (cf. the active/passive alternation). The object accusative is syntactically assigned to the second (or internal) argument of a verb. In most cases this is the THEME, but again the linking between role and case remains arbitrary (it serves "lediglich zur Ergänzung des Verbs" in the words of Delbrück (1879:29)). The dependence of the object accusative on syntactic configurations alone can be seen from the active/passive alternation: Demoting the first argument always leads to a configuration in which the internal argument surfaces as a nominative subject. The (possessive) genitive is the structural (subject) case in the DP-domain. At least for Vedic, an investigation into event nominals (Keydana (2003)) showed that the genitive is always assigned in [Spec,DP]. The data suggest that with event nominals only one argument can be expressed and that this argument always surfaces as a genitive, independently of its thematic role (cf. also Dressler (1971:10)).

5.2.3 Inherent case

Inherent cases are inherently associated with some thematic role. The goal accusative (García Ramón (1995)) is a case in point: Following a long tradition, Hettrich (2007) tries to unify goal accusative and object accusative. But observations on passivisation advise caution: If the goal accusative were basically the same as the object accusative, both should behave alike syntactically. Yet they do not: Object accusatives can be passivized, goal accusatives cannot. In the framework proposed here, the reason for this is simple: Being inherently linked to the GOAL-role, the directional accusative does not surface as a nominative under passivisation, as inherent linking cannot be ousted by syntactic case assignment. Whatever reasons lead to the homonymy of structural object case and inherent goal accusative, in the attested IE languages these two avatāras of the accusative are discrete and have to be kept apart. We may conclude that this holds true for PIE, as well.

According to Hettrich (1994:112-113), a major challenge for any structural approach to case comes from double accusatives: "Wenn die Kasus in der Kernprädikation nur der Differenzierung von Aktanten dienen, dürfte ein bestimmter Kasus nicht zweimal vorkommen." But as his excellent survey of Greek and Vedic data shows the opposite is the case: His examples clearly hint at the validity of an approach distinguishing structural and inherent case. Verbs of 'taking away' in Homeric Greek often take two accusatives, one denoting the object taken away and one the person or location from which the object is taken. As Hettrich (1994:115) notes, the syntactic behaviours of both accusatives differ: Reduced constructions with only one accusative always lack that of the person or location, and in passivisation only the object taken away may surface in subject position. This is predicted in the approach defended here. Being the THEME, the object taken away is associated with structural case depending on the syntactic configuration. The person or location takes inherent goal accusative; its unability to passivize then is expected. Besides, constructions lacking the GOAL show that it is not part of the subcategorisation of the verb. In Vedic (and for the Greek verb συλάω 'to strip off') the picture is slightly more complicated as complement alternation can be observed. This is either due to argument demotion or to the fact that one and the same event may be conceptualized differently. However, the data again confirm the distinction between structural and inherent case, which is further strengthened by the fact that passivisation of double accusative constructions never leads to double nominatives.

Another case with a structural and an inherent avatāra is the genitive. Besides being the subject case in DPs (cf. above), it functions as a partitive. The partitive is of special interest as it can override structural case marking: Partitive genitives are attested in subject and object position.

The dative is the default case for the third argument, the BENEFICIARY, in double object constructions. As it cannot undergo passivisation in the old IE languages, however, it seems apt to assume that it is inherently linked to the BENEFICIARY-role. Pending further investigations, I conclude that it is an inherent case. As is true for many other languages, the dative of the old IE languages covers both BENEFICIARY and EXPERIENCER, two roles that might ultimately be linked.

Other inherent cases are the instrumental, the locative, and the ablative. They all are associated with fixed thematic roles. For an excellent overview of the Vedic data cf. Hettrich (1995), (2002), (2007).

5.2.4 Lexical case

The third type of case that can be found in old IE languages and should hence be reconstructed for PIE, is lexical case. Lexical case is idiosyncratic. It is lexically selected and licensed by lexical heads. This is most obvious in non-predictable case-assignments in the subcategorisation frames of verbs, for example in the genitive assigned to the THEME of Greek κελεύω or the case assigned to the THEME of Vedic KAR^I (data on verbal subcategorisation in Vedic can be found in Hettrich (2007)). In these instances, searching

for an original motivation for the selection of a given case is futile: As lexical case exists in all attested languages, assuming a different situation for PIE would amount to glottogonical speculation.

5.3 Further topics in the study of IE case

As most cases that can be reconstructed for PIE have various functions in the attested languages, it seems feasible to ask for the "Ursprungsbedeutung", as do Delbrück (1893) and various later scholars. However, this quest seems to be rather futile. A case in point is the instrumental, which is attested with instrumental and sociative meaning (for the instrumental of the agent with passives cf. Jamison (1979b), (1979a), and Luraghi (1986b)). While some authors are reluctant to assign one proto-meaning to the instrumental (Delbrück (1888:122) opts for the rather general description of a "Begriff, welcher mit dem in Thätigkeit befindlichen Hauptbegriff zusammen ist", Hettrich (2002:46) restricts himself to a mere synchronic statement concerning Vedic, where according to him the instrumental proper is the prime function), others argue that in PIE the instrumental was associated with the role of the INSTRUMENT only, the sociative being a later development. However, in a careful study Strunk (1993:859) has shown that this question cannot be decided upon, as "zumindest in seiner Rolle als 'Soziativ' muß schon der vorgeschichtliche Instrumental auch auf belebte Wesen anwendbar gewesen sein". The claim of Haudry (1977) that the instrumental was originally the object case can be dismissed (cf. Cardona (1978 [1979])). The complement alternation observed by the author is either a case of argument demotion (cf. the *spray/load*-alternation in English) or of alternative projection.

This matter is further illustrated by the genitive, which has the two functions described above, viz. the partitive and that of denoting the subject in DPs. Authors like Delbrück (1893) or Serbat (1992) argue for the precedence of the partitive function. Serbat (1992:289-290) explains the development of the structural genitive as a reanalysis in which partitivity still persists even in NPs like Latin *equus consulis*. Stipulations like these are meaningless, though, since both functions, the partitive and the structural one, are attested in the earliest strata of the ancient IE languages: External reconstruction therefore cannot decide on the priority of one over the other.

As for the accusative, most authors take the function associated with GOAL to be oldest (cf. Hettrich (1994), Hewson & Bubenik (2006)), based on a tendency to take developments from concrete to abstract as more plausible than vice versa. Boel (1988) argues against this and states that at least in Homeric Greek the goal accusative is a later development.

Many early IE languages show case syncretism. As in most of them remnants of more complex case systems can be found (cf. Delbrück (1907), Hettrich (1985), Luraghi (1986a), and the rather enigmatic Hewson & Bubenik (2006)), it cannot be doubted that the PIE case system was as rich as that of Vedic, even if some of the inherent cases may have been heavily restricted as to gender and number (cf. Risch (1980)).

One last issue to be mentioned here is a peculiarity of the vocative: In invocations with more than one addressee in Vedic, Avestan, and Homeric Greek, only the first word occurs in the vocative, the one after it bears nominative case (cf. Vedic *vávav índraś ca* 'Vāyu and Indra!' and Homeric Ζεῦ πάτερ ... Ἠέλιός θ' 'Father Zeus and sun!'). Cf. Zwolanek (1970).

For a discussion of possible pre-IE case systems cf. above.

6 Latent arguments

6.1 Small pro

Latent arguments exist in all ancient IE languages. They should therefore also be reconstructed for PIE. Evidence for latent subjects and objects as well as descriptions of their distribution can be found in Luraghi (1997), (2003), and Keydana (in print a).

6.2 PRO and control

Latent subjects of infinitive phrases in Vedic have been examined by Keydana (2003). Control is discussed in section 9.3.

7 Binding

Binding has up to now not been studied from an IE perspective (in her study on anaphoric pronouns in Vedic, Kupfer (2002) is concerned with pronouns in Binding Principle B conditions only; in her extensive study of Gothic reflexives, Ferraresi (2005:77-124) examines differences in word order between *sik* and *sik silban*, but not binding). Speyer (in print a) discusses binding in early Attic. He concludes that only complex reflexives are subjected to Principle A. Morphologically simple ones are predominantly used in local binding configurations, but they may occur with disjoined reference, too. Vedic seems to be similar, as the possessive reflexive again is not restricted to Principle A contexts (only *svayám* is always reflexive). Cf.

(9) téb^{h}iḥ   sākám pibatu   vṛtrak^{h}ādáḥ   sutáṃ   sómaṃ
    they-INSTR.PL together shall drink devourer of Vṛtra-NOM pressed-ACC soma-ACC

dāśúṣaḥ   své   sad^{h}ást^{h}e
worshipper-GEN own-LOC home-LOC

With them together let the devourer of Vṛtra drink the pressed soma in in the worshipper's own home. RV 3.51.9

It seems reasonable to conclude that in the early IE languages – and probably PIE, too – Principle A was not a grammatical constraint. Rather, the early IE languages seem to fit nicely into a picture developed by Levinson (2000:347-348), who distinguishes three stages in the development of reflexives (cf. also Mattausch (2004)): Stage one languages have only one sort of anaphora; disjoined reference is preferred, but merely on pragmatic grounds. Stage two languages have emphatic pronouns, which gradually replace regular pronouns in locally bound contexts. Stage three finally has fully developed reflexives, which are historically derived from emphatics. Although it is impossible to show that PIE *$s\underset{\frown}{u}o$- (and probably *se) was originally an emphatic pronoun, PIE and its daughters seem to be stage two languages: They have a pronoun that is predominantly used in reflexive contexts. Other pronouns are typically used in Principle B conditions, but may also be used in reflexive contexts. In other words, binding in PIE and the early IE languages was probably a pragmatic phenomenon and not fully grammaticalized. Further investigations into binding in the ancient IE languages are neccessary to evaluate this proposal.

The role of logophoricity and the possibility of long distance anaphora in the oldest IE languages have not yet been studied (but cf. again Speyer (in print a) for Attic).

8 Copula constructions

In the ancient IE languages predicates of finite sentences do not obligatorily have to be verbs. Other possible predicates are nouns, adjectives, and adverbial phrases. These may be accompanied by a copula, but the copula is not mandatory: It can be omitted, especially in the present tense. An overview of the semantic types of predicative copula constructions in Vedic can be found in Keydana (2000). Balles (2006) argues for telic copula sentences in PIE based on *-ih_1-instrumentals and the verb *d^heh_1, which are reflected in the Vedic Cvi-forms and Latin verbs like *calefaciō*. Lühr (2007) extends the notion of copula to verbs like τυγχάνω construed with a present participle and shows that similar constructions can be found in Vedic, too. She takes them to be an inner-Vedic development marking progressivity.

A special type of copula construction is the expression of alienable possession with the so called *mihi est* construction in ancient IE languages like Latin, and, to a lesser degree, Greek, Vedic, Tocharian, and others. Cf. Benveniste (1960) and the data given by Bauer (2000:197-221) (whose hypothesis that the *mihi est* construction dates back to a pre-IE layer, is highly speculative).

9 Subordination and embedding

If a syntactic structure is hierarchically connected to another syntactic structure and does not by itself constitute a well-formed utterance, it is called subordinate.

As Kiparsky (1995:155) has shown, in the early IE languages two types of subordination were used. In the first type, the subordinate structure (typically a participial or infinitival phrase) is truly embedded: It fills an argument or modifier position in the embedding sentence. This type of subordination is clearly syntactical.

(10) kāša=šmaš=kan parkuin mišriwantan ḫarkin $^{\mathrm{GIŠ}}$GIDRU _ūl_ walḫantan   UDU-un
      PTL-you-PTL   pure-ACC gleaming-ACC white-ACC rod-ACC not hit-PART.ACC sheep
      šipantaḫḫun
      I sacrificed

      Behold I have sacrificed for you a pure, gleaming white sheep never struck with a rod. KBo 15.10 + KBo 20.42 ii 8-10

(11) tvám   indra srávitavá apás   kaḥ
      you-NOM Indra flow-INF   water-ACC.PL make
      You, Indra, make the waters flow. RV 7.21.3

In the second type, the subordinate predication is finite. Finite subordinate clauses are adjoined to the clause they depend on (cf. for Hittite Garrett (1994) and Probert (2006), the latter claiming that adjunction is at least partly due to reanalysis and therefore a later development). They are typically coindexed with a correlative pronoun or adverb in argument or modifier position. Evidence for adjunction comes from the already mentioned obligatory correlatives and the fact that the head of a relative sentence often is part of it. Cf. the following example, taken from Lühr (2000a:74):

(12) yó   mártyaḥ   śíśīte   áty   aktúb$^{\mathrm{h}}$ir mā́ naḥ sá   ripúr
      which-NOM mortal-NOM makes himself sharp too much at night not us   this-NOM imp-NOM
      īśata
      shall have power

      The mortal, who makes himself too sharp at night, this imp shall not have power over us. RV 1.36.16

In this example, the argument position in the embedding sentence is filled by _sá_ (with non-referential _ripúḥ_), which is anaphoric to _yó mártyaḥ_ in the relative clause. Similar structures occur with other types of subordination, where they are less dominant. Cf.

(13) yadā́ śṛtáṃ   kṛṇávo jātavedó 'th em   enam   prá hiṇutāt pitṝ́b$^{\mathrm{h}}$yaḥ
      wenn done-ACC you made Jātavedas then-PTL him-ACC to release father-DAT.PL
      When you have made him done, Jātavedas, then release him to the fathers. RV 10.16.1

These sentences are not syntactically dominated by the embedding main clause, rather their dependency is possibly a matter of discourse grammar. Constructions of this type are frequent in Vedic, Hittite, and Old Latin (cf. Haudry (1973), Calboli (1987), Luraghi (1990)). Although they are not prominent in Greek (not even in Mycenean, cf. Ruipérez (1997:528-529)), it seems plausible to reconstruct them – at least in the realm of relative clauses – for PIE.

In Vedic subordinate sentences are marked by an accented finite verb in contrast to an unaccented one in main clauses (for a more complex – but highly tentative – picture cf. Lühr (2008) and (in print), who claims that Vedic verbal accent also marks (and even distinguishes) new information focus and contrastive focus).

9.1 Relative clauses

All ancient IE languages have relative clauses, both in restrictive (RRS) and appositive (ARS) use (Held (1957), Hettrich (1988)). RRS restrict the reference of their head, which is typically part of the RRS (it may be noteworthy that there is evidence that heads of RS in modern languages originate inside the RS, too, cf. Kayne (1994), Bhatt (2002)). RRS normally precede their main clause. As described above, their argument or modifier position in the main clause is filled by a correlative anaphoric pronoun. The serialisation of main and subordinate clause comes as no surprise. To put it into the parlance of Discourse Representation Theory, it is the RRS which introduces the discourse referent and the prime condition on it (via the head). The identity condition is introduced by the anaphor in the main clause (this situation differs fundamentally from that in modern languages like German or English, where the identity condition comes with the relative; the term "präsupponierende Relativsätze" coined by Lühr (2000a:78) is therefore misleading). This sentence type occurs in Hittite, the Indo-Iranian languages, Greek, Latin and a few others, and they can confidently be reconstructed for PIE. As Hajnal (1997) argues, restrictive relative sentences were a means for marking definite determination.

ARS add information about the referent of their head without restricting it further. As Hettrich (1988) shows for the language of the Rigveda, roughly 30% of the ARS precede the embedding sentence,

while 60% follow it. Referring to Lehmann (1980), Hettrich (1988) concludes that originally the ARS always followed, but evidence for this assumption is not available. On discourse structural grounds, one could argue that the serialisation is of no importance for processing, so that it may always have been optional.

The reconstruction of the relative pronoun itself is more difficult: Hittite and Latin continue the $*k^wi$-/k^wo-relative, other languages like Greek and Indo-Iranian show $*H\hat{\imath}o$-. No attested language uses both (although in Celtic, which continues $*k^wi$-/k^wo-, remnants of $*H\hat{\imath}o$- can be found, cf. Schmidt (1976 [1977])). The communis opinio follows Lehmann (1980) in assuming that $*k^wi$-/k^wo- was originally restricted to RRS, while $*H\hat{\imath}o$- was used in ARS (cf. Hettrich (1988:744-790)). This neat distinction is certainly very attractive, but Klein (1990:90) correctly alluded to the fact that this "hypothesis, as it stands, is virtually unfalsifiable."

Since Lehmann (1980) communis opinio has it that $*k^wi$-/k^wo- was originally an indefinite pronoun. As authors like Hettrich (1988:505), Klein (1990:90), and Hajnal (1997:50) argue, the fact that it regularly occurs in second position betrays its origin as an enclitic indefinite. However, this interpretation of the linearisation of Old Latin and Hittite relative sentences (where the relative pronoun always occupies second position in RRS) is not compelling. Cf. the following examples:

(14) agrum quem vir   habet, tollitur.
      land   which man owns   is taken away

      The land that a man owns is taken away. Cato or.frg.32,3

(15) pēdi=ma=kan   kuē   KUR.KUR^MEŠ daliyanun nu=šmaš ZAG^HI.A-uš teḫḫun
      place-LOC-PTL-PTL which lands   I left   PTL-those borders   I fixed

      And for those lands that I left at their place, I fixed the borders. Kup §3 D 16f.

The word in initial position is obviously the most salient one in the sentence (cf. on Hittite Lühr (2001)). We may conclude that it occupies the DF-slot identified above, while the relative pronoun is most probably in [Spec,CP]. Remember that the same linearisation is frequent in Vedic, which has a $*H\hat{\imath}o$-relative. In the scenario discussed here, this pronoun must have superseded the original $*k^wi$-/k^wo-, which some time before grew out of an indefinite pronoun. To account for the word order one has to assume that second position was transmitted all the way from the indefinite to $yá$- at least optionally. This scenario certainly is possible, as persistence often prevails in grammaticalisation processes, but it seems less costly to assume that in Vedic, too, the placement of the relative is determined by synchronic grammar. I conclude, then, that there is no evidence for the development of relative $*k^wi$-/k^wo- out of an indefinite pronoun. We should also bear in mind that such a development is not attested; rather the indefinite builds on the interrogative, cf. Latin *quis quis*, Hittite *kuiški*, or Vedic *káś cid*.

The origin of the $*H\hat{\imath}o$-relative is obscure. It seems to be isolated in the PIE lexicon (cf. Hettrich (1988)).

9.2 Subordinate clauses

A complementizer which might be of PIE origin is $*k^we$. It is attested as a complementizer in subordinate sentences in Hittite (*(k)ku*, *takku*, cf. Eichner (1971)), Vedic (*ca*, cf. Klein (1985:238ff.), (1990), Hettrich (1988:250-260)), Gothic (*-h*), and maybe in Greek and Latin (cf. Wackernagel (1942), Wagner (1967)). Szemerényi (1985), Hettrich (1988:260) and others take this use of $*k^we$ to be of PIE origin. Klein (1990:93), probably overestimating the triviality of turning a conjunction into a complementizer, argues for independent developments in the early IE languages. With Klein (1990:93, fn.14) and against Szemerényi (1985), derivation from an instrumental relative $*k^weh_1$ is not likely. Correlative adverbs with *ca* are very rare in the Vedic data. The Hittite material confirms this observation: Subordinating *(k)ku* and *takku* are never taken up by a correlative in the embedding sentence.

Other complementizers developed out of relatives (Vedic *yád*, Greek ὅτι, Latin *cum*, *quod*, Hittite *kuit*, Old Church Slavonic *iže*, Gothic *þatei* etc.). As they all show language dependent idiosyncracies, they must have developed in post-PIE times. Later developments like Russian *čto*, German *dass*, or English *that* are based on interrogatives or demonstratives in relative use, cf. Kayne (2008).

9.3 Infinitives

Infinitives are attested in all early IE languages. The infinitive on $*$-*sen(i)*, which is based on a reanalysis of an event nominal, is clear evidence for the PIE age of the infinitive: For morphological and case

theoretical reasons it cannot have developed independently in Greek and Vedic (Stüber (2000), Keydana (2003)). Hence, the infinitive is old. As the case of the event nominalisations reanalyzed into infinitives in the early languages shows, they were probably adjuncts. Keydana (2003) shows that their subject is always latent. Adjunct infinitives occur in two constructions in the old IE languages: purpose clauses (with free control of their subject) and rationale clauses (where the subject of the infinitive is always correferent with the subject of the embedding sentence). Both types can be assumed for PIE, as well. Other uses of the infinitive such as the infinitive complement, the AcI, the predicative infinitive, and the matrix infinitive are later developments (on the AcI cf. Lühr (1993), and Hettrich (1997)). The evolution of the infinitive in the attested IE languages (especially that of the various formal means used and the relation to verb stems) cannot be discussed in this survey (for a rather simplistic view cf. Disterheft (1997), for Vedic Keydana (2003)).

9.4 Absolute constructions

Absolute constructions can be found in most old IE languages with the exception of Hittite. Their lack of attestation in the oldest strata of some languages is probably due simply to the literary genre (on the question of absolute constructions in the Rgveda cf. Keydana (1997:97) and Ziegler (2002)). For those languages whose tradition starts with or is restricted to bible translations, it is impossible to decide whether the absolute construction is a calque or not. As Keydana (1997:293-302) showed, at least in Gothic the absolute construction was probably not autochthonous.

Absolute constructions denote an event contingent on the one expressed by the sentence in which they are embedded. The most striking fact about them is that despite their event semantics, they are NPs headed by a noun denoting a participant in the event, while the participle denoting the event itself is dependent and congruent with this noun. Absolute constructions are always marked for a case that is used with adverbials, preferably an inherent case denoting LOCATION. As the case systems of the old IE languages differ fundamentally, this case is always language dependent. It comes as no surprise, then, that the cases used differ, even in a language like Gothic relative to the potential Greek source. Keydana (1997:319-321) showed that (against Bauer (2000)) absolute nominatives are not attested in the early languages.

Keydana (1997) explains the rise of absolute constructions in the context of various strategies of embedding in languages with a fully developed system of participles and a less developed system of embedded finite sentences. In his account, absolute constructions can be explained on the basis of the syntactic structures found in the early IE languages. Bauer (2000) takes the absolute construction as evidence for pre-IE as an active language (cf. above). In her analysis the absolute construction is a remnant of a system where transitivity was not grammaticalized. As Bauer (2000) does not give evidence for absolute constructions in attested active languages and has to rely on rather bold hypotheses on the nature of pre-IE, the scenario developed by Keydana (1997), though much less ambitious, seems preferable.

As the conditions for developing absolute constructions were possibly fulfilled in PIE, Keydana (1997:34) concludes that this type of embedding can tentatively be reconstructed. The case used to mark absolute constructions was most probably the locative.

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