

APPENDIX I. PROTO-INDO-EUROPEAN SYNTAX

I.1. THE SENTENCE

A Sentence is a form of words which contains a Statement, a Question, an Exclamation, or a Command.

- a. A sentence in the form of a Statement is called a Declarative Sentence: as, *the dog runs*.
- b. A sentence in the form of a Question is called an Interrogative Sentence: as, *does the dog run?*
- c. A sentence in the form of an Exclamation is called an Exclamatory Sentence: as, *how fast the dog runs !*
- d. A sentence in the form of a Command, an Exhortation, or an Entreaty is called an Imperative Sentence : as, *go, run across the Alps; or let the dog run*.

NOTE. After Lehman (1974), “*The fundamental order of sentences in PIE appears to be OV. Support for this assumption is evident in the oldest texts of the materials attested earliest in the IE dialects. The fundamental order of sentences in these early dialects cannot be determined solely by frequency of sentence patterns. For, like other linguistic constructions, sentence patterns manifest marked as well as unmarked order. Marked order is expected in literary materials. The documents surviving from the earliest dialects are virtually all in verse or in literary forms of prose. Accordingly many of the individual sentences do not have the unmarked order, with verb final. For this reason conclusions about the characteristic word order of PIE and the early dialects will be based in part on those syntactic patterns that are rarely modified for literary and rhetorical effect: comparative constructions, the presence of postpositions and prepositions, and the absence of prefixes, (...)*”.

Lehman is criticized by Friedrich (1975) who, like Watkins (1976) and Miller (1975), support a VO prehistoric situation, probably SVO (like those found in ‘central’ IE areas), with non-consistent dialectal SOV findings. In any case (viz. Lehman and Miller), an older IE I or IE II OV (VSO for Miller) would have been substituted by a newer VO (SOV for Miller, later SVO through a process of verb transposition) – thus, all Indo-European dialects attested have evolved (thus probably from a common Late PIE trend) into a modern SVO.

Modern Indo-European, as a modern IE language, may follow the stricter formal patterns attested in the oldest inscriptions, i.e. (S)OV, as in Vedic Sanskrit, Ancient Greek, Old Latin and Avestan. A newer, general (S)VO order (found in Greek, Latin, Avestan, Germanic, etc.), which reveals the change from OV in Early PIE towards a VO in Late PIE for the spoken language of Europe – and even some forms of literary uses, as e.g. journalism – could be used in non-formal contexts.

I.1.1. KINDS OF SENTENCES

PIE sentences were either Nominal, i.e. formed by nouns, or Verbal, if they included a verb.

I. A Subject and a Predicate. The Subject of a sentence is the *person or thing spoken of*. The Predicate is *that which is said* of the Subject.

a. The Subject is usually a Noun or Pronoun, or some word or group of words used as a Noun.

b. The Predicate of a sentence may be a Verb (as *the dog runs*), or it may consist of some form of **es** and a Noun or Adjective which *describes* or *defines* the subject (as *It is good*). Such a noun or adjective is called a Predicate Noun or Adjective.

II. In Proto-Indo-European, simple sentences may be composed of only one word, a noun or a verb; as, *God!*, or *(it) rains*.

NOTE 1. Nominal sentences of this type are usually Interjections and Vocatives. Verbal sentences of this type include Imperatives (at least of 2nd P.Sg.) and impersonal verbs, which had never a subject in the oldest dialects attested; as, for Eng. *(it) rains*, cf. Goth. *rigneihþ*, Lat. *pluit*, Gk. *ὔει*, Skt. *várṣati*. It is believed that when IE dialects became SVO in structure, so that a subject was required, the third singular anaphoric pronoun, corresponding to *it*, German *es*, French *il*, etc., was introduced as subject in such sentences. Such pronouns were introduced because SVO languages must have subjects in sentences, as do intransitive verbs in any OV language. Such verbs could be supplemented by substantives in various cases, among them the accusative. These constructions are especially prominent for verbs referring to the emotions; as, Lat. *miseret*, *pudet*, *taedet*, Skr. *kitavāṃ tatāpa*. Compare also Cicero's Lat. *eōrum nōs miseret*, or O.H.G. *thes gānges thih nirthrúzzi*. In PIE sentences various case forms could be used with verbs. The simplest sentences may consist of verbs accompanied by nouns in seven of the eight cases; only the vocative is not so used. The nouns fill the role of objects or, possibly better stated, of complements.

NOTE 2. Besides the simple sentence which consists only of a verb, a simple sentence in the early dialects and in PIE could consist of a verb accompanied by a noun or pronoun as complement. A subject however wasn't mandatory. Nor were other constructions which may seem to be natural, such as indirect objects with verbs like 'give'. The root **dō-* or in its earlier form **deH-* had in its simplest sense the meaning 'present' and was often unaccompanied by any nominal expression (Lehman).

I.1.2. NOMINAL SENTENCE

Nominal sentences, in which a substantive is equated with another substantive, an adjective, or a particle, make up one of the simplest type of sentence in PIE.

NOTE 1. Such a type of sentence is found in almost every IE dialect; cf. Hitt. *attaš aššuš*, "the father (is) good", Skr. *tvāṃ váruṇa*, "you (are) Varuna", O.Pers. *adam Dārayavauš*, "I (am) Darius", Lat. *omnia praeclara rara*, "all the best things (are) rare", etc. In all dialects, however, such sentences were restricted in its use to a especially formal use or, on the contrary, they are found more often than originally in PIE. Thus, in Latin and Germanic

dialects they are found in proverbs and sayings, as in Old Irish; in Greek it is also found in epic and poetry. However, in Balto-Slavic dialects the pure nominal sentence has become the usual type of nominal sentence, even when the predicate is an adverb or an adverbial case. However, such a use, which is more extended in modern dialects (like Russian) than in the older ones (as Old Slavic), is considered the result of Finno-Ugric influence.

NOTE 2. In the course of time a nominal sentence required a verb; this development is in accordance with the subjective characteristic of PIE and the endings which came to replace the individual qualifier markers of early PIE. The various dialects no longer had a distinct equational sentence type. Verbs might of course be omitted by ellipsis. And, remarkably, in Slavic, nominal sentences were reintroduced, as Meillet has demonstrated (1906-1908). The reintroduction is probably a result of influence from OV languages, such as the Finno-Ugric. This phenomenon illustrates that syntactic constructions and syntactic characteristics must be carefully studied before they can be ascribed to inheritance. In North Germanic too an OV characteristic was reintroduced, with the loss of prefixes towards the end of the first millennium A.D. (Lehmann 1970). Yet in spite of these subsequent OV influences, nominal sentences must be assumed for PIE.

A. There are traces of Pure Nominal Sentences with a predicate made by an oblique case of a noun or a prepositional compound, although they are not common to all Indo-European dialects.

NOTE. Apart from Balto-Slavic examples (due to Finno-Ugric influence), only some isolated examples are found; cf. Skr. *havyaír Agnír mánuṣa írayádhyai*, “Agni must be prayed with the sacrifices of men”, Gk. *pàr hépoige kai hálloi oi ké mé timḗsousi*, “near me (there are) others who [particle] will praise me” (Mendoza).

B. In addition to such expansions by means of additional nouns in nonrequired cases, sentences could be expanded by means of particles.

NOTE. For Lehman, three subsets of particles came to be particularly important. One of these is the set of preverbs, such as *ā*. Another is the set of sentence connectives, such as Hitt. *nu*. The third is the set of qualifier expressions, e.g., PIE *mē* ‘(must) not’. An additional subset, conjunctions introducing clauses, will be discussed below in the section on compound clauses.

Preverbs are distinctively characterized by being closely associated with verbs and modifying their meaning. In their normal position they stand directly before verbs (Watkins 1964).

Generally, thus, Concordance governed both members of the Pure Nominal Sentence.

NOTE. Unlike the personal verb and its complements (governed by inflection), the Nominal Sentence showed a strong reliance on Concordance between Subject and Predicate as a definitory feature: both needed the same case, and tended to have the same number and gender.

THE COPULATIVE VERB

The copulative verb **es** is only necessary when introducing late categories in the verbal morphology, like Time and Mood. Therefore, when the Mood is the Indicative, and the Time is neuter (proverbs without timing, or Present with semantic neuter) there is no need to use *es*.

NOTE 1. The basic form of nominal sentences has, however, been a matter of dispute. Some Indo-Europeanists propose that the absence of a verb in nominal sentences is a result of ellipsis and assume an underlying verb **es-** ‘be’ (Benveniste 1950). They support this assumption by pointing to the requirement of such a verb if the nominal sentence is in the past tense; cf. Hitt. *ABU.ĪA genzuu_ualaš ešta*, “*My father was merciful*”. On the contrary, Meillet (1906-1908), followed by Lehman and Mendoza, thought that nominal sentences did not require a verb but that a verb might be included for emphasis. This conclusion may be supported by noting that the qualifiers which were found in PIE could be used in nominal sentences without a verb. As an example we may cite a Hittite sentence which is negative and imperative, *1-aš 1-edani menahhanda lē idāluš*, “*One should not be evil toward another one*”. Yet, if a passage was to be explicit, a form of **es** could be used, as in Skr. *nákir indra tvád úttaro ná jyáyān asti*, “*No one is higher than you, Indra, nor greater*”.

NOTE 2. On the original meaning of **es**, since Brugmann (1925) meant originally “*exist*” hence its use as a copulative verb through constructions in which the predicate express the existence of the subject, as in Hom. Gk. *eím Oduseús Laertiádes*, “*I am Odisseus, son of Laertes*” (Mendoza). In PIE times there were seemingly other verbs (with similar meanings of ‘*exist*’) which could be used as copulatives; compare IE **bhū**, “*exist, become, grow*” (cf. O.Ind. *bhávati*, or as suppletives in Lat. past *fui*, O.Ir. *ba*, O.Lith. *búvo*, fut. *bùs*, O.C.S. impf. *bease*, etc.), Germanic **wes**, ‘*live, dwell*’.

I.1.3. VERBAL SENTENCE

The most simple structure of the common Indo-European sentence consists of a verb, i.e. the carrying out of an action. In it, none of the verbal actors (Subject and Object) must be expressed – the subject is usually not obligatory, and the object appears only when it is linked to the lexical nature of the verb.

NOTE. The oldest morphological categories, even time, were expressed in the PIE through lexical means, and many remains are found of such a system; cf. Hitt. *-za* (reflexive), modal particles in Gk. and O.Ind., modal negation in some IE dialects, or the simple change in intonation, which made interrogative or imperative a declarative sentence – in fact, the imperative lacks a mark of its own.

The relationship between the Subject and the Object is expressed through the case.

There is no clear morphological distinction between transitive and intransitive verbs in Proto-Indo-European.

NOTE. Some Indo-European dialects have specialized some verbal suffixes as transitives (causatives) or intransitives, as Gk. *-en*, Gmc. *-io*, Lat. *-a*, etc., while in some others a preverb combined with a verbal root makes the basic verb transitive or intransitive.

When subjects are explicitly expressed, the nominative is the case employed.

NOTE. Expression of the subject is the most prominent extension of simple sentences to include more than one substantival expression. Besides such explicit mention of the subject, predicates may consist of verbs accompanied by two or more nouns, in cases which supplement the meanings of the verbs (v.i.). Such constructions must be distinguished from the inclusion of additional nouns whose case forms indicate adverbial use.

Few verbs are mandatorily accompanied by two nouns.

1. the use of the dative in addition to the accusative, as in Skr. *tābhiām enaṃ pári dehi*, ‘Give him over to those two’.

2. the instrumental and ablative, as Skr. *áhan vṛtrám ... índro vājreṇa*, ‘Indra killed ... Vṛtra with his bolt’. Skr. *tvám dáśyūṃś ókaso agna ājah*, ‘You drove the enemies from the house, O Agni.’

NOTE. While the addition to these sentences which is indicated by the nouns in the instrumental and the ablative is essential for the meaning of the lines in their context, it does not need to be included in the sentence for syntactic reasons.

3. The causative accompanied by two accusatives, as Skr. *devāñ ũsataḥ pāyayā havīḥ*, ‘Make the desiring gods drink the libation’.

In such sentences the agent-accusative represents the object of the causative element: as Arthur A. Macdonell indicated (1916), in a corresponding simple sentence this noun would have been given in the nominative, as Skr. *devā havīḥ pibanti*, ‘The gods drink the libation’.

Accordingly a simple verb in PIE was at the most accompanied by one substantive, unless the additional substantive was complementary or adverbial.

LOCAL CASES: PREDICATES WITH TWO OR MORE SUBSTANTIVES

Nonmandatory case forms are found in great variety, as may be determined from the studies of substantival inflections and their uses. Five groups of adverbial elements are identified: (1) circumstance, purpose, or result; (2) time; (3) place; (4) manner; (5) means.

1) Additional case forms may be used to indicate the Purpose, Result, or Circumstance of an action.

So e.g. the Instrumental in Skr. *mṛḥáyā naḥ suastí*, ‘Be gracious to us for our well-being’.

The Dative was commonly used in this sense, as in the infinitival form Skr. *prá ṇa áyur jīvāse soma tāriḥ* ‘Extend our years, soma, for our living [so that we may live long].’,

NOTE. Cf. Hitt. *nu-kan ṁNana-Luin kuin DUMU.LUGAL ANA ṁNuwanza haluki para nehun*, ‘and the prince NanaLUiś whom I sent to Nuwanza to convey the message’ where Hittite dative noun *haluki*. (Raman 1973).

When an animate noun is involved, this use of the dative has been labeled the indirect object; as, Skr. *riṇákti kṛṣṇī raṇuśáya pánthām*, ‘Black night gives up the path to the red sun’.

NOTE. As these examples may indicate, the dative, like the other cases, must be interpreted with reference to the lexical properties of the verbal element.

2) A further adverbial segment in sentences indicates the Time of Occurrence. The cases in question are various, as in Skr. *dívā náктаṃ śárum asmád yuyotam*, ‘By day and during the night protect us from the arrow’.

NOTE. The nominal form *dīvā*, which with change of accent is no longer an instrumental but an adverbial form outside the paradigm, and the accusative *náktam* differ in meaning. The instrumental, like the locative, refers to a point in time, though the “*point*” may be extended; the accusative, to an extent of time. Differing cases accordingly provide different meanings for nouns marked for the lexical category *time*.

3) Nouns indicating Place also differ in meaning according to case form:

A. The Accusative indicates the goal of an action, as in Lat. *Rōmam īre* ‘go to Rome’, Hitt. *tuš alkištan tarnahhe* ‘and those (birds) I release to the branch’ (Otten and Souček 1969:38 § 37).

B. The Instrumental indicates the place “over which an action extends” (Macdonell 1916: 306): *sárasvatyā yānti* ‘they go along the Sarasvatī’.

C. The Ablative indicates the starting point of the action: *sá ráthāt papāta* ‘he fell from his chariot’; and the following example from Hittite (Otten and Souček 1969): *iššaz (š)mit lālan AN.BARaš [d]āi*, ‘He takes the iron tongue out of their mouths.’

D. The Locative indicates a point in space, e.g., Skt. *diví* ‘in heaven’ or the locative *kardi* in the following Hittite example (Otten and Souček): *kardi-šmi-ja-at-kán dahhun*, ‘And I took away that [illness which was] in your heart’.

Nouns with lexical features for place and for time may be used in the same sentence, as in Skr. *ástam úpa náktam eti*, ‘He goes during the night to the house’. Although both nouns are in the Accusative, the differing lexical features lead to different interpretations of the case. In this way, inflectional markers combine with lexical features to yield a wide variety of adverbial elements.

4) Among the adverbial elements which are most diverse in surface forms are those referring to Manner. Various cases are used, as follows.

A. The Accusative is especially frequent with adjectives, such as Skt. *kṣiprám* ‘quickly’, *bahú* ‘greatly’, *nyák* ‘downward’.

B. The Instrumental is also used, in the plural, as in Skt. *máhobhiḥ* ‘mightily’, as well as in the singular, *sáhasā* ‘suddenly’.

Similar to the expression of manner is the instrumental used to express the sense of accompaniment: Skr. *devó devébhir āgamat*, ‘May the god come [in such a way that he is] accompanied by the other gods’.

C. The Ablative is also used to express manner in connection with a restricted number of verbs such as those expressing ‘fear’: *rējante víśvā kṛtrímāṇi bhīṣā*, ‘All creatures tremble fearfully’.

5) Adverbial expressions of Means are expressed especially by the instrumental; as, Skr. *áhan vṛtrám ... índro vājreṇa*, ‘Indra killed ... Vṛtra with his bolt.’ The noun involved frequently refers to an instrument; cf. Hitt. *kalulupuš šmuš gapinit hulaliemi*, ‘I wind the thread around their fingers’.

Animate nouns may also be so used. When they are, they indicate the agent: *agnínā turváṣaṃ yádum parāváta ugrá devaṃ havāmahe*, ‘Through Agni we call from far Turvasa, Yadu, and Ugradeva’. This use led to the use of the instrumental as the agent in passive constructions.

I.2. SENTENCE MODIFIERS

I.2.1. INTONATION PATTERNS

The sentence was characterized in PIE by patterns of Order and by Selection.

A. Selection classes were determined in part by inflection, in part by lexical categories, most of which were covert.

NOTE. Some lexical categories were characterized at least in part by formal features, such as abstract nouns marked by *-ti-*, nouns in the religious sphere marked by *-u-* and collectives marked by **-h*.

B. In addition to characterization by means of order and categories of selection, the sentence was also delimited by Intonation based on variations in pitch.

To the extent that the pitch phonemes of PIE have been determined, a high pitch may be posited, which could stand on one syllable per word, and a low pitch, which was not so restricted.

NOTE. The location of the high pitch is determined by Lehman primarily from the evidence in Vedic; the theory that this was inherited from PIE received important corroboration from Karl Verner's demonstration of its maintenance into Germanic (1875). Thus the often cited correlation between the position of the accent in the Vedic perfect and the differing consonants in Germanic provided decisive evidence for reconstruction of the PIE pitch accent as well as for Verner's law, as in the perfect (preterite) forms of the root *deik-*, *show*.

	<i>PIE</i>	<i>Vedic</i>	<i>O.E</i>	<i>O.H.</i>
<i>1</i>	dedóik	<i>didéśa</i>	<i>tāh</i>	<i>zēh</i>
<i>1</i>	dedik	<i>didiši</i>	<i>tig</i>	<i>zigu</i>

Words were characterized on one syllable by a high pitch accent, unless they were enclitic, that is, unmarked for accent.

Accented words could lose their high pitch accent if they were placed at specific positions in sentences.

A. Vocatives lost their accent if they were medial in a sentence or clause; and finite verbs lost their accent unless they stood initially in an independent clause or in any position in a dependent clause in

Vedic. These same rules may be assumed for PIE. On the basis of the two characteristic patterns of loss of accent for verbs, characteristic patterns of intonation may also be posited for the IE sentence.

Judging on the basis of loss of high pitch accent of verbs in them, independent clauses were characterized by final dropping in pitch. For in unmarked order the verb stands finally in the clause.

Clauses, however, which are marked either to convey emphasis or to indicate subordination, do not undergo such lowering. They may be distinguished with final

NOTE. The intonation pattern indicated by apparently conveyed the notion of an emotional or emphatic utterance or one requiring supplementation, as by another clause. These conclusions are supported by the patterns found in Germanic alliterative verse. For, as is well known, verbs were frequently placed by poets in the fourth, nonalliterating, metrically prominent position in the line: *þeodcýninga þrym gefrūnon*, *of-people's-kings glory we-heard-of*, 'We heard of the glory of the kings of the people'. This placing of verbs, retained by metrical convention in Germanic verse, presumably maintains evidence for the IE intonation pattern. For, by contrast, verbs could alliterate when they stood initially in clauses or in subordinate clauses; *egsode eorlas*, *syððan ærest wearð*, *he-terrified men since first he-was*, 'He terrified men from the time he first was [found]'. *þenden wordum wēold wine Scýldinga*, *as-long-as with-words he-ruled the-friend of-the-Scýldings*. The patterns of alliteration in the oldest Germanic verse accordingly support the conclusions that have been derived from Vedic accentuation regarding the intonation of the Indo-European sentence, as do patterns in other dialects.

Among such patterns is the preference for enclitics in second position in the sentence (Wackernagel 1892). Words found in this position are particles, pronouns, and verbs, which have no accent in Vedic texts. This observation of Wackernagel supports the conclusion that the intonation of the sentence was characterized by initial high pitch, with the voice trailing off at the end. For the enclitic elements were not placed initially, but rather they occupied positions in which unaccented portions of words were expected, as in Skr. *prāvepā mā brhatō mādayanti*, 'The dangling ones of the lofty tree gladden me'. The pronoun *mā* 'me', like other such enclitics, makes up a phrase with the initial word; in this way it is comparable to unaccented syllables of individual words, as in Skr. *pravātejā īriṇe vārvṛtānāḥ*, '[born] in a windy place, rolling on the dice-board'

A simple sentence then consisted not only of a unit accompanied by an intonation pattern, but also of subunits or phrases. These were identified by their accent and also by patterns of permitted finals.

I.2.2. SENTENCE DELIMITING PARTICLES

The particles concerned are PIE **nu**, **so**, **to**, all of them introductory particles.

NOTE. Their homonymity with the adverb **nu**, **nun** and the anaphoric pronoun was one of the reasons earlier Indo-Europeanists failed to recognize them and their function. Yet Delbrück had already noted the clause-introducing function of Skr. *sa* (1888), as in Skr. *tāsya tāni śīrṣāṇi prá cicheda. sá yát somapānam āsa tátah kapīñjalaḥ sám abhavat*, 'He struck off his heads. From the one that drank soma, the hazel-hen was created'. Delbrück identified *sa* in this and other sentences as a particle and not a pronoun, for it did not agree in gender with a noun in the sentence. But it remained for Hittite to clarify the situation.

In Hittite texts the introductory use of the particles is unmistakable (J.Friedrich 1960); *ta* and *šu* occur primarily in the early texts, *nu* in the later, as illustrated in the following Old Hittite example (Ottén and Souček 1969): *GAD-an pešiemī šu- uš LÚ-aš natta aušzi* ‘*I throw a cloth over it and no one will see them*’.

Besides such an introductory function (here as often elsewhere translated ‘and’), these particles were used as first element in a chain of enclitics, as in *n-at-ši* ‘*and it to-him*’, *nu-mu-za-kan* ‘*and to-me self within*’ and so on.

NOTE 1. In Homeric Greek such strings of particles follow different orders, but reflect the IE construction, as in: *oudé nu soí per entrépetai phílon êtor, Olúmpie*, ‘*But your heart doesn't notice, Zeus*’. As the translation of *per* here indicates, some particles were used to indicate the relationships between clauses marking the simple sentence.

NOTE 2. Many simple sentences in PIE would then be similar to those in Hittite and Vedic Sanskrit, such as those in the charming story taken by Delbrück from the Śatapathabrāhmaṇa. Among the simplest is Skr. *tám índro didveṣa*, ‘*Indra hated him*’. Presumably *tam* is a conflated form of the particle *ta* and the enclitic accusative singular pronoun; the combination is attested in Hittite as *ta-an* (J. Friedrich 1960). Besides the use of sentence-delimiting particles, these examples illustrate the simplicity of PIE sentences. Of the fifteen sentences in the story, only two have more than one nominal form per verb, and these are adverbial as observed above. Similar examples from the other early dialects could be cited, such as the Italic inscription of Praeneste, or the Germanic Gallehus inscription: *Ek HlewagastiR HoltijaR horna tawido*, ‘*I, Hlewagastir of Holt, made the horn*’. In these late texts, the subject was mandatory, and accordingly two nominal forms had come to be standard for the sentence. If however the subject is not taken into consideration, many sentences contained only one nominal element with verbs, in the early dialects as well as in PIE.

I.3. VERBAL MODIFIERS

I.3.1. DECLARATIVE SENTENCES

The Injunctive has long been identified as a form unmarked for mood and marked only for stem and person. It may thus be compared with the simplest form of OV languages.

By contrast the Present indicative indicates “mood”. We associate this additional feature with the suffix *-i*, and assume for it declarative meaning.

NOTE 1. Yet it is also clear that, by the time of Vedic Sanskrit and, we assume, Late PIE, the injunctive no longer contrasted directly with the present indicative. We must therefore conclude that the declarative qualifier was expressed by other means in the sentence. We assume that the means of expression was an intonation pattern. For, in normal unmarked simple sentences, finite unaccented verbs stood finally in their clause, as did the predicative elements of nominal sentences; Delbrück's repeatedly used example may be cited once again to illustrate the typical pattern: *vísah kṣatríyāya balīm haranti*, ‘*The villagers pay tribute to the prince*’. Since the verb *haranti* was unaccented, i.e., had no high pitch, we may posit for the normal sentence an intonation pattern in which the final elements in the sentence were accompanied by low pitch.

NOTE 2. Lehman supports this assumption by noting that a distinctive suprasegmental was used in Vedic to distinguish a contrasting feature, *interrogation* or *request* (Wackernagel 1896). This marker, called *pluti* by native grammarians, consisted of extra length, as in *ágnāzi* ‘O fire’ (3 indicates extra length). But a more direct contrast with the intonation of simple sentences may be exemplified by the accentuation of subordinate clauses. These have accented verbs, as in the following line from the Rigveda: *antás ca prágā áditir bhavāsi*, ‘If you have entered inside, you will be Aditi’. As the pitch accent on *ágā* indicates, verbs in subordinate clauses maintained high pitch, in contrast with verbs of independent clauses like *bhavāsi*. We may conclude that this high pitch was an element in an intonation pattern which indicated incompleteness, somewhat like the pattern of contemporary English.

Evidence from other dialects supports the conclusion that, in late PIE, Declarative sentences were indicated by means of an intonation pattern with a drop in accentuation at the end of the clause.

NOTE. In Germanic verse, verbs of unmarked declarative sentences tend to occupy unaccented positions in the line, notably the final position (Lehmann 1956). Although the surface expression of accentuation patterns in Germanic is stress, rather than the pitch of Vedic and PIE, the coincidence of accentuation pattern supports our conclusions concerning PIE intonation.

I.3.2. INTERROGATIVE SENTENCES

The Interrogation was apparently also indicated by means of Intonation, for some questions in our early texts have no surface segmental indication distinguishing them from statements, for example, Plautus *Aulularia* 213, *aetatem meam scis*, ‘Do you know my age?’

NOTE. Only the context indicates to us that this utterance was a question; we may assume that the spoken form included means of expressing Int., and in view of expressions in the later dialects we can only conclude that these means were an intonation pattern.

Questions are generally classified into two groups:

- A. Those framed to obtain clarification (*Verdeutlichungsfragen*), and
- B. Those framed to obtain confirmation (*Bestätigungsfragen*). This feature accompanies statements in which a speaker sets out to elicit information from the hearer.

NOTE. It may be indicated by an intonation pattern, as noted above, or by an affix or a particle, or by characteristic patterns of order, as in German *Ist er da?* ‘Is he here?’ When the Interrogative sentence is so expressed, the surface marker commonly occupies second position among the question elements, if the entire clause is questioned. Such means of expression for Int. are found in IE languages, as Lat. *-ne*, which, according to Minton Warren “occurs about 1100 times in Plautus and over 40 times in Terence” (1881). Besides expressions like Lat. *egone* ‘Me?’, sentences like the following occur (Plautus *Asinaria* 884): *Aúdin quid ait? Artemona: Aúdio*. ‘Did you hear what he is saying? Artemona: yes’

Other evidence for a postponed particle for expressing Int. is found in Avestan, in which *-na* is suffixed to some interrogatives, as in Av. *kas-nā* ‘who (then)?’; and in Germanic, where *na* is found finally in some questions in Old High German. Old Church Slavic is more consistent in the use of such a particle than are these dialects, as in *chošteši li* ‘Do you wish to?’ This particle is also used in contemporary Russian.

The particle used to express Interrogation in Latin, Avestan, and Germanic is homophonous with the particle for expressing negation, PIE **ně**.

NOTE. It is not unlikely that PIE *ne* of questions is the same particle as that used for the negative. As the interrogative particle, however, it has been lost in most dialects. After Lehman (1974), its loss is one of the indications that late PIE was not a consistent OV language. After Mendoza, the fact that such Interrogatives of a yes/no-answer are introduced by different particles in the oldest attested dialects means that no single particle was generalized by Late PIE; cf. Goth. *u*, Lat. *-ne, nonne, num* Gk. *ἤ, vó*, Skr. *nu*, Sla. *li*. However, the common findings of Hittite, Indo-Iranian, Germanic and Latin are similar if not the same. In any case, for most linguists, rather than a postposed particle, 1) Intonation was used to express the Interrogatives, as well as 2) Particles that were placed early in clauses, often Initially.

The partial Interrogative sentences are those which expect an aclaratory answer; they are introduced in PIE by pronominal or adverbial forms derived from interrogative **qi/qo**, always placed initially but for marked sentences, where a change in position is admitted to emphasize it.

NOTE. In some languages, Interrogatives may be strengthened by the addition of posposed particles with interrogative sense, as in Av. *kaš-na*. Such forms introduce indirect interrogatives when they ask about a part of the sentence. Indirect interrogatives in the form of Total interrogatives (i.e., not of yes/no-answer) are introduced by particles derived from direct interrogative particles (when there are) or by conditional conjunctions; as Hitt. *man*.

I.3.3. NEGATIVE SENTENCES

Indications of Negation, by which the speaker negates the verbal means of expression, commonly occupies third position in the hierarchy of sentence elements.

We can only posit the particles **ně** and **mē**, neither of which is normally postposed after verbs.

NOTE 1. For prohibitive particle **mē**, compare Gk. *μή*, O.Ind., Av., O.Pers. *mā*, Toch. *mar/mā*, Arm. *mi*, Alb. *mos*. In other IE dialects it was substituted by **nē**, cf. Goth. *ne*, Lat. *nē* (also as modal negation), Ira. *ni*. It is not clear whether Hitt. *lē* is ultimately derived from **mē** or **nē**. PIE **nē** is found as Goth., O.H.G. *ni*, Lat. *nē-* (e.g. in *nequis*) O.Ind. *ná*, O.Sla. *ne*, etc. Sometimes it is found in lengthened or strengthened forms as Hitt. *natta*, Lat. *non*, Skr. *ned*, etc. A common PIE lengthened form is **nei**, which appears in Lat. *ni*, Lith. *neĩ*, Sla. *ni*, etc., and which may also ultimately be related to Proto-Uralic negative **ei-* (Kortlandt, v.s.).

NOTE 2. In the oldest languages, negation seems to have been preverbal; Vedic *nákis*, Gk. *oú tis*, *mé tis*, Lat. *nēmo*, OHG *nioman* ‘no one’, and so on. The negative element **ne** was not used in compounding in PIE

(Brugmann 1904); **ṇ-** had this function. Moreover, there is evidence for proposing that other particles were placed postverbally in PIE (Delbrück 1897). Delbrück has classified these in a special group, which he labels *particles*. They have been maintained postpositively primarily in frozen expressions: *ē* in Gk. *egōnē*, *ge* in *égōge* ‘I’ (Schwyzer 1939). But they are also frequent in Vedic and early Greek; Delbrück (1897) discusses at length the use of Skt. *gha*, Gk. *ge*, and Skt. *sma*, Gk. *mén*, after pronouns, nouns, particles, and verbs, cf. Lat. *nōlo* < *ne volo*, Goth. *nist* < *ni ist*, and also, negative forms of the indefinite pronoun as O.Ind. *mā-kis*, *ná-kis*, Lat. *ne-quis*, etc. which may indicate an old initial absolute position, which could be also supported by the development of correlative forms like Lat. *neque*, etc., which combine negation and coordination. Lehman, on the contrary, believes in an older posposed order, characteristic of OV languages (i.e. a situation in IE II), because of the usually attributed value of emphasis to the initial position of negation, postverbal negation examples (even absolute final position in Hittite and Greek), the old existence of the form **nei**, as well as innovative forms like Lat. *ne-quis* or Gk. *ou-tis*.

NOTE 3. In Modern Indo-European, thus, negation should usually be preverbal, as in modern Romance languages (cf. Fr. *n’est*, Spa. *no es*, etc.), but it can be postponed in emphatic contexts, as it is usual in modern Germanic languages (cf. Eng. *is not*, Ger. *ist nicht*, etc.), as well as in very formal texts, thus imitating some of the most archaic findings of early PIE dialects.

I.4. NOMINAL MODIFIERS

I.4.1. ADJECTIVE AND GENITIVE CONSTRUCTIONS

1. Proto-Indo-European Attributive Adjectives were normally preposed.

NOTE. Delbrück summarizes the findings for Vedic, Greek, Latin, Lithuanian, and Germanic, giving examples like the following from Vedic: *śvetāḥ párvatāḥ*, ‘white mountains’ (1900). Lehman (1974) adds an example of Hitt. *šuppi watar*, ‘pure water’.

In marked constructions Adjectives might be postposed, as in *ásvaḥ śvetāḥ*, ‘a white horse, a gray’.

2. The position of the Attributive Genitive is the same as that of the Attributive Adjective.

NOTE. A striking example is given from the Old English legal language (Delbrück 1900): *ōðres mannes hūses dura*, ‘the door of the house of the other man’.

Like the adjective construction, the attributive-genitive construction may have the modifier postposed for marked effect, as is *sómasya* in SB 3.9.4.15 (Delbrück 1878): *kíṃ nas tátaḥ syād íti? prathamabhakṣsá evá sómasyará jña íti*, ‘What might then happen for us?’ ‘The first enjoyment of [Prince] Soma’.

NOTE 1. The relatively frequent marked use of the genitive may be the cause for the apparently free position of the genitive in Greek and Latin. The ambivalent order may also have resulted from the change of these languages toward a VO order. But, as Delbrück indicates, the preposed order is well attested in the majority of dialects. This order is also characteristic of Hittite (J. Friedrich 1960). We may therefore assume it for PIE.

NOTE 2. In accordance with Lehman's views on syntactic structure, the attributive genitive, like the attributive adjective, must be derived from an embedded sentence. The sentence would have a noun phrase equivalent with that in the matrix sentence and would be a predicate nominal sentence. Such independent sentences are attested in the older dialects. Delbrück gives a number of examples, among them: *aṣṭaú ha vai putrá ádites*, 'Aditi had eight sons'. *áhar devánām ásit*, 'Day belonged to the gods'. These sentences accordingly illustrate that the genitive was used in predicate nominative sentences to convey what Calvert Watkins has labeled its primary syntactic function: the sense "of belonging". When such a sentence was embedded in another with an equivalent NP, the NP was deleted, and the typical genitive construction resulted. Hittite also uses *s* as a genitive as well as a nominative marker. For "genitives" like *haššannaššaš* '(one) of his race' can be further inflected, as in the accusative *haššannaš-šan* '(to one) of his race' (J. Friedrich).

I.4.2. COMPOUNDS.

1. In the derivation of compounds special compounding rules apply.

The verbal compounds in a language observe the basic order patterns, For PIE we would expect an older OV order in compounds, as e.g. Skt. *agnídh-* 'priest' < *agni* 'fire' + *idh* 'kindle.'

NOTE. A direct relationship between compounds and basic syntactic patterns is found only when the compounds are primary and productive. After a specific type of compound becomes established in a language, further compounds may be constructed on the basis of analogy, for example Gk. *híppagros* 'wild horse', in contrast with the standard productive Greek compounds in which the adjectival element precedes the modified, as in *agriókhoiros* 'wild swine' (Risch 1944-1949). Here we will consider the primary and productive kinds of compounds in PIE.

2. Two large classes and other minor types are found:

A. the Synthetics (noun+noun), which make up the majority of the PIE compounds,

a. Pure Synthetics, i.e. noun+noun.

b. Synthetics in which the first element is adverbial, i.e. adverb+noun.

B. The Bahuvrihis.

C. Adjective + Nouns, apparently not so productive in PIE as in its dialects.

D. A small number of additive compounds.

SYNTHETICS

Synthetics consist of a nominal element preceding a verbal, in their unmarked forms, as in Skt. *agnídh-*, 'priest'. As in this compound, the relation of the nominal element to the verbal is that of *target*.

The particular relationship of nominal and verbal elements was determined by the lexical properties of the verb; accordingly, the primary relationship for most PIE verbs was that of *target*. But other nominal categories could also be used with verbs.

3. Kinds of Relationships:

- 1) The *Receptor* relationship, as Skr. *devahédana*, ‘*angering the gods*’.
- 2) The *Instrument* or *Means* relationship; as Skr. *ádrijūta*, ‘*speeded by the stones*’,
The compound *ṛtajā* of this passage may illustrate the *Time* relationship.
- 3) The *Source* relationship, as Skr. *aṇhomúc*, ‘*freeing from trouble*’.
- 4) The *Place* relationship, as Skr. *druśád*, ‘*sitting in a tree*’.
- 5) The *Manner* relationship; as, Skr. *īśānakṛt*, ‘*acting like a ruler*’.

These compounds exhibit the various relationships of nominal constituents with verbal elements, as in Skr. *tvā-datta*, ‘*given by you*’.

NOTE. Synthetics attested in the Rigveda accordingly illustrate all the nominal relationships determinable from sentences. Synthetics are frequently comparable to relative constructions, as in the following sentence: *ágnír agāmi bhārato vṛtrahā purucétaṇaḥ*, ‘*Agni, the god of the Bharatas, was approached, he who killed Vṛtra, who is seen by many*’.

Besides the large number of synthetics of the NV pattern, others are attested with the pattern VN. These are largely names and epithets, such as *púṣṭi-gu*, a name meaning ‘*one who raises cattle*’ (RV 8.51.1.), and *sanád-rayi* ‘*dispensing riches*’.

BAHUVRIHIS

The second large group of PIE compounds, *Bahuvrihis*, are derived in accordance with the sentence pattern expressing Possession. This pattern is well known from the Latin *mihi est* construction (Bennett 1914; Brugmann 1911): *nulli est homini perpetuom bonum*, ‘*No man has perpetual blessings*’.

Lehman accounts for the derivation of bahuvrihis, like Lat. *magnanimus* ‘*great-hearted*’, by assuming that an equational sentence with a noun phrase as subject and a noun in the receptor category indicating possession is embedded with an equivalent noun, as in the following example (‘*great spirit is to man*’ = ‘*the man has great spirit*’):

On deletion of the equivalent NP (*homini*) in the embedded sentence, a bahuvrihi compound *magnanimus* ‘*greathearted*’ is generated. This pattern of compounding ceased to be primary and productive when the dialects developed verbal patterns for expressing possession, such as Lat. *habeo* ‘*I have*’.

Bahuvrihis may be adjectival in use, or nominal, as in the vocative use of *sūnari* ‘having good strength’ (made up of *su* ‘good’ and **xner-* ‘(magical) strength’) in Slr. *vísvasya hí prāṇanam jīvanam tvé, ví yid uchási sūnari*, ‘For the breath and life of everything is in you, when you light up the skies, you who have good strength’. The Greek cognate may illustrate the adjectival use: *phéron d’ euénora khalkón* ‘They carried on board the bronze of good strength’. The bahuvrihis are accordingly similar to synthetics in being comparable to relative clauses.

NOTE. Although the bahuvrihis were no longer primary and productive in the later dialects, their pattern remained remarkably persistent, as we may note from the various *philo-* compounds in Greek, such as *philósophos*, ‘one who holds wisdom dear’, *phíloinos*, ‘one who likes wine’, and many more. Apart from the loss of the underlying syntactic pattern, the introduction of different accentual patterns removed the basis for bahuvrihis. As Risch pointed out, Greek *eupátōr* could either be a bahuvrihi ‘having a good father’ or a *tatpurusha* ‘a noble father’. In the period before the position of the accent was determined by the quantity of final syllables, the bahuvrihi would have had the accent on the prior syllable, like *rāja-putra* ‘having kings as sons’, RV 2.27.7, in contrast with the *tatpurusha* *rāja-putrá* ‘king’s son’, RV 10.40.3. The bahuvrihis in time, then, were far less frequent than *tatpurushas*, of which only a few are to be posited for late PIE. An example is Gk. *propátōr* ‘forefather’. If the disputed etymology of Latin *proprius* ‘own’ is accepted, **pro-p(a)triós* ‘from the forefathers’, there is evidence for assuming a PIE etymon; Wackernagel (1905) derives Sanskrit compounds like *prá-pada* ‘tip of foot’ from PIE. Yet the small number of such compounds in the early dialects indicates that they were formed in the late stage of PIE (Risch).

NOTE 2. Dvandvas, such as *indrāviṣ’ nu* and a few other patterns, like the teens, were not highly productive in PIE, if they are to be assumed at all. Their lack of productiveness may reflect poorly developed coordination constructions in PIE (Lehmann 1969). Besides the expansion of *tatpurushas* and *dvandvas* in the dialects, we must note also the use of expanded root forms. Thematic forms of noun stems and derived forms of verbal roots are used, as in Skt. *deva-kṛta*, ‘made by the gods’. Such extended constituents become more and more prominent and eventually are characteristic elements of compounds, as the connecting vowel *-o-* in Greek and in early Germanic; Gk. *Apolló-dōros* ‘gift of Apollo’ (an *n-* stem) and Goth. *guma-kunds* ‘of male sex’ (also an *n-* stem). Yet the relationships between the constituents remain unchanged by such morphological innovations. The large number of *tatpurushas* in the dialects reflects the prominence of embedded-modifier constructions, as the earlier synthetics and bahuvrihis reflected the embedding of sentences, often to empty noun nodes. As noted above, they accordingly have given us valuable information about PIE sentence types and their internal relationships.

I.4.3. DETERMINERS IN NOMINAL PHRASES.

Nouns are generally unaccompanied by modifiers, as characteristic passages from an Archaic hymn of the Rigveda and from an Old Hittite text may indicate.

Demonstratives are infrequent; nouns which might be considered definite have no accompanying determinative marker unless they are to be stressed. The Demonstrative then precedes.

The relationship between such Demonstratives and accompanying Nouns has been assumed to be Appositional; it may be preferable to label the relationship a loose one, as of pronoun or noun plus noun, rather than adjective or article plus noun.

NOTE. In Homer too the “article” is generally an anaphoric pronoun, differing from demonstratives by its lack of deictic meaning referring to location (Munro). Nominal phrases as found in Classical Greek or in later dialects are subsequent developments; the relationship between syntactic elements related by congruence, such as adjectives, or even by case, such as genitives, can often be taken as similar to an appositional relationship (Meillet 1937).

To illustrate nominal phrases, cf. Vedic *eṣām marútām*, “*of-them of-Maruts*”. The nominal phrase which may seem to consist of a demonstrative preceding a noun, *eṣām marútām*, is divided by the end of the line; accordingly *eṣām* must be interpreted as pronominal rather than adjectival.

The following Hittite passage from a ritual illustrates a similar asyndetic relationship between the elements of nominal phrases (Otten and Souček 1969): *harkanzi- ma –an ^dHantašepeš anduhšaš harša[(r)] –a ^{giš}ŠUKUR^{hi.a}*, But the Hantašepa-gods hold heads of men as well as lances. In this sentence the nouns for ‘heads’ and ‘lances’ supplement ‘it’. Moreover, while the meaning of the last word is uncertain, its relationship to the preceding elements is imprecise, for it is a nominative plural, not an accusative. Virtually any line of Homer might be cited to illustrate the absence of close relationships between the members of nominal phrases; cf. *Odysey nēūs dé moi héd’ héstēken ep’ agrou nósphi pólēos, en liméni Rheithrōi hupō Nēiōi hulēenti*, ‘*My ship is berthed yonder in the country away from the city, in a harbor called Rheithron below Neion, which is wooded*’. The nouns have no determiners even when, like *nēus*, they are definite; and the modifiers with *liméni* and *Nēiōi* seem to be loosely related epithets rather than closely linked descriptive adjectives.

The conclusions about the lack of closely related nominal phrases may be supported by the status of compounds in PIE. The compounds consisting of Descriptive Adjectives + Noun are later; the most productive are reduced verbal rather than nominal constructions. And the bahuvrihis, which indicate a descriptive relationship between the first element and the second, support the conclusion that the relationship is relatively general; *rājá-putra*, for example, means ‘*having sons who are kings*’ rather than ‘*having royal sons*’; *gó-vapus* means ‘*having a shape like a cow*’, said of rainclouds, for which the epithet denotes the fructifying quality rather than the physical shape.

Accordingly, closely related nominal expressions are to be assumed only for the dialects, not for PIE. Definiteness was not indicated for nouns. The primary relationship between nominal elements, whether nouns or adjectives, was appositional.

The syntactic patterns assumed for late PIE may be illustrated by narrative passages from the early dialects. The following passage tells of King Hariśchandra, who has been childless but has a son after promising Varuna that he will sacrifice any son to him. After the birth of the son, however, the king asks Varuna to put off the time of the sacrifice, until finally the son escapes to the forest; a few lines suffice to illustrate the simple syntactic patterns.

AB 7.14.

athainam	uvāca	varuṇam	rājānam	upadhāva	putro
then-him	he-told	Varuna	king	you-go-to	son
Acc. sg.	Perf. 3 sg.	Acc. sg.	Acc. sg.	Imper. 2 sg.	Nom. sg.
me	jāyatām	tena	tvā	yajā	
to-me	let-him-be-born	with-	you	I-worship	
	Imper. 3 sg.	Inst. sg.	Acc. sg.	Mid. Pres.	
iti.	tatheti.	sa	varuṇam		
end-quotation	indeed-end	‘he’	Varuna		
	(<tathā iti)	3 sg. Nom.			
rājānam	upasasāra	putro	me	jāyatām	tena
king	went-to	son	to-me	let-him-be-born	with-him
	Perf. 3 sg.				
tvā	yajā	iti.	tatheti.		
you	I-worship	end-quotation	indeed-end-quotation		
tasya	ha	putro	jajñe	rohito	nāma.
his, of-him	now	son	he-was-born	Rohita	name
Gen. sg. m.	Ptc.		Mid. Perf. 3 sg.		
taṁ	hovācājani	te	vai	putro	
him	Ptc.-he-told-he-was born	to-you	indeed	son	
Acc. sg.	Aor. Pass. 3 sg. Ptc.		Ptc.		
yajasva	māneneti.	sa			
you-worship	me-with-him-end-quotation	‘he’			
Mid. Imper. 2 sg.	Acc. sg.-Inst. sg.				
hovāca	yadā	vai	paśur	nirdaśo	
Ptc.-he-told	when	indeed	animal	above-ten	
	Conj.	Ptc.	Nom. sg. m.	Nom. sg. m.	
bhavatyatha	sa	medhyo	bhavati.	nirdaśo	
he-becomes-then	he	strong	he-becomes	above-ten	
Pres. 3 sg.-Ptc.		Nom. sg. m.			
’nvastvatha	tvā	yajā	iti.		
Ptc.-let-him-be-then	you	I-worship	end-quotation		
Imper. 2 sg.	Acc. sg.				
tatheti.	sa	ha	nirdaśa	āsa	
indeed-end-quotation	he	now	above-ten	he-was	
				Perf. 3 sg.	

Then he [the Rishi Narada] told him [Hariśchandra]: “Go to King Varuna. [Tell him]: ‘Let a son be born to me.

With him I will worship you [= I will sacrifice him to you] .”

“Fine,” [he said].

He went to King Varuna [saying]: “Let a son be born to me. I will sacrifice him to you.”

“Fine,” [he said]

Now his son was born. Rohita [was his] name.

[Varuna] spoke to him. “A son has indeed been born to you. Sacrifice him to me.”

He said thereupon: “When an animal gets to be ten [days old], then he becomes strong [= fit for sacrifice]. Let him be ten days old; then I will worship you.”

“Fine,” he said.

He now became ten.

As this passage illustrates, nouns have few modifiers. Even the sequence: *tasya ha putro*, which might be interpreted as a nominal phrase corresponding to ‘his son’, consists of distinct components, and these should be taken as meaning: “*Of him a son [was born]*”. As in the poetic passage cited above, nouns and pronouns are individual items in the sentence and when accompanied by modifiers have only a loose relationship with them, as to epithets.

I.4.4. APPPOSITION

Apposition is traditionally “when paratactically joined forms are grammatically, but not in meaning, equivalent”.

NOTE. Because of the relationship between nouns and modifiers, and also because subjects of verbs were only explicit expressions for the subjective elements in verb forms, Meillet (1937) considered apposition a basic characteristic of Indo-European syntax. As in the previous passage, subjects were included only when a specific meaning was to be expressed, such as *putra* ‘son’. The element *sa* may still be taken as an introductory particle, a sentence connective, much as *iti* of *tathā iti*, etc., is a sentence-final particle. And the only contiguous nouns in the same case, *varunam rājānam*, are clearly appositional.

A distinction is made between *Appositional* and *Attributive* (Delbrück); an appositional relationship between two or more words is not indicated by any formal expression, whereas an attributive relationship generally is.

NOTE. Thus the relationships in the following line of the Odyssey are attributive: *arnúmenos hén te psukhén kai nóston hetaíron*, lit. “*striving-for his Ptc. life and return of-companions*”. The relationship between *hén* and

psukhén is indicated by the concordance in endings; that between *nóston* and *hetairôn* by the genitive. On the other hand the relationship between the two vocatives in the following line is appositional, because there is no mark indicating the relationship: *tôn hamóthen ge, theá, thúgater Diós, eipè kai hēmîn*, ‘Tell us of these things, beginning at any point you like, goddess, daughter of Zeus’. Both vocatives can be taken independently, as can any appositional elements.

Asyndetic constructions which are not appositive are frequently attested, as Skr. *té vo hṛdé mánase santu yajñá*, ‘These sacrifices should be in accordance with your heart, your mind’. Coordinate as well as appositive constructions could thus be without a specific coordinating marker.

Comparable to appositional constructions are titles, for, like appositions, the two or more nouns involved refer to one person.

NOTE. In OV languages titles are postposed in contrast with the preposing in VO languages; compare Japanese *Tanaka-san* with *Mr. Middlefield*. The title ‘king’ with *Varuna* and similarly in the *Odyssey*, *Poseidáōni ánakti*, when *ánaks* is used as a title. But, as Lehman himself admits, even in the early texts, titles often precede names, in keeping with the change toward a VO structure.

Appositions normally follow, when nouns and noun groups are contiguous, as in the frequent descriptive epithets of Homer: *Tòn d’ ēmeíbet’ épeita theá, glaukōpis Athēnē*, ‘Him then answered the goddess, owl-eyed Athene’.

To indicate a marked relationship, however, they may precede (Schwyzer 1950). But the early PIE position is clear from the cognates: Skt. *dyaus pitā*, Gk. *Zeū páter*, Lat. *Jūpiter*.

I. 5. MODIFIED FORMS OF PIE SIMPLE SENTENCES

I.5.1. COORDINATION.

While coordination is prominent in the earliest texts, it is generally implicit.

The oldest surviving texts consist largely of paratactic sentences, often with no connecting particles.

New sentences may be introduced with particles, or relationships may be indicated with pronominal elements; but these are fewer than in subsequent texts.

Similar patterns of paratactic sentences are found in Hittite, with no overt marker of coordination or of subordination. J. Friedrich states that “purpose and result” clauses are not found in Hittite (1960), but that coordinate sentences are simply arranged side by side with the particle *nu*, as in the Hittite Laws. Conditional relationships too are found in Hittite with no indication of subordination (J. Friedrich 1960).

NOTE. The subordinate relationships that are indicated, however, have elements that are related to relative particles. Accordingly the subordination found in the early dialects is a type of relative construction. As such

examples and these references indicate, no characteristic patterns of order, or of verb forms, distinguish subordinate from coordinate clauses in PIE and the early dialects. Hermann therefore concluded in his celebrated article that there were no subordinate clauses in PIE (1895). For Lehman (1974), the paratactic arrangement which he assumed for PIE, however, is characteristic of OV languages. Hypotaxis in OV languages is often expressed by nonfinite verb forms and by postposed particles.

The arrangement of sentences in sequence is a typical pattern of PIE syntax, whether for hypotactic or for paratactic relationships.

Expressions for coordination were used largely for elements within clauses and sentences. When used to link sentences, conjunctions were often accompanied by initial particles indicating the beginning of a new clause and also indicating a variety of possible relationships with neighboring clauses.

NOTE. Sentence-connecting particles are, however, infrequent in Vedic and relatively infrequent in the earliest Hittite texts; Lehman concludes that formal markers of sentence coordination were not mandatory in PIE.

The normal coordinating particle in most of the dialects is a reflex of PIE **-qe**.

This is postposed to the second of two conjoined elements, or to both.

NOTE. Hittite *-a*, *-ia* is used similarly, as in *attaš annaš a* ‘father and mother’ (J. Friedrich 1960).

The disjunctive particle PIE **-wě** is also postposed

NOTE 1. In Hittite, however, besides the postposed disjunctive particles *-ku ... -ku* ‘or’, there was the disjunctive particle *našma*, which stood between nouns rather than after the last. This pattern of conjunction placement came to be increasingly frequent in the dialects; it indicates that the conjunction patterns of VO structure have come to be typical already by IE II.

NOTE 2. With the change in coordinating constructions, new particles were introduced; some of these, for example, Lat. *et*, Goth. *jah*, OE *and*, have a generally accepted etymology; others, like Gk. *kaí*, are obscure in etymology. Syntactically the shift in the construction rather than the source of the particles is of primary interest, though, as noted above, the introduction of new markers for the new VO patterns provides welcome lexical evidence of a shift. The syntactic shift also brought with it patterns of coordination reduction (*Ersparung*) which have been well described for some dialects (Behaghel). Such constructions are notable especially in SVO languages, in which sequences with equivalent verbs (S, V, O, Conj., S₂, V₁, O₂) delete the second occurrence of the verb, as M.H.G. *daz einer einez will und ein ander ein anderz*, ‘that one one-thing wants and another an other’.

Reduction of equivalent nouns in either S or O position is also standard, as in *Beowulf*.

NOTE. But in the paratactic structures characteristic of Hittite, such reduction is often avoided. In an SVO language the second *memijas* would probably not have been explicitly stated, as in: ‘now my speech came to be halting and was uttered slowly’. The lack of such reduction, often a characteristic of OV languages, gives an impression of paratactic syntax. Another pattern seeming to be paratactic is the preposing of “subordinate clauses,” either with no mark of subordination or with a kind of relative particle, as in the concluding passage of

Muršilis Sprachlähmung (Götze and Pedersen 1934). The second from last clause has no mark to indicate subordination; the earlier clauses contain a form of relative particle.

<i>IŠTU</i>	^{GIŠ} BANŠUR-ma-za-kán	kuizza	azikinun				
from	table-but-Refl.-Ptc.	from-which	I-was-accustomed-to-eat				
<i>IŠTU</i>	GAL-ja-kán	kuizza	akkuškinun				
from	beaker-and-Ptc.	from-which	I-was-accustomed-to-drink				
šašti-ja-za-kán	kūedani	šeškeškinun	<i>IŠTU</i>				
in-bed-and-Refl.-Ptc.	in-which	I-was-accustomed-to-sit	from				
^{URUD} DU ₁₀ xA-ia-za-kán	kuizza	arreškinun					
basin-and-Refl.-Ptc.	from-which	I-was-accustomed-to-wash					
kuit-ja	imma	<i>ÚNUTU</i>	anda	uerijan	ešta	nu	<i>UL</i>
what-and	else	utensil	Adv.-Ptc.	mentioned	it-was	now	not
kuitki	dattat	<i>IŠTU</i>	DINGIR ^{LI}	QATAMMA	SIXDI-at		
any	it-was-taken	from	god	likewise	it-was-determined		

‘The god also determined that nothing more should be used of the table from which I was accustomed to eat, of the beaker from which I was accustomed to drink, of the bed in which I was accustomed to sleep, of the basin in which I was accustomed to wash, and of whatever other article was mentioned’

In an SVO language like English, the principal clause, which stands last in Hittite, would be placed first. The interpretation of the preceding clause as a result clause is taken from Götze and Pedersen. The initial clauses contain relative particles which indicate the relationship to *kuitki* of the second-from-last clause; they also contain coordinating particles: *a*, *ia*. In this passage the clauses, whether coordinate or subordinate from our point of view, are simply arrayed in sequence. Each concludes with a finite verb which provides no evidence of hypotaxis. The sentence connectives which occur—repeated instances of *a/ia*—heighten the impression of coordination.

The absence in Hittite of verb forms – which are cognates of the Vedic and Greek optative and subjunctive – which came to be used largely to indicate subordination is highly consistent in its OV patterning, as such verb forms were not required.

Hittite however did not forego another device, which is used to indicate subordinate relationship in OV as well as VO languages, the so-called nonfinite verb forms. These are used for less explicit kinds of complementation, much the way relative constructions are used for more explicit kinds.

I.5.2. COMPLEMENTATION.

Compound sentences may result from the embedding of nominal modifiers.

NOTE. In VO languages embedded nominal modifiers follow nouns, whereas in OV languages they precede nouns. This observation has led to an understanding of the Hittite and the reconstructed PIE relative constructions. If we follow the standard assumption that in relative constructions a second sentence containing an NP equivalent to an NP in the matrix sentence is embedded in that matrix sentence, we may expect that either sentence may be modified. A sentence may also be embedded with a dummy noun; the verb forms of such embedded sentences are commonly expressed with nominal forms of the verb, variously called infinitives, supines, or participles. In OV languages these, as well as relative constructions, precede the verb of the matrix sentence.

An example with participles in the IE languages is Skr. *vāsānaḥ* in the last lines of the following Strophic hymn: *rúśad vāsānaḥ sudṛśīkarūpaḥ*, “*brightly dressing-himself beautifully-hued*”.

It may also have “*a final or consequential sense*”, as in the following Strophic hymn: *tvám indra srávitavā apás kaḥ*, ‘*You, O Indra, make the waters to flow.*’ Also in the poetic texts such infinitives may follow the main verb, as in *ábodhi hótā yajáthāya devān*, lit. “*he-woke-up priest for-sacrificing gods*”, ‘*The priest has awakened to sacrifice to the gods*’.

NOTE. The postposed order may result from stylistic or poetic rearrangement; yet it is also a reflection of the shift to VO order, a shift which is reflected in the normal position for infinitives in the other IE dialects. In the Brahmanas still, infinitives normally stand directly before the verb, except in interrogative and negative sentences (Delbrück). On the basis of the Brahmanic order we may assume that in PIE nonfinite verbs used as complements to principal verbs preceded them in the sentence. Hittite provides examples of preposed complementary participles and infinitives to support this assumption (J. Friedrich). Participles were used particularly with *har(k)-* ‘*have*’ and *eš-* ‘*be*’, as in *ueriian ešta* ‘*was mentioned*’; the pattern is used to indicate state.

INFINITIVES

1. Infinitives could indicate result, with or without an object (J. Friedrich 1960): *1-aš 1-an kunanna lē šanhanzi*, lit. “*one one to-kill not he-tries*”, i.e. ‘*One should not try to kill another*’.

2. Infinitives could be used to express purpose, as in the following example, which pairs an infinitive with a noun (J. Friedrich): *tuk-ma kī uttar ŠÀ-ta šiḡanna išhiull-a ešdu*, lit. “*to-you-however this word in-heart for-laying instruction-and it-should-be*”, i.e. ‘*But for you this word should be for taking to heart and for instruction*’.

3. The Infinitive could be loosely related to its object, as in examples cited by Friedrich, such as *apāš-ma-mu harkanna šan(a)hta*, lit. “*he-however-me for-deteriorating he-sought*”, i.e. ‘*But he sought to destroy me*’.

4. The complementary infinitive indicates the purpose of the action; as Friedrich points out, it is attached to the verb *śanhta* plus its object *mu* in a construction quite different from that in subsequent dialects.

NOTE. These uses are paralleled by uses in Vedic, as may be noted in the work of Macdonell (1916), from which some examples are taken in Lehman (1974). On the basis of such examples in Vedic and in Hittite, he assumes that infinitive constructions were used to indicate a variety of complements in PIE.

Hittite and Sanskrit also provide examples of Participles functioning appositionally or as adjectives indicating state (J. Friedrich 1960): *ammuk-ṽar-an akkantan IQ.BI*, lit. *to-me-Ptc.-indicating-quotation-him dying he-described*, i.e. ‘He told me that one had died.’

NOTE. This pattern had been noted by Delbrück for the Rigveda, with various examples (1900:327), as *śíśihí mā śíśayám tvā śrṇomi*, ‘Strengthen me; I hear that you are strong.’ The adjective *śíśayá* ‘strengthening’ is an adjective derived from the same root as *śíśihí*. Delbrück also noted that such “appositives” are indicated in Greek by means of clauses. Greek represents for Lehman accordingly a further stage in the development of the IE languages to a VO order. Yet Greek still maintained preposed participles having the same subject as does the principal verb, as in: *tēn mēn idōn gēthēse*, lit. ‘it Ptc. seeing he-rejoiced’

This pattern permits the use of two verbs with only one indicating mood and person; the nonfinite verb takes these categories from the finite.

Participles were thus used in the older period for a great variety of relationships. though also without indicating some of the verbal categories.

Dependent clauses are more flexible in indicating such relationships, and more precise, especially when complementary participles and infinitives follow the principal verb.

I.5.3. SUBORDINATE CLAUSES.

Indo-Europeanists have long recognized the relationship between the Subordinating Particles and the stem from which Relative Pronouns were derived in Indo-Iranian and Greek.

NOTE. Thus Delbrück has pointed out in detail how the neuter accusative form of PIE **jo-** was the basis of the conjunction **jod** in its various meanings: (1) Temporal, (2) Temporal-Causal, (3) Temporal-Conditional, (4) Purpose. He also recognized the source of conjunctive use in sentences like Skr. *yáj jáyathās tād áhar asya káme ’ñsóh pīyū ’śam apibo giriṣṭhām*, ‘On the day you were born you drank the mountain milk out of desire for the plant’.

1) Relative clauses must have stood Before the Main Clause originally and

2) The earliest type of subordinate **jo-** clauses must have been the Preposed Relative constructions.

NOTE. This conclusion from Vedic receives striking support from Hittite, for in it we find the same syntactic relationship between relative clauses and other subordinate clauses as is found in Vedic, Greek, and other early

dialects. But the marker for both types of clauses differs. In Hittite it is based on IE **q̥id** rather than **jod**; thus, Hittite too uses the relative particle for indicating subordination. The remarkable parallelism between the syntactic constructions, though they have different surface markers, must be ascribed to typological reasons; we assume that Hittite as well as Indo-Aryan and Greek was developing a lexical marker to indicate subordination. As does *yad* in Vedic, Hitt. *kuit* signals a “loose” relationship between clauses which must be appropriately interpreted.

As J. Friedrich has stated (1960), *kuit* never stands initially in its clause. Sentences in which it is used are then scarcely more specifically interconnected than are conjoined sentences with no specific relating word, as in examples cited by Friedrich (ibid.): *nu taškupāi nu URU-aš dapiñanzi išdammašzi*, lit. Ptc. you-shout Ptc. city whole it-hears, ‘Now cry out [so that] the whole city hears’. Like this example, both clauses in a *kuit* construction generally are introduced with *nu* (J. Friedrich 1960). We may assume that *kuit* became a subordinating particle when such connections were omitted, as in Friedrich's example. These examples illustrate that both *yád* and *kuit* introduce causal clauses, though they do not contain indications of the origin of this use.

It is therefore generally believed that Subordinates originated in Relative sentences, as Vedic, Old Irish, Avestan and Old Persian illustrate. Proverbs and maxims are a particularly conservative field in all languages, and even etymologically there are two series which especially often; namely, **qo-...to-**, and **jo-...to-**.

NOTE 1. For IE **qo-...to-**, cf. Lat. *cum...tum*, *qualis...talis*, *quam...tam*, or Lith. *kàs...tàs*, *kòks...tàs*, *kaip...taip*, *kiek...tiek*, etc., and for **jo-...to-**, Ved. *yás...sá tát*, *yáthā...táthā*, *yávat...távat*, Gk. *oios...toios*, *ósos...tósos*, O.Pers. *haya* (a compound from **so+jo**, with the same inverse compound as Lat. *tamquam*, from two correlatives), etc.

NOTE 2. For Haudry this correlative structure is the base for subordination in all Indo-European languages. Proto-Indo-European would therefore show an intermediate syntax between parataxis and hypotaxis, as the correlative structure is between a ‘loose’ syntax and a ‘locked’ one.

Lehman assumes that the use of Skr. *yád*, Hitt. *kuit*, and other relative particles to express a causal relationship arose from subordination of clauses introduced by them to an Ablative; cf. Skr. *ácittī yát táva dhármā yuyopimá* (lit. *unknowing that, because your law, order we-have-disturbed*), *má nas tásmād énaso deva rīṣaḥ* (lit. *not us because-of-that because-of-sin O-god you-harm*), ‘Do not harm us, god, because of that sin [that] because unknowingly we have disturbed your law’.

As such relationships with ablatives expressing Cause were not specific, more precise particles or conjunctions came to be used. In Sanskrit the ablative *yasmāt* specifies the meaning ‘because’.

Further, *yadā* and *yátra* specify the meaning ‘when’. In Hittite, *mān* came to be used for temporal relationships, possibly after combined use with *kuit*; *kuitman* expressed a temporal relationship even in Late Hittite, corresponding to ‘while, until’, though *mahhan* has replaced *mān* (J. Friedrich 1960 gives further details). The conjunction *mān* itself specifies the meanings ‘if’ and ‘although’ in standard

Hittite. In both Hittite and Vedic then, the “loose” relative-construction relationship between subordinate clauses and principal clauses is gradually replaced by special conjunctions for the various types of hypotactic relationship: Causal, Temporal, Conditional, Concessive.

Just as the Causal relationship developed from an Ablative modified by a Relative construction, so the Temporal and Conditional relationship developed from a clause modifying an underlying Time node.

The less differentiated and less precisely related subordinate clauses are often still evident, however, as in *yád* clauses of the Archaic hymn, Rigveda 1.167. For conciseness, only *yád* clauses will be cited here, with Hoffmann's interpretation of each; the entire stanzas and their translations are given by Hoffmann (1967).

RV 1.167.5.	jóṣad	yád	īm	asuryā	sacádhyai
	she-desires	when	them	Asuryan	to-follow
<i>‘when the Asuryan will desire to follow them’</i>					

RV	arkó	yád	vo	maruto	haviṣmān
	song-of-praise	whenever,	for-you	Maruts	accompanied-by-libations
<i>‘if the song of praise accompanied by libations is designed for you, Maruts’</i>					

RV	sácā	yád	īm	vṛṣamaṇā	ahamýú
1.167.7.	together	because	them	manly-minded	proud
	sthirá	cij	jánīr	váhate	subhāgāḥ
	rigid	though	women	she-drives	well-favored

‘because the manly minded, proud, yet stubborn [Rodasi] brings along other favored women’

In these three stanzas *yad* introduces subordinate clauses with three different relationships: Temporal, Conditional, Causal. Such multiple uses of *yad* belong particularly to the archaic style; subsequently they are less frequent, being replaced by more specific conjunctions.

In addition to the greater specificity of subordinate relationship indicated by particles, the early, relatively free hypotactic constructions come to be modified by the dominant subjective quality of the principal verb. The effect may be illustrated by passages like the following from a Strophic hymn, in which the verb of the principal clause is an optative:

RV 1.38.4.	yád	yūyám	prṣnimātaro
	if, when	you	having-Prsni-as-mother

mártāsaḥ	syātana		
mortals	you-would-be		
stotā	vo	amṛtaḥ	syāt
singer	your	immortal	he-would-be

'Your singer would be immortal if [= in a situation when] you Maruts were mortals.' (That is, if our roles were reversed, and you were mortals, then you would wish me to be immortal.)

This passage illustrates how the use of the Optative in the principal clause brings about a Conditional relationship in the Subordinate clause (see also Delbrück 1900). Through its expression of uncertainty the Optative conveys a Conditional rather than a Temporal meaning in the *yad* clause.

NOTE. Lacking verb forms expressing uncertainty, Hittite indicates conditional relationships simply by means of Particles (J. Friedrich 1960). Although several particles are used in Hittite to indicate various types of conditional clauses—*man* ... *mān* for Contrary-to-Fact, *takku* and *man* for Simple Conditionals—Hittite did not develop the variety of patterns found in other dialects. These patterns, as well described in the handbooks, are brought about not only by differing particles but also by the uses of the various tense and mood forms. Constructions in the dialects which have developed farthest from those of PIE are those in which the tense, mood, or person is modified in accordance with rules based on the verb form of the principal clause. Such shifts are among the most far-reaching results of the subjective quality of the Indo-European verb (Delbrück 1900).

Differences between the constructions in the various dialects reflect the changes as well as the earlier situation. In Homer, statements may be reported with a shift of mood and person, as in:

Odyssey	lissesthai	dé	min	autós,	hópōs	nēmertéa	eípēi
	request	Ptc.	him	self	that	true-things	he-may-say

'You yourself ask him so that he tells the truth.'

The form *eípēi* is a third-person aorist subjunctive. If the statement were in direct discourse, the verb would be *eīpe*, second-person imperative, and the clause would read: *eīpe nēmertéa* 'tell the truth'. Such shifts in person and mood would not be expected in an OV language; in Vedic, for example, statements are repeated and indicated with a postposed *iti*. The shifts in the other dialects, as they changed more and more to VO structure, led to intricate expression of subordinate relationships, through shifts in person, in mood, and in tense, as well as through specific particles indicating the kind of subordination. The syntactic constructions of these dialects then came to differ considerably from that even in Vedic.

The earliest poems of the Vedas are transparent in syntax, as may be illustrated by Stanzas 9 and 10 of Hymn 1.167:

RV 1.167.9.

nahí	nú	vo	maruto	ánty	asmé
never	Ptc.	your	Maruts	near	from-us
ārāttāc	cic	chávaso	ántam	āpúḥ	
from-far	or	of-strength	end	they-reached	
té	dhr̥ṣṇúnā	śávasā	śúsuvā́nsó		
they	bold	power	strengthened		
'r̥no	ná	dvéṣo	dhr̥ṣatá	pári	ṣṭhuḥ
flood	like	enmity	bold	against	they-stand

‘Never have they reached the limit of your strength, Maruts, whether near or far from us. Strengthened by bold power they boldly oppose enmity like a flood.’

RV 1.167.10.

vayám	adyéndrasya	préṣṭhā	vayám			
we	today-Indra's	most-favored	we			
śvó	vocemahi	samaryé				
tomorrow	we-wish-to-be-called	in-battle				
vayám	purá	máhi	ca	no	ánu	dyūn
we	formerly	great	and	us	through	days
tán	na	ṛbhukṣá	narām	ánu	ṣyāt	
that	us	chief	of-men	to	may-he-be	

‘We today, we tomorrow, want to be called Indra's favorites in battle. We were formerly. And great things will be for us through the days; may the chief of men give that to us’.

Although the hymn offers problems of interpretation because of religious and poetic difficulties, the syntax of these two stanzas is straightforward; the verbs in general are independent of one another, in this way indicating a succession of individual sentences. Such syntactic patterns, though more complicated than those of prose passages, lack the complexity of Classical Greek and Latin, or even Homeric Greek. These early Vedic texts, like those of Old Hittite, include many of the syntactic categories found in the dialects, but the patterns of order and relationship between clauses had already changed considerably from the OV patterns of Middle PIE.

I.6. SYNTACTIC CATEGORIES

I.6.1. PARTICLES AS SYNTACTIC MEANS OF EXPRESSION

Noninflected words of various functions were used in indicating relationships between other words in the sentence or between sentences.

1. Some were used for modifying Nouns, often indicating the relationships of nouns to verbs. Although these were generally placed after nouns and accordingly were Postpositions, they have often been called Prepositions by reason of their function rather than their position with regard to nouns (Delbrück).

2. Others were used for modifying Verbs, often specifying more precisely the meanings of verbs; these then may be called Preverbs.

3. Others, commonly referred to as Sentence Connectives, were used primarily to indicate the relationships between Clauses or Sentences (Watkins 1964; Lehmann 1969).

5.5.1. POSTPOSITIONS.

Postpositions in the various dialects are found with specific cases, in accordance with their meanings.

Yet in the Old Hittite texts, the Genitive rather than such a specific case is prominent with Postpositions derived from Nouns, such as *piran* ‘(in) front’ (Neu 1970):

kuiš	LUGAL-ua-aš	pira	ēšzi
who	king's	fron	he-sits
<i>‘whoever sits before the king’</i>			

Such postpositions came to be frozen in form, whether unidentifiable as to etymology; derived from nouns, like *piran*; or derived from verbs, like Skr. *tirás* (viz. Lehman). Further, as the language came to be VO, they were placed before nouns.

As case forms were less clearly marked, they not only “governed” cases but also took over the meanings of case categories. The preposition *tirás* (*tiró*), derived from the root **tṛ-* ‘cross’, illustrates both the etymological meaning of the form and its eventual development as preposition:

RV	yám	te	śyenáḥ	padābharat
8.82.9.	what	for-you	eagle	with-foot-he-bore
	tiró		rājānsy	áspṛtam
	crossing, through		skies	not-relinquishing
	píbéd [<píba íd]	asya	tvám	īśiṣe
	you-drink-indeed	of-it	you	you-are-master (for-your-benefit)

‘What the eagle brought for you in his claws, not dropping it [as he flew] through the skies, of that drink. You control [it for your own benefit].’

The syntactic use of such particles with nouns is accordingly clear.

5.5.2. PREVERBS.

1. Rather than having the close relationships to nouns illustrated above, particles could instead be associated primarily with Verbs, often the same particles which were used as Postpositions.

2. Such combinations of particles and verbs came to be treated as units and are found repeatedly in specific uses (Delbrück 1888).

A. Preverbs might occupy various positions:

1. If unmarked, they are placed before the verb;
2. If marked, they are placed initially in clauses (Watkins 1964).

NOTE. In the course of time the Preverbs in unmarked position came to be combined with their verbs, though the identity of each element is long apparent in many of the dialects. Thus, in Modern German the primary accent is still maintained on some verbal roots, and in contrast with cognate nouns the prefix carries weak stress: *erteilen* ‘distribute’, *Urteil* ‘judgment’. The steps toward the combination of preverb and verbal root have been described for the dialects, for example, Greek, in which uncombined forms as well as combined forms are attested during the period of our texts.

B. In the attested IE dialects:

- a. Preverbs which remained uncombined came to be treated as Adverbs.
- b. Combinations of Preverbs plus Verbs, on the other hand, eventually came to function like unitary elements.

The two different positions of preverbs in early texts led eventually to different word classes.

5.5.3. SENTENCE PARTICLES.

1. Particles were also used to relate sentences and clauses (J. Friedrich 1959:18, § 11):

takku	LÚ.ULÙ ^{LU} -an	EL.LUM	QA.AZ.ZU	naš	GÌR-ŠU	kuiški
if	man	free	his-hand	or	his-foot	someone
tuḡarnizzi	nušše	2	GÍN	KUBABBAR	paii	
he-breaks	Ptc.-to-him	2	shekels	silver	he-gives	

‘If anyone breaks the hand or foot of a freeman, then he must give him twenty shekels of silver.’

Particles like the initial word in this example indicate the kind of clause that will follow and have long been well described. The function of particles like *nu* is not, however, equally clear.

NOTE. Dillon and Götze related *nu* and the use of sentence connectives to similar particles in Old Irish (Dillon 1947). Such particles introduce many sentences in Old Irish and have led to compound verb forms in this VSO language. Delbrück had also noted their presence in Vedic (1888)

Since introductory *šu* and *ta* were more frequent than was *nu* in the older Hittite texts, scholars assumed that sentences in IE were regularly introduced by these sentence connectives. And Sturtevant proposed, as etymology for the anaphoric pronoun, combinations of **so-** and **to-** with enclitic pronouns, as in the well-known Hittite sequence *ta-at*, cf. IE **tod**, and so on (see Otten and Souček 1969 for the use of such particles in one text).

It is clear that sentence connectives were used in Hittite to indicate continued treatment of a given topic (Raman 1973). It is also found with Hittite relative constructions, a function which may also be ascribed to Vedic *sá* and *tád*.

NOTE. For Lehman (1974), since this use may be accounted for through post-PIE influences, sentence connectives may have had a minor role in PIE.

2. Other particles, like Hitt. *takku* ‘if’, probably had their counterparts in PIE, even if the surface forms were completely unrelated. This is also true for Emphatic Particles like Skr. *íd*; they were used after nouns as well as imperatives. Such emphatic particles combined with imperatives suggest the presence of Interjections, which cannot usually be directly reconstructed for PIE but are well attested in the several dialects.

3. A coordinate sentence connective **-qe** can clearly be reconstructed on the basis of Goth. *u(h)*, Skr. *ca*, Gk. *te*, Lat. *que*, and so on. But its primary function is the coordination of elements in the sentence rather than clauses or sentences.

NOTE. Moreover, when *ca* is used to connect verbs in the Vedic materials, they are parallel (Delbrück 1888); Delbrück finds only one possible exception. In an OV language the relating of successive verbs is carried out by means of nonfinite verbs placed before finite. We may then expect that coordinating particles had their primary use in PIE as connectors for sentence elements rather than for sentences.

Another such particle is **-wě** ‘or’. Like **-qe**, the particle indicating disjunctive ‘or’ was postposed, in retention of the original pattern as late as Classical Latin.

4. Particles in PIE may also have corresponded to verbal qualifiers.

a. The most notable of these is **mē**, which carried a negative modal meaning.

b. There is indication of such uses of particles in other patterns, for example, of Vedic *purā* ‘earlier’ to indicate the past, as apparently Brugmann was the first to point out (Delbrück 1888), and also Vedic *sma*, to indicate repeated action in the past (Hoffmann 1967). It is curious that *sma* is also found after *mā* in Vedic (Hoffmann 1967).

NOTE. Lehman suggested that such mood- and tense-carrying particles may have been transported from a postverbal to a preverbal position. Some particles may accordingly have been equivalent in an earlier stage of PIE to elements used after verbs to indicate verbal categories.

I.6.2. MARKED ORDER IN SENTENCES.

1. Elements in sentences can be emphasized, by Marking; the chief device for such emphasis is Initial Position.

Other sentence elements may also be placed in initial position for marking.

2. In unmarked position the preverb directly precedes the verb. Changes in normal order thus provide one of the devices for conveying emphasis.

Other devices have to do with Selection, notably particles which are postposed after a marked element.

3. Emphasis can also be indicated by lexical selection.

4. Presumably other modifications might also be made, as in Intonation.

The various syntactic devices accordingly provided means to introduce marking in sentences.

I.6.3. TOPICALIZATION WITH REFERENCE TO EMPHASIS.

Like emphasis, Topicalization is carried out by patterns of arrangement, but the arrangement is applied to coequal elements rather than elements which are moved from their normal order.

Topicalization by arrangement is well known in the study of the early languages, as in the initial lines of the Homeric poems. The Iliad begins with the noun *mēnin* ‘wrath’, the Odyssey with the noun *ándra* ‘man’. These, to be sure, are the only possible nouns in the syntactically simple sentences opening both poems: *mēnin áeide* ‘Sing of the wrath’ and *ándra moi énnepē* ‘Tell me of the man’. Yet the very arrangement of *moi* and other enclitics occupying second position in the sentence, in accordance with Wackernagel’s law, indicates the use of initial placement among nominal elements for topicalization.

The use of topicalization may be illustrated by a more complex set of sentences, such as the first address of Zeus in the *Odyssey*. Only the first lines of this will be quoted; but these indicate a shift in topic from the ‘*gods*’ to ‘*men*’, then to a particular man, Aegisthus, then to Agamemnon, and subsequently to Orestes (Lehman 1974).

Ὀ πόποι, ὅῃν δένυ θεοὺς brotoì aitióōntai; eks hēméōn gár phasi kák’ émmenai, hoi dè kaì autoì, sphēĩsin atasthalíēisin hupèr móron álge’ ékhousin, hōs kaì nuñ Aígisthos hupèr móron Atreídaο, gēm’ álokhon mnēstén, tòn d’ éktane nostésanta,

‘Alas, how the mortals are now blaming the gods. For they say evils come from us, but they themselves have woes beyond what’s fated by their own stupidities. Thus Aegisthus beyond what was fated has now married the wedded wife of Agamemnon, and killed him on his return.’

As this passage and many others that might be cited illustrate, the basic sentence patterns could be rearranged by stylistic rules, both for emphasis and for topicalization. In this way the relatively strict arrangement of simple sentences could be modified to bring about variety and flexibility.