

**Mechanisms of Language Change**  
**CONSTRAINTS ON REINTERPRETATION PROCESSES**  
**as evidenced in**  
**Particle Reinterpretation Data from Homeric Greek**

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**Abstract**

Lightfoot (1980) claims that the mechanism for syntactic change, **reinterpretation**, lacks constraints. An in depth study of particle reinterpretation in Ancient Greek will be presented to demonstrate semantic constraints on the process. Particle reinterpretation involves several steps, whereby adverbial particles are associated with Kase-phrases (KP) and are eventually reinterpreted as the case-assigning head of the phrase. The constraints on the process are specific and easily identifiable, but they should not be attributed to the "the very broad constraints of UG", as Lightfoot claimed.

Familiarity with Lehmann and Venneman's (1974) theory of word-order change and Baker's (1988) theory of incorporation is helpful for understanding the issue, but not absolutely necessary to follow the argument as presented here.

**O. Introduction**

Proto-syntax is probably the most controversial area of study in historical linguistics. The discovery of Hittite radically changed assumptions about Proto Indo-European word order. Whereas PIE had been assumed to be SVO by the earliest historical syntacticians (late 1800's), the predominant SOV order in Hittite provoked a reanalysis of the Sanskrit, Greek, Latin and Germanic data. Sanskrit showed predominant OV patterns and in the other languages, relics of OV order were also found. In particular, a comparison of Latin to the daughter languages showed a reasonably clear pattern of change, from mixed VO and OV ordering in Latin to a more consistent VO ordering in the daughter languages (Lehmann; 1974: 238; Lightfoot; 1980: 36). Consequently, Lehmann (1974), Vennemann (1974) and others introduced a theory of word-order change based on Greenberg's typological universals (the continuum for pre- (OV) and post- (VO) specification tendencies). Changes from OV to VO ordering involve reinterpretation and are constrained by Behagel's Law, which states that languages tend towards *continuous constituents*. This law naturally feeds into a Preference Law for Word-order based on consistency of specification. It is claimed that once the verb-object order has changed, the other constituents will change order also, so that the direction of specification in the language is consistent (Murray; 1989; Bellusci; 1991: 24-40).

Lightfoot's major arguments against this theory of word-order change are: 1) lack of a sufficient data base, which would justify the extension of the results to other language families

(Lightfoot: 36); and 2) the lack of constraints (other than the very broad constraints of UG) on changes in the grammar brought about by reinterpretation processes. Because any given generation within a language community is cut off from the earlier history of the language, he argues that no successful reconstruction of proto-syntax can be achieved without a data-base of proto-sentences (Lightfoot: 37,38).

While Lightfoot's complaints about extending the theory to other languages and the lack of a sufficient data-base of proto-sentences seem well justified, his argument that there are no constraints on the reinterpretation process is open to debate. There are syntactic changes that can be posited for Indo-European families that do have a significant data-base, from which we may draw some conclusions about reinterpretation. One such syntactic change is the transition from *particles to prepositions*. The majority of my data will be drawn from changes that are documented from the Greek language and that are found within the literary tradition of Homer.

Interestingly enough, the Homeric tradition (like much poetry) preserves archaic features of the language, some of which are now attributed to pre-Mycenean ancestry (Palmer; 1980: 97-101; Horrocks; 1980: 148-53). While I can not argue that the Greek bards were aware of the origins of the syntactic variations maintained within the tradition, nevertheless, these variations existed in writing and were performed publicly for centuries amongst the Greek populations. Consequently, a path of syntactic change can be traced, by comparing the Homeric documents with the earlier Mycenean tablets and the works of the later Classical poets and prose writers. Secondary data from other languages is also available for a comparison of particle reinterpretation within the Indo-European family.

So, I am attempting to approach the issue of constraints on reinterpretation from an empirical basis. Although the reinterpretation process is not considered to be a conscious activity of the language community, this should not rule out the identification of linguistic constraints on its occurrence. Before these constraints can be assessed, however, it is necessary to have an in depth description of the state of "particles" within the Homeric tradition, in order to understand its value as a data-base for assessing this type of syntactic change. The summary in Section 1 draws heavily from the work of Horrocks (1980) *Space and Time in Homer*, which is undoubtedly the most thorough and in depth discussion of the process available. His work also offers a thorough range of support data from other Indo-European languages.

## 1. THE FUNCTION OF PARTICLES IN HOMERIC GREEK

### 1.1 Ambiguity in Traditional Analyses

Within the traditional analytic framework, there has been considerable ambiguity in determining the function of particles in Homeric Greek. Three roles for the particle are identified: adverb, preposition and preverb. Horrocks criticizes Chantraine's (1953)<sup>1</sup> analysis of the

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<sup>1</sup> Horrocks gives a summary and criticism of Chantraine (1953) before presenting his own criteria for assessing particle types and functions. Chantraine's view is considered to be typical of the traditional view of the account, which appears in most Greek grammars. (Horrocks 1980:10)

particles, claiming that it is contradictory for Chantraine to consider “the evolution of prepositions as a process which is simultaneously both complete and still in progress in Homeric Greek” (Horrocks; 1980: 12-3). Horrocks illustrates how the ambiguity of the traditional terminology becomes apparent when examining the particles in context. The following examples demonstrate this ambiguity, using the particle *amphi* (Horrocks: 9).<sup>2</sup> In example (1) the particle *amphi* would be labelled as an adverb, according to the framework of traditional analyses, yet it clearly shows prepositional tendencies.

- (1) O 266-7      ἀμφὶ δὲ χεῖται / ὄμοις ἄισσονται  
 amphi de khaitai / omois aisontai  
 about - and - long- streaming mane / his shoulders [dat] - floats  
 “and his long streaming mane floats about his shoulders”

In (2a) the particle is probably a case of preverb in tmesis,<sup>3</sup> for despite its prepositional position in that example, the particle occurs as a “univerbated”<sup>4</sup> adverb in (2b). Note also that the compound verb (amphero) takes on more than one sense, during translation into English (compare 2a and 2b).

- (2a) Λ 482-3      ὣς ῥά τότε ἀμφὶ Ὀδυσῆα ... / Τρῶες ἔπον  
 hōs ra tōt amph odysea (acc.) / trōes hepon  
 even - so - then - about - Odysseus ... / Trojans set  
 “even so then, (the) ...Trojans surrounded Odysseus”

- (2b) Σ 348      γάστρην μὲν τρίποδος πῦρ ἀμφεπε  
 gastreen (acc) men tripōdos pyr amphepe  
 belly - then - cauldron - fire - aboutset  
 “then the fire played about the belly of the cauldron”

In example (3) *amphi* is functioning clearly in a prepositional manner, especially when compared to example (1).

- (3) Γ 334      ἀμφὶ δὲ ἄρ ὄμοισιν                      βάλετο      ξίφος ...  
 amphi d)ar omois (dat)                      baletō      ksiphos  
 about - and so - (his) shoulders - threw (he)-(his) sword  
 “and so he threw his sword about his shoulders”

<sup>2</sup> The various statements of analysis are drawn from Horrocks; however, any errors of application in the broader framework of reinterpretation presented here are my own.

<sup>3</sup> Webster (1988) defines tmesis as: “separation of parts of a compound by the intervention of one or more words.” English example: *what place soever* vs. *whatsoever place*.

<sup>4</sup> Univerbation, in historical theory, is a process of compounding or fusion, which may or may not be subject to constraints, depending on the theorist’s position.

Collectively, these examples demonstrate that the traditional terminology can not be applied unambiguously when analyzing the Homeric text. Horrocks argues instead for a single role "particle". He considers the function of particles to be essentially adverbial; although they demonstrate both *adverbial* and *prepositional* tendencies. Prepositional particles either explicitly or implicitly modify a Noun Phrase inflected for case, which will be termed here KASE-phrase (KP; Travis; 1986<sup>5</sup>). Adverbial particles stand only in relationship to a verb and have no specifying<sup>6</sup> relationship to a KASE-phrase. Whether or not the particle specifies KASE is the distinguishing factor between the two functional tendencies.

## 1.2 A Survey of Particle Distribution

Horrocks' argument is supported by a survey of the particles as they are found in general clause and preverb environments. The (traditionally termed) independent adverbs and prepositions are actually found in parallel environments throughout the text. Both can occur in all of the clause types listed in Table 1, and they both function in optional adjuncts.

TABLE 1: BASIC CLAUSE TYPES IN HOMERIC GREEK

Adapted from Horrocks (1980: 14,15)

### 1) Nominal & Copular Clauses<sup>7</sup>

S + Csubject

B 204: [οὐκ] ἀγαθὸν πολυκοιρανίη  
(uuk) agathon polukoiranīe  
[not] a good thing [is] many-lords

S + Cplace  
(state of being)

A 515: [ἐπεὶ οὐ τοι] ἐπι δέος  
(epeē uu toi) epi deos  
[since there is nothing] to/for fear

<sup>5</sup> In more recent developments in Generative Grammar the distinction between lexical and functional categories has been revived and KASE as an abstract functional category heads an NP and receives specific morphological case from the verb to mark on that NP. For languages such as German and Greek, where the morphological case is added to the stem as a suffix not a prefix, this would support KASE being manifested as a *postposition*, which is in agreement with the notion of a historic SOV word order. The tendency for the prepositional particles to become fixed, preceding the KASE phrase is in agreement with the changing trend to SVO word order. Postpositions do occur in both Homeric and Classical Greek, but they are rare in comparison to the prepositional forms.

<sup>6</sup> The term "specify" is used in a semantic and a syntactic sense. The particle takes up the specifier position of the KASE-phrase (X-Bar Theory) and narrows the meaning of the KASE relation. The term is not used in the sense employed in historical theories of word-order change.

<sup>7</sup> Horrocks argues, according to Kahn (1973), that the difference between nominal and copular clauses is trivial, because omission of the copula is so frequent in Greek. c.f. Horrocks (1980:15)

S + Csubject + Vcop	β 29·	[ῆ] οἱ προγενέστεροί εἰσιν (εε) ἦοι προγενεστεροῖ εεσιν [or] those-who older (ones) are
S + Cplace + Vcop	A 63:	[τῷ] ὄναρ ἐκ Διός ἐστιν (l) ὄναρ ἐκ διός ἐστιν [a] dream from Zeus is (source)
<b>2) <u>Intransitive Clause</u></b> S + Vintrans	O 101:	ἡ [δὲ] γέλασσε hee (de) gelase she [but] laughed
<b>3) <u>Simple Transitive Clause</u></b> S + Odirect + Vtrans	O 328:	ἄνῆρ ἔλεν ἄνδρα aneer helen andra man (nom) slaughtered man (acc)
<b>4) <u>Complex Transitive Clause</u></b> S + Odirect + Cobject + Vc-trans	θ 20:	μῖν μακρότερον... θῆκεν min makroteron ... theeken him taller ... (she) made
S + Odirect + Cplace + Vc-trans	θ 441:	ἄρματα [δῶ] ἄμ βωμοῖσι τίθει harmata (d) am bowmoisi tithee the chariot's gear [and] upon a stand - he-set
<b>5) <u>Di-transitive Clause</u></b> S + Odirect + Oindir + Vdi-trans	ρ 287:	ἧ ... κακῶ ἀνθρώποισι δίδωσιν hee ... kak anthrooisi didwsin which ... evils (upon) men (dat) gives

a = lower case letter - source is the Odessey

A = capital letter - source is the Iliad (Same throughout this document)

S = subject

O = object

V = verb

C = complement

[ ] = non obligatory clause element(s)

place: includes source, goal (also when a person) location and state (of being)

The following data, which illustrate the phenomena of parallel environments, employ a variety of particles. I have attempted to demonstrate the two syntactic functions with a semantically matched pair of particles, but where the example pair does not include a semantic match, the reader may assume that both the adverbial and prepositional functions actually exist for each particle in the pair (from Horrocks: 16 - 18):

**(4a) Prepositional Phrase as Complement in Verbless Copula clause**

F 110 ἀλλ᾽ ἐπι τοι καὶ ἐμοὶ Θάνατος καὶ μοῖρα κραταιή  
 all epí toi kai emoi thanatōs kai moira krataiē  
 yet - over - the(dat)- also- me(dat)- death(nom)- and - fate(nom) - hangs  
 “yet over me also, hang death and fate”

**(4b) Adverb as Complement in Verbless Copula clause**

p 315 οὐδ᾽ ἐπὶ Φειδῶ  
 uud epí pheidō  
 neither [is] (there) over sparing (nom)  
 “(they) show no restraint”

**(5a) Prepositional Phrase as Complement in Overt Copula clause**

O 607 ἀφλοισμὸς δὲ περὶ στόμα γίγνεται  
 aphloismos de peri stoma gignetai  
 1(nom) - and - about - (his) mouth (acc) came into being  
 “and he foamed at (around) the mouth”

**(5b) Adverb as Complement in Overt Copula clause**

v 343 ἔνθα δ᾽ ἅνα σταφυλαὶ παντοῖαι ἔασιν  
 entha dana staphūlai pantōiai easin  
 there - and - upon(them)- clusters (nom) - of every kind - are  
 “and there, upon them, are all kinds of clusters”

**(6a) Prepositional Adjunct of Place**

B 4 ὀλέσει δὲ πολέας ἐπὶ νηυσὶν Ἀχαιῶν  
 olesei de poleas epí neūsin akaiōn  
 (he)destroy (subj) - and -many (acc) - beside- (the) ships(dat) - Achaeans (gen)  
 “and (how) he might destroy many (soldiers) beside the ships of the Achaeans”

**(6b) Adverbial Adjunct of Place**

a 273 Θεοὶ δ᾽ ἐπὶ μάρτυροι ἔστων  
 theoi d epí martūroi estōn  
 gods (nom) - and - at (it) - witnesses - be (imper)  
 “and let the gods be witnesses at there (the assembly)”

(7a) Prepositional Complement in Complex transitive clause  
 δ 58 παρά δέ σφι τίθει χρύσεια κύπελλα  
 para de sphi tithei khrúseia kúpella  
 by - and - them (dat) - set (he)- golden - goblets (acc)  
 "and he set golden goblets by them."

(7b) Adverbial Complement in Complex transitive clause  
 Φ 364 ὑπὸ τὲ ξύλα κάγκανα κεῖται  
 hýpo te ksúla kánkana keetai  
 under (there) - and - firewood - dry (acc) - is set  
 "and dry firewood is set under there"

### 1.3 Prepositional Tendencies of Particles

It is important to note that the independent adverbial particles in examples (4b), (5b) (6b) and (7b) are all implicitly prepositional or pro-prepositional<sup>8</sup> forms; that is: they have a covert KP that can be recovered from the context. These forms are similar to the modern German forms *davon* or *dadurch*, or the older English forms (surviving only in legal language today) *thereon* and *thereto* (Horrocks: 18). Again, the prepositional phrases are not fully prepositional, rather the prepositional particle specifies the complement KASE-phrases. This is apparent because in Homeric Greek adverbial KASE-phrases are able to stand alone without particle support, as in the following examples (Horrocks: 19):

(8) Locative - expressed with dative case (Adjunct)  
 Δ 423 πόντῳ μὲν τε πρῶτα κορύσσεται  
 pōntō (men te) prōta korúsetai  
 the open sea (dat) - at the first (acc) - (it) is gathered into a crest  
 "Upon the open sea is it (the wave) at first gathered into a crest"

(9) Goal expressed with accusative case (Complement to V-of-motion)  
 A 322 ἔρχεσθον κλισίην  
 erkhesthōn klisiēn  
 go (imperative) the hut (acc)  
 "Go to the hut...!"

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<sup>8</sup> In the framework of Generative Grammar, pro-forms are covert noun phrases. The importance of the pro-form to Horrocks argument is that pro does not receive case. Consequently, in these forms, the particle is implicitly functioning like a preposition, yet it is not case assigning.

(10) Path expressed with accusative case (Complement & Adjunct)

γ 71 ποθεν πλειθῶ ὑγρά κέλευθα  
pothen pleith hūgra keleūtha  
where (acc) - sail (you) - watery - ways (acc)  
"To (C) where are you sailing over (A) the watery ways?"

(11) Source expressed with genitive case (Adjunct)

Ο 655 Ἀργεῖοι δὲ νεῶν μὲν ἐχώρησαν  
argeeoi de neōn men ekhōreesan  
the Argives(nom)- and- ships(gen) - gave way  
"and the Argives gave way (retreated) from the ships"

This optionality of the particle in the KASE-phrase is further indicated by the ability of the clitic co-ordinating particle to intervene between the preposition and the rest of the phrase, as in example (7a). In the majority of the data presented here, however, the clitic actually precedes the prepositional particle. The fact that the specifying particle is generally preferred indicates that the stage of development is approaching a full prepositional status.

Complement particles which have traditionally been termed "preverb" particles also demonstrate prepositional tendencies, as indicated by examples (12a) and (12b), where the particle simultaneously specifies both KP and the verb (taken from Horrocks: 21):

(12a) Preverb Particle in tmesis, before the KASE-phrase

π 337 πάις ἐκ Πύλου ἦλθεν  
pais ek pūluu eelthen  
son(nom)- out- from Pylos(gen)-came  
"(her) son came (out) from Pylos"

(12b) Preverb Particle

υ 371 ἐξεῆλθε δόμων  
ekseelthe domōn  
out-from came (he)- the halls (gen)  
"He came out from the halls"

Prepositional particles are also constituents within *prepositional verbs*. English correlates to these prepositional verbs would be *look at*, *rely on*. Compared to the forms in (12a and b), the relationship between the particle and the verb in prepositional verb constituents is much more idiosyncratic and the verb is also non-copular. With a verb of motion (as in ex. 12: *come*), almost any other spatial particle may be used. (i.e. in, out, from, to, etc.) In contrast, the prepositional verbs are restricted in particle combination, as demonstrated in the form "speak to" (Horrocks: 24):



(13) Prepositional Verb

- υ 128 πρὸς δὲ Εὐρύκλειαν ἔειπεν (\*ανα.../\*δια.../\*παρα...)  
prōs d eurŭklicean eipein (ana.../ dia.../ para...)  
to - and - Euryclyia - spoke (he) (\* up .../ \* by.../ \* along ...)  
“And he spoke to Euryclyia...”

Although the particle within prepositional verb constituents is more closely connected with the semantics of the verb than the KASE-phrase, it may still be viewed as specifying both constituents equally. Because the Adverb phrase (Particle+KP) is a complement, the particle may stand immediately before the verb and separate from the KP or it may stand independent of both the verb and the KP (Horrocks: 25):

(14) Particle immediately before Prepositional Verb

- A 206 τὸν δὲ αὐτὴ προσέειπε θεὰ  
ton daute prōs eipe thea  
him (acc) - then- she to - said - (the) goddess  
“Then the goddess said to him”

(15) Particle independent of both Verb and KASE-phrase

- δ 803 καὶ μιν πρὸς μῦθον ἔειπεν  
kai min prōs mŭthon eipein  
and - her - to - spoke - said (she)  
“and spoke to her and said..”  
or “and she spoke, and said to her”

#### 1.4 Adverbial Tendencies of Particles

There are also particles which occur pre-verbally but never co-occur with a KASE-phrase, either overtly or covertly. These are grouped into two subtypes, depending on whether or not the particle may stand in tmesis or not. Those that can undergo tmesis are constituents in *phrasal verbs* (c.f. 16 a & b). Those particle + verb combinations which *can not undergo tmesis* are considered *true compounds* in Horrocks' framework (c.f. 17a & b). The adverbial particles in true compounds are non-resultive in meaning. They add an aspectual sense to the verb, indicating completeness (fullness) of the action, but do not indicate a change in state for the affected entity (Horrocks; 1980: 26):

(16a) Particle + Phrasal Verb

- E 758 ἀπόλεσε λαὸν Ἀχαιῶν  
apōlese laon akhaiōn  
away-kill a host (acc) Achaeans (gen)  
“he has destroyed a host of the Achaeans”

**(16b) Particle in tmesis (separation) from verb**

- Ω 609 τῷ δῶρα ... ἀπὸ πάντας ὄλεσαν  
τω̄ dara —apo pantas ὄlessan  
they - then, so — away - all of them - kill  
“so then, they destroyed all of them.”

**(17a) Compound verb**

- ζ 49 ἄφαρ δῶπεθαύμασ' ὄνειρον  
aphar darēthaūmas ὄneiron  
immediately - and - at-wondered (she) - (her) dream (acc)  
“And immediately she wondered at (was amazed by) her dream”

**(17b) Ungrammatical when particle in tmesis (Horrocks: 26)**

- (ζ 49) \* ἄφαρ δ' ἀπὸ ὄνειρον ἐθαύμασῃ  
\* apha r d ap ὄneiron ethaūmas  
\* 1 1 - and — at- (her) dream (acc) - wondered (she)

Finally, phrasal verb units should be contrasted with structures where independent prepositional particles occur as complements to copular or complex transitive verbs (c.f. again examples 5a and 7a). In phrasal verb units, the verb is not a copula or complex transitive and the particle has a non-literal or abstract sense, which indicates achievement of a *new state* or *resultative condition*, rather than the new location of the affected entity or a resultant location (Horrocks: 27):

**(18a) Prepositional particle with complex transitive verb**

- Κ 72 ἀπέπεμπεν ἀδελφεὸν  
apēpempēn adelphēon  
away-sent (he) (his) brother(acc)  
“...he sent away his brother...” (change of spatial location)

**(18b) Adverbial particle in phrasal verb**

- τ 230 ὁ μὲν λάε νεβρὸν ἀπάγχων  
hō men lae nebrōn apēkhōn  
he (dog(nom)) - but- was pinning - the fawn - (acc) away strangling (it)  
“...but the dog was pinning the fawn and strangling it (to death).”  
(abstract sense)

## 1.5 Summary of Particle Distribution

Horrocks reduces his classification of the particles to the summary format presented in Table 2, where the types of particle + verb combinations are listed vertically, and the distinguishing criteria are listed horizontally. It is not necessary for the line of argumentation pursued here, to

**TABLE 2: GREEK PARTICLE DISTRIBUTION**  
Adapted from Horrocks (1980: 29)

	1. P/P+KP omissible	2. particle prepositional	3. adverbial Q-Form	4. pronominal Q-form	5. free-choice particle	6. partical preverbal	7. particle in tmesis	EX.
1. Adjunct Kase P	+	+	+	0	+	0	0	6a 8-11
2. Complement Kase P	0	+	+	0	+	+	+	4a 5a 7a
3. Prepositional Verb	P only omissible	+	0	+	0	+	+	12a,b 14,15
4. Phrasal Verb	0	0	0	+	0	+	+	16a,b
5. Compound Verb	0	0	0	+	0	+	0	17a

P = Particle  
Kase P / KP = Kase Phrase  
Q = Question

discuss his distinguishing criteria more thoroughly. From this point onward, I will be examining more closely the semantic nature of the particles in the first three categories: 1) Adjunct Kase-phrase; 2) Complement Kase-phrase; and 3) Prepositional verb units. These are the units where Horrocks has demonstrated that the particle has prepositional tendencies, yet it has not been fully reinterpreted as a preposition.

The *preverb position* which is identified as a role in the traditional assessment of the particles, has been shown by Horrocks to exhibit both prepositional and adverbial tendencies. This "preverbal" position of the particle is relevant for discussions of univertation (compounding), which is currently identified by syntacticians as the process of incorporation (Baker; 1988). This process overlaps and interacts with the particle reinterpretation process, complicating the analysis. Horrocks views particle movement by both prepositional and adverbial forms into the preverb positions as a unified syntactic process. He also views the position of particles in phrasal verbs, as having been generated in base structure, while *true compounds* are considered lexical combinations (Horrocks: 50-84). There are some problems with Horrocks' interpretation of the syntactic process, in terms of the constraints placed upon incorporation, as stated in Baker's theory (1988). However, Baker's theory is designed to explain a synchronic process, and it is appropriate

to consider whether or not normal syntactic constraints are violated when a language community is reinterpreting and restructuring syntactic functions. We will return to these questions after a consideration of the semantic constraints on the reinterpretation process.

In keeping with the introductory questions about constraints on reinterpretation as a mechanism of language change, Section 2 will now outline the general characteristics that constrain Greek adverbial reinterpretation. In Section 3, more exact stages for the reinterpretation process will be outlined, stating the evidence that indicates when each stage has been reached. Support for the reinterpretation process as an Indo-European phenomenon is provided through summaries of word-order data from Sanskrit, Hittite, Homeric and Classical Greek, and with secondary references to prepositional development in Mycenaean.

## 2. CONSTRAINTS ON REINTERPRETATION

### 2.1 Semantic Constraints

It is important to note the semantic characteristics of the particles that undergo reinterpretation. These particles, as independent adverbs, are limited to the group which indicate temporal and spatial location or direction of motion. When the particles take on a specifying relationship with the KASE-phrase, they associate with KPs that are also bearing some temporal or spatial relationship to the verb (complement), verb phrase or main clause (adjunct) (c.f. examples 8-11). Particle + KP units are able to express location, motion and orientations that involve proximity of participants or relationship to either a goal or source. These relations apply in both the spatial and temporal domains (c.f Horrocks: 180-287 for an in depth treatment of the semantics of Greek Prepositions). Although the use of particles to express temporal notions is more abstract than the locative uses, the temporal use is consistent and predictable across languages.

Non-literal and idiomatic uses of the particles in phrasal verbs were perhaps originally "motivated" by spatial schemas (c.f Lakoff; 1987: 416-61 - on analysis of metaphor and figurative language involving spatial prepositions); however, these are quickly subject to semantic drift. Eventually the meaning of the preposition no longer has a transparent relationship to one of the KASE functions it is associated with.

This restricted semantic field<sup>9</sup> of the particles does constrain the reinterpretation process, but it is also apparent that the **semantic ambiguity** created by the conflation of **case functions** within the case system (paradigm)<sup>10</sup> is likely responsible for the creation of the new function of the particle as a specifier of KASE.

## 2.2 Conflation of the Morphological Case System

The following (Table 3) is the set of singular and plural case-endings posited for PIE by comparative researchers. I have omitted the dual forms, because they already show a high degree of syncretism even before the daughter languages separated from PIE.

**Table 3**  
**PIE Case Endings**  
(Adapted from Palmer; 1980: 267)

	Singular	Plural
Nominative	- s, Ø	- es
Vocative	- Ø	- es
Accusative	- m*	- ns*
Genitive	- es/-os/-s	- om/-o:m
Ablative	- es/-os/-s, -ed/-od	- bh(y)os, mos
Dative	- ei	- h(y)os, mos
Instrumental	- e/-o, bhmi/-mi	- bhmis/-mis, o:is
Locative	- i	su

\* Syllabic forms also

As Table 3 indicates, the dative and ablative case endings are considered to be the same for PIE; however, in Homeric Greek, the dative and instrumental cases have conflated with the locative case, and the ablative case (source) is conflated with the genitive case. The conflation is attributed to the phonological and functional similarity of these cases (Smyth; 1959: 312 - Par. 1279). However, the phonological similarity is likely the true source of the change. Phonological reduction of the case endings actually created functional ambiguity through **composite cases**; and

<sup>9</sup> A semantic field is a group of related concepts that usually have a set of identifiable lexical labels. They can usually be organized hierarchically.

<sup>10</sup> The term KASE is used when speaking of the syntactic position at the head of the phrase; the more familiar term CASE is used when referring to the actual morphological realization of a specific case or discussion of the cases as a paradigm.

this should be identified as the motivation for the new function of the particles: specifying KASE to prevent the loss of semantic distinctions. The presence of a prepositional particle in the phrase is preferred, though not obligatory, in Homer, because the particle narrows the meaning of the composite cases (Smyth: 365, 374, 378).

By analogy, the tendency of the particle to be associated with composite cases would spread to the entire case paradigm (particle + KASE), occurring first in those uses where the non-composite cases are functioning to indicate spatial location or motion or temporal relations, then extending to more abstract uses of the particles.

For example, accusative case in Greek is used to indicate a direct object complement or motion towards a location. Consequently, after adverbial reinterpretation, the direct object is marked by accusative case alone, whereas the relational idea of "motion" is indicated by a preposition (eis) + accusative case. The composite 'dative' case alone usually indicates the recipient, indirect object or beneficiary (dative functions of the eight case system), but in combination with a preposition (en), it is locative in function. Even after the conflation and reinterpretation processes occurred, instrumental uses of the dative case can still occur with or without a preposition, since the meaning of the noun phrase itself is sufficient to disambiguate the sense of the case.

The semantic ambiguity caused by phonological reduction of case endings can be seen as the primary motivation for the adverbial particles to develop prepositional tendencies. However, the new functions of the particles create greater ambiguity in the total system, as **both particles and cases have composite functions**. According to Horrocks, the particles are not able to become fully prepositional (reinterpreted as Preposition + KASE) until the independent adverbial forms are renewed in their morphology, making it feasible for the multiple functions to be distinct once more.

### 2.3 Renewal of Independent Adverbial Forms

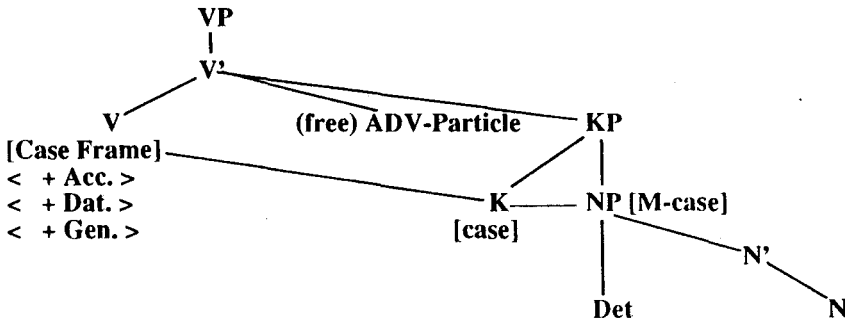
Horrocks cites Kurylowicz (1964) in arguing that the development of both prepositions and univerbation in IE languages such as Sanskrit (Vedic) and Greek were dependent upon a formal renewal of the old adverbial forms in their *primary independent function* (Horrocks: 117-18). These primary functions are deictic locatives, such as: here, there, outside, etc. Table 4 gives examples of the old and renewed forms:

**Table 4**  
**Primary Adverbial Form Renewal**  
 (Adapted from Horrocks; 1980:118;142)

Old	Vedic		Greek		Mycenaean
	Renewed	Gloss <sup>11</sup>	Old	Renewed	Renewed
úd	uccá:	“on both sides”	amphi	amphotero:then, amphotero:se	apoterote
ní	niccá:	“outside”	ek	ektos, ektosthen	
abhí	abhítah	“here” or “there”	en	entha, enthen, enthade, evthende	ete

Once the particles have renewed forms to take up their primary functions, the old forms are then free to be used as KASE specifiers or to compound with the verb. The final step in preposition development is the reinterpretation of the relationship between the particle and the abstract KASE position which heads the phrase, as in Figure 1C. The particle is reinterpreted as being head of the phrase. Horrocks and most Greek grammarians would agree that it also takes over the case-assigning property from the verb.

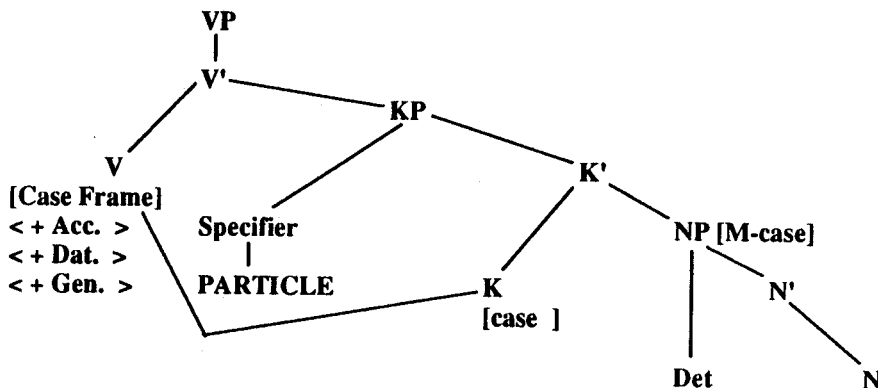
**Figure 1A) KASE ASSIGNED BY THE VERB'S CASE-FRAME**



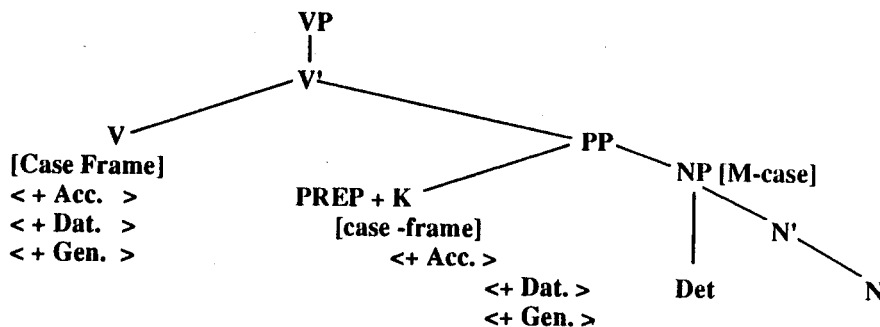
<sup>11</sup> I am assuming that Horrocks has chosen Vedic adverbials equivalent to the Greek forms. He does not include glosses in many of his examples. Provided this assumption is correct, then the gloss applies to both the Greek and Vedic. If the assumption is not correct, then the gloss is applicable only for the Greek forms.

- 1) Initial change from OV to VO has occurred
- 2) Adverbial Particles indicating spatial location and motion are likely complements to the Verb, locating them under V'
- 3) See Footnote 12 for clarification on the concept of 'case-frame'
- 4) M-case = Morphologically-manifested Kase

**Figure 1B) ASSOCIATION OF THE ADVERBIAL PARTICLE WITH KASE**



**Figure 1C) REINTERPRETATION OF THE PARTICLE AS A KASE ASSIGNING PREPOSITION**



Once reinterpretation has occurred, the position of the particle becomes fixed, as in Figure 1C. Since the particle heads the phrase, it must always occur with it. The fixation of the



particle in the prepositional rather than a postpositional location indicates that, although Greek employs a great deal of variation in phrase order, it has switched to a predominantly VO word-ordering. OV ordering is still frequent in subordinate clauses. In order to get an adverbial reading rather than a prepositional reading of the particle, it has also become necessary to fix the adverbial position relative to the verb, in preverb position. This in turn restricts the availability of the univerbation process to the adverbial reading.

In summary, reinterpretation was preceded by the renewal of the primary adverbial forms, which was likely preceded by the conflation of the case system that created the third syntactic function for the particles. For example, before the renewal, the Greek particle "ek" - occurs in: a) its primary function - "outside" (locative); 2) its adverbial function - "out" (direction); and 3) prepositional specification of the genitive case - "from" (formerly the ablative case function).

Since these factors can be clearly identified as motivating the reinterpretation process, it is now possible to set in order the stages of the process and to present word order evidence which indicates that the process is completed in Classical Greek.

### **3. PARTICLE REINTERPRETATION & WORD-ORDER:**

#### **3.1 Stages of Reinterpretation**

The stages in the reinterpretation process may be summarized as follows:

1) Conflation of the case system creates ambiguity. It seems that semantic relations indicating spatial and temporal location, orientation or motion are particularly susceptible to ambiguity when the case system conflates.

2) Particles take on a specifying function in relation to the ambiguous KASE-phrases. At this early stage, any compatible pair of particle and case-ending may co-occur (Horrocks: 119). This would mean that particles would be specifying case in spatial (and perhaps temporal) adjuncts, and in complements of verbs of motion.

Both of these stages are previous to the data that Horrocks presents, since all of the daughter languages which he surveyed, and perhaps even PIE have gone beyond this stage. He begins the stages with step two and assumes that these constraints (stage 2) are justifiable for the earliest stage of the process, even though the stage is not attested (Horrocks: 120). As indirect evidence, it is valuable to note that, in Greek, the particles which associate with only one case specify the 'spatial' case distinctions which would have been lost between PIE and Greek (such as 'apo + genitive' to indicate the 'ablative' function; or 'en plus dative' to indicate 'location' - c.f. Reading Greek: 1988: 290-92).

3) The semantic relationship between particle and KASE-phrase causes them to be syntactically grouped together. Then, by reinterpretation, purely syntactic co-occurrence restrictions can develop between particles and case-endings that are semantically independent, since one of the particle's functions is case-specification. This situation is manifested in the prepositional and phrasal-verb constituents and is the stage of development which is attested in Homeric Greek. According to Horrocks, it is the stage which should be attributed to PIE (Horrocks: 121). Some of the word-order evidence that Horrocks presents to support this claim will be presented in Section 3.2.

4) The primary function of the particles is renewed, as demonstrated in Table 4. This step must precede the final stage of reinterpretation.

5) Reinterpretation of the prepositional particle as (head of the phrase and) Kase-assigner occurs with the parallel (or consequential) reinterpretation of the preverb position as strictly "adverbial". Enclitics can not intervene between either the preposition and KP or the adverbial particle and verb units. Adjunct adverbial clauses no longer appear without a prepositional head. This is the state of development found in Classical Greek.

The following examples indicate that adverbial particles and prepositions are distinct functions in Classical Greek. The compound (incorporated) form of preposition + verb, was possible in Homeric Greek (c.f. example 19a) with two possible interpretations. In Classical Greek, however, the adverbial nature of the compound must distinguished and a doubling structure is employed to achieve the adverbial interpretation of the particle (as in 19b):

19a) **Incorporated Preposition (possible in Homer only):**  
οἱ ἄνδρες ἀφαιροῦσι τὰ ὄπλα τῶν πολεμίων  
hoi andres - aphairouusi - ta hopla - ton polemion  
the men - from-take - the weapons - the enemy  
nominative - 3rd.pl. pres. active - accusative - genitive  
"The men take the weapons from the enemy."  
or "The men take the weapons away from the enemy."

19b) **Doubling Structure (Required in Classical) & Incorporated Adverb:**  
οἱ ἄνδρες ἀφαιροῦσι τὰ ὄπλα ἀπὸ τῶν πολεμίων  
hoi andres - aphairouusi - ta hopla - apo ton polemion  
the men - away-take - the weapons - from the enemy  
nominative - 3rd.pl. pres. active - accusative - Prep + genitive  
"The men take away the weapons from the enemy."

Compare these to examples 12a & b where the particle simultaneously specifies both the verb and the Kase-phrase. It is controversial whether or not the particle may have taken over headship of the phrase at stage 3. Headship and case-assigning abilities are linked together in Horrocks' analysis at stage 5. However, according to the constraints in Incorporation Theory, the particle must already be a head in order to incorporate (Baker, 1988: 51-54) with the verb, which is head of the verb-phrase and incorporation of the "prepositional particle" does occur in Homeric Greek.

Horrocks suggests that if the prepositional and adverbial functions were distinct syntactically, rather than composite functions of a single syntactic entity of particle, then the prepositional particle would not be able to move out of the Kase-phrase into preverbal position and undergo univerbation or incorporation (c.f. examples 2b and 12b in this paper; Horrocks: 122). However, this interpretation seems to anticipate the full adverbial status of the preverb position, which is not complete until stage five. Also, there is plenty of evidence from other languages that

**Table 5: Enclitic Positioning**

Sanskrit (Horrocks: 93-95)

Type (a) P (E)....V

prā vām.....bhārante

"they are brought forth...to you"

Type (a) V (E) ...P\*

bādhante...abhimāñnam āpa

"they drive off adversaries"

Type (b) {C/.}(E)...PV

te...prā bhārāmasi

"we bring forth...to you"

Type (c) {P/C/.}(E)V...

antāh pāsyanti vṛjinā

"they see into evil"

Type (d) {C/(V)/.}(E)(V)...P NP<sub>do</sub> (...)(V)  
- one of the V positions is obligatory

ānuvratām āpa jāyām arodhau

"I have driven away a devoted wife"

Hittite (Horrocks: 96)

Type (a) P (E)....V

šer-wa-ši šarnikmi

"I shall make restitution for him"

Type (b) {C/.}(E)...PV

nu-kán tamedani kuedanikki andan  
paitteni

"And you go in to someone else"

Homeric Greek (Horrocks: 101)

Type (a) P (E)....V

*an de* subootees histato

"then the swineherd stoodup"

Type (b) {C/.}(E)...PV

*opse de dee* Menelaos *an* istato

"and he saw Menelaos standup"

Type (d) {C/.}(E)...P NP<sub>do</sub> (V)

*hai d'apo* (men) siton eaireon

"these began to take away... food"

Type (e) P (E)V...

*apo d'oolese* laous

"(away) and others he has slain"

Type (f) PV(E)...

*ap* ekrupsen *de* moi hippous

"but hid away my horses"

Type (g) {C/.}(E)PV...

*su men nun* hoi parathes kseineia

"but you now set before (her)  
entertainment."

V = Verb

P = Particle

E = one or series of enclitics (connectives or pronouns)

C = sentence initial connective or pronoun

. = space to be filled by a single constituent

.... = space to be filled by one or more constituents

( ) = optionality of elements enclosed

{ } = exclusive choice between elements enclosed

prepositions can undergo incorporation processes (c.f. Baker; 1988: 229-304) and the complexity of the case-frame<sup>12</sup> of Greek verbs means that, potentially, a verb could assign the case associated with an incorporated preposition, even if it is not accusative case (c.f. again - the case-frames indicated in Figure 1).

This means that between the stage indicated in Figure 1B and that of Figure 1C, there could be an intermediate stage where the verb and the prepositional particle employ a mode of co-operative government, since the particle cannot always be unambiguously interpreted as the nearer governor (as Baker's theory would require). The inability of the prepositional particle to incorporate in Classical Greek may not be the best evidence that the particle has become a head or a case-assigner. Instead, the binding of the adverbial particle to the verb to disambiguate its adverbial function from the prepositional function could itself be the reason why prepositional-particle incorporation ceases in Classical Greek. The preverb position has been reinterpreted as indicating the adverbial function of the ambiguous particle forms and is no longer available for the preposition incorporation process.

However, if one does not consider the notion of co-operative government to be theoretically feasible, there could also be an intermediate stage where the particle could be a head and still not be a case-assigner. The intervention of enclitics between the particle head and NP should still be possible at this stage. So the absence of intervening enclitics is actually the best evidence that full prepositional status (or two syntactically distinct functions) has been achieved<sup>13</sup>. Consequently, univerbation (incorporation) and the completion of particle reinterpretation could be seen as parallel reinterpretations, which are achieved in stage five.

### 3.2 Word-order Evidence and Clitic Placement

Table 5 indicates clitic placement relative to adverbial particles in phrasal verbs in Vedic Sanskrit, Hittite and Homeric Greek. The Greek word orders apply equally for prepositional particles in Homeric Greek that have been moved out of a complement Kase-phrase (Horrocks: 112), that is: incorporated "prepositional" particles.

In each of the languages it is clear that the enclitic may still intervene between the verb and particle, but forms where the particle univerbates in preverb position are also attested. According to the stages outlined previously, these major Indo-European languages all show

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<sup>12</sup> In most of the languages that Baker examines, the verb can only assign accusative case (structural). Greek verbs can assign genitive and dative as well as accusative case structurally to their innermost objects (indicated by the ability of these objects to undergo passivization), so consequently, they could assign the appropriate case (other than accusative) to maintain the meaning of an incorporated preposition (Smyth, 1959, pp. 355-56, 396). This is important because the meaning of the preposition changes depending on the case it is combined with.

<sup>13</sup> My thanks to Eithne Guilfoyle (University of Calgary) for her clarification of this point, in conversation.

particle development at about stages 3 and 4. (Data on renewal of primary adverbial forms — stage 4 — is not available for Hittite in Table 4.)

#### 4. CONCLUSIONS

Horrocks argues from comparative word order data, that prepositional tendencies in particle function must have been already in progress in late PIE. The fact that the 8-case system of PIE (Table 3) shows syncretism might also support this view, providing that one accepts the idea that syntax can actually project backward from the state of the daughter languages to PIE.

Horrocks also argues extensively, that preposition development in Mycenaean is complete and comparable to Classic Greek. However, glosses were not available for the Mycenaean data, so I was not able to assess it or present any of it here. On the basis of his analysis of Mycenaean, Horrocks argues that Homeric Greek preserves very ancient Greek forms of syntax, that are earlier than the state of prepositions in Mycenaean and that these forms would be very close to the stage of particle development in late PIE (Horrocks: 108, 109). So Horrocks leans towards the view that the particle reinterpretation process is an “inherited” feature of the daughter languages, although he acknowledges that it could just as easily be a parallel process within the family.

It is important to note, however, that the motivation for and constraints on the reinterpretation process would allow for some variation in its manifestation within the family. The difference in preposition and particle forms in English (ie: away + from) in comparison to the lexical ambiguity of Greek, indicate that the forms for both the primary and adverbial particle functions are renewable, rather than the latter function being disambiguated through a fixed preverbal position. Since conflation of the case system is the first step in the process, in principle, the particle reinterpretation process could be thwarted altogether in some of the daughter languages, by a renewal of their case systems. IE languages also exhibit differences in P+ Kase combinations, based on the extent of syncretism in their case systems and the potential redundancy that is inherent in the process (eg: Greek “ek” and “apo” - can both mean “from”). A more in depth study of the language families with regard to this phenomenon would yield more data, indicating the range of variation in IE languages that is permitted within each of the stages of the process.

In spite of the variation that is bound to occur in reinterpretation, it is also clear that this shift of function from particle to preposition is both highly motivated and highly constrained by semantic factors in its early stages. There are many other kinds of particles and connectors in Greek, yet it is this small, semantically distinct group which enters into the reinterpretation process. This shift, from dependence on morphological case marking to dependence on prepositions and word-order to mark relations, is a very frequent and major type of syntactic change. It also appears to be subject to more specific requirements than the “broad constraints of UG”, which Lightfoot asserts to be the only boundaries capable of constraining a reinterpretation process.

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Note: Translation of the Greek into English is my own modernization of an Old English translation provided by: A. T. Murray, Harvard University Press, William Heinemann Ltd. Reprinted 1966 - *Odyssey*; Reprinted 1965 - *Iliad*.