# Genitive word order in Ancient Greek: A functional analysis of word order freedom in the noun phrase

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*Abstract*: This paper investigates the principles affecting word order variation in the genitive phrase of Ancient Greek. We refuse syntactic and metrical explanations, and rather relate such a variation to the semantic heterogeneousness of the genitive, which can represent relations of kinship, part-whole, material and content, measure, etc. Different semantic relations select different word orders, and the same semantic relation selects different word orders in different contexts, according to the degree of specificity and topicality of the genitive referent. Topicality, which cross-linguistically has been proven to be a major factor in determining word order in the clause, appears also to be a valid criterion to explain the competition between opposite orders of the same noun phrase.

## *1. Introduction*

PIE word order is a *vexata quaestio* of historical linguistics, since the daughter languages do not agree among each other in the arrangement of syntactic constituents, and even separately analyzed they show a considerable degree of internal variation. The traditional view, first formulated in regard to Sanskrit (Delbrück 1878: 13; 1888: 15–16), and later presented in a typological framework (Lehmann 1974), is that old IE languages exhibit an unmarked SOV order at the clause level and an unmarked modifier-head order at the noun phrase level. The label of (un)-markedness satisfies language description, but does not suffice for an explanation of word order variation.[1]

[1] Obviously, word order variation is related to inflectional morphology, which allows identifying the syntactic function of a word independently of its

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Particularly, it does not address the issue of whether such a variation is a byproduct of an unaccomplished drift from a consistent SOV and modifier-head syntax to a consistent SVO and head-modifier syntax, as Lehmann (1974) argues, or whether it was an original feature of PIE, carrying out semantic or pragmatic functions.

The assumption of a drift from a rigid SOV and modifier-head type is undermined by the fact that syntactic consistency is unattested, and that word order variation is more widespread in the early than in the late records of most IE languages. Moreover, the IE languages that progressively acquired a fixed word order did not follow a unidirectional change, and occasionally proceeded the other way round with respect to Lehmann's (1974) drift. For example, SOV and modifier-head syntax is much more entrenched in Neo-Indian languages and in Modern Armenian than in Vedic and in Classical Armenian, because of the areal influence of the Dravidian and of the Turkic families, which are consistent SOV and modifier-head languages. Even Delbruck's (1878; 1888) description of Old Indian word order might be influenced by areal factors (Masica 1976: 13ff.). For criticism on Lehmann's view of Proto-Indo-European as a consistent SOV language, see among others Miller (1975), Jeffers (1976), Watkins (1976), Strunk (1977), and Nocentini (1993).

The alternative hypothesis of different functions originally conveyed by different orders is in principle more feasible. It is reasonable to ascribe to the early IE languages the processes that are observable in the modern languages having a flexible word order, where the choice of one order over another is pragmatically determined. This hypothesis has been tested with robust

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linear position. Nevertheless, typological studies show that the presence vs. absence of a case system is not the sole factor determining a flexible vs. rigid word order, respectively (Siewierska 1998a: 10). There are languages provided with case marking featuring a rigid word order, such as Lithuanian, as well as languages deprived of case marking with a free word order, such as Indonesian. This is also evident in the early IE languages, where e.g. Sanskrit has a much richer inflectional system than Classical Armenian, although the latter displays more freedom in word order.

results as regard to the order of the subject and of the object vis-à-vis the verb (cf., from different pragmatic standpoints, Panhuis 1982 for Latin and Dik 1995 for Ancient Greek), but to a little extent for adnominal modifiers. The present paper attempts to cover this issue by tackling the word order of the genitive with respect to its head noun.

## *2. Method and materials*

In order to investigate whether different orders of the genitive originally expressed different functions, it behoves to consider languages displaying a competition between GN and NG, since they are considered as not having undergone a complete grammaticalization of syntactic arrangement. In the domain of the early IE languages, the branches characterized by GN are Baltic, Anatolian, and Tocharian, and those characterized by NG are Celtic and Albanian. The branches in which both orders were commonly used (despite some preferred tendencies) are Old Indian, Old Iranian, Ancient Greek, Latin, Italic, Slavic, and Classical Armenian.[2] It is, in particular, to the Hellenic branch that the highest rate of flexibility among the IE languages is ascribed (Siewierska 1998a: 11). In Greek, from Homer to

[2] The Germanic branch is a particular case, albeit not in the sense commonly claimed. According to Dryer, "there is greater variety of word order within this group than there is within the other groups. The crucial point is that across Germanic, both GN and NG order are quite common, and hence it is best viewed as intermediate between the more clearly NG groups and the more clearly GN groups." (1998: 290) However, since in no Germanic language a given genitive structure can be either preposed or postposed, Germanic does not have flexibility with respect to this parameter. In English, the Saxon genitive obligatorily precedes the head-noun, and likewise in German, Danish, Swedish, Norwegian, etc. Even in Icelandic, where instead it comes after the head noun (*hús Jóns* "John's house"), it has a fixed position. In the same vein, the Norman genitive, represented by the English preposition *of*, German *von*, Dutch *van* etc., is obligatorily placed after the head noun. Germanic languages, rather than being flexible in genitive word order, happen to have two different genitive structures, with two opposite but equally rigid positions. Differently enough, our concept of flexibility requires alternative patterns of the very same structure.

Dimotiki, lexical genitives[3] are syntactically allowed to either precede or follow the head noun (Lascaratou 1998: 167). Behagel's *Gesetz der wachsenden Gliedern* does not apply to Ancient Greek, where we find both heavy preposed and light postposed genitives. This suggests that syntactic factors are overruled by the semantic and pragmatic values of the genitive.

We used as a corpus the Homeric poems and Herodotus' Historiae (in the philological editions of Allen 1974 and Hude 1927). Homer offsets the drawback of poetic style, which is commonly regarded as a bias for word order reliability, with the advantage of an early documentation. His formulary language, for which parallels can be often identified in idioms of other IE languages, reflects to a large extent modes of pre-literary oral communication. Among prose works, Herodotus' Histories are particularly significant for a study on word order, firstly because they represent an extensive text, which allows to draw statistical results. Moreover, their narrative style usually lacks oratory affectedness and philosophic conceptualism, and hence it is supposed to be close to the type of Greek spoken in the V century BC. Herodotus is also the source for the study of Ancient Greek clausal word order in Dunn (1988) and Dik (1995).

In the following, we analyze various relations that are typically expressed by genitives in languages (cf., Koptjevskaja-Tamm 2002; 2003a; 2003b), such as kinship (§3.1), part-whole (§3.2), material (§3.3), and measure (§3.4). Our results indicate that the distribution of GN vs. NG is related to the semantic features of the genitive noun in terms of animacy, humanness, individuation, and topicality. This interpretation will be dis-

[3] Lexical genitives, i.e. those genitives consisting of a noun, are commonly considered unmarked with respect to grammatical genitives, consisting of a person-marked pronoun or adjective, since the latter belong to a closed class and often show a syntactically constrained distribution. When typologists describe genitive structures, they commonly rule out grammatical genitives (Koptevskaia-Tamm 2003a) or give them a separate discussion (Manzelli 1990). Similarly, in the present paper, we deal with lexical genitives.

cussed in §4 according to the communicative and cognitive principles operating in the information structure of the clause.

## *3. Results*

### *3.1. Kinship relations*

3.1.1. Genitives of kinship in Homer. As can be seen in Table 1, NG prevails in some parts of the Iliad (books 1 and 2), but GN prevails in others (books 3, 4, and 5). Overall, the prevalence of GN is not statistically significant (Chi-Square: $P > 0.05$).

Table 1. Relations of kinship in Homer

| Il. I-V | GN | NG | Total |
|---|---|---|---|
| Book I | 5 | 9 | 14 |
| Book II | 27 | 32 | 59 |
| Book III | 9 | 4 | 13 |
| Book IV | 17 | 7 | 24 |
| Book V | 38 | 20 | 58 |
| TOTAL* (%) | 96 (57%) | 72 (43%) | 168 (100%) |

* $P > 0.05$, Chi-Square

The difference between GN and NG becomes noteworthy, however, if we take into account the contexts in which the two structures occur. For example, the second book of the Iliad, where the forces of Greeks and Trojans are displayed, the formula *X's son* is a frequent means to introduce warriors. When a genuine parental relation is denoted, with X referring to a specific human being or humanized god, GN is clearly dominant. Il. 2.23 = 60 "Atreus' son"; 157 "of the Aegis-bearing Zeus the son"; 205 "Chronos' son"; 260 "Telemachus' father"; 406 "Tydeus' son"; 491 "of the Aegis-bearing Zeus the daughters"; 548 "Zeus' daughter"; 564 "of the far-famed

Capaneus the son"; 566 "Mecisteus' son"; 609 "Ancaeus' son"; 638 "Andraemon's son"; 641 "of the magnanimous Oineus the sons"; 662 "his father's uncle"; 671 "Aglaia's son"; 679 "Thessalus' two sons"; 705 "Iphiclus' son"; 713 "Admetus' son"; 715 "Pelias' daughters"; 727 "Oileus' bastard son"; 731 "Asclepius' two sons"; 736 "Evaemon's highborn son"; 756 "Tenthredon's son"; 822 "Antenor's two sons"; 826 "Lycaon's noble son"; 871 "Nomion's noble sons". As illustrated in (1), the occurrence of a syntactically heavy preposed genitive contravenes Behagel's law.

(1) αἰγιόχοιο Διὸς τέκος
"Son of the Aegis-bearing Zeus" (Il. 2.157)

In only 1 out of 27 GNs the genitive noun has a generic meaning: 355 "until every man of you has slept with a Trojan's wife", i.e. "with a Trojan woman". Quite differently, almost a half of lexical NGs (15 out of 32 instances) does not represent an authentic kinship relation. In the idiom illustrated in (2), the genitive phrase is a periphrasis referring to the Achaean people themselves, rather than to their sons (Liddell-Scott 1940: 1847). This is a way of denoting one referent by means of two words, according to the redundant epic style. In (2) Behagel's law is again challenged, this time by the appearance of a light post-posed genitive.

(2) υἷες Ἀχαιῶν
"Achaeans" (Il. 2.72, 129, 193, 195, 234, 253, 281, 370, and 722)

The name of the "mother" appearing in a NG sequence is non-referentially meant as a picturesque description of a land "mother of sheep" (3). The name of the "father", which governs a preposed genitive when considered as a true kinship relation (Il. 2.260 Τηλεμάχοιο πατήρ), shows the opposite word order in (4), which is a stereotyped description of Zeus.

(3) Ἴτωνά τε μητέρα μήλων
"And Iton, mother of sheep" (Il. 2.696; cf., also 9.479, 11.222, Od. 15.226)
(4) πατὴρ ἀνδρῶν τε θεῶν τε
"Father of men and of gods" (Il. 1.544)

3.1.2. Genitives of kinship in Herodotus. The frequency of kinship terms associated with GN is lower in Homer (57%, Table 1) than in the later Herodotus' prose (79%, Table 2). This contradicts the hypothesis of a steady drift from GN to NG, as assumed in Lehmann (1974).[4]

[4] It is worth mentioning that in prose a kinship relation can also be expressed by means of the structure *X the one of Y* (e.g. Κροῖσος ὁ Ἀλυάττεω, 1.26.1), which is absent or uncertain in Homeric poems (Schwyzer 1950: 119–120; Chantraine 1953: 160 note 2; 163). Here, however, two proper nouns are associated, while the kinship term is left implicit. Since what is relevant for our purposes is the position of a kinship head noun with respect to its genitive dependent, such structures have not been included in the counting of Table 2. Typological studies on the grammatical properties of kin terms (Dahl & Koptjevskaja-Tamm 2001) only consider phrases where the head is, by definition, a common noun denoting a family relation, while the dependent can be either a proper or a common noun. The structure Κροῖσος ὁ Ἀλυάττεω, where the genitive is seemingly postposed, manifests a rather different relation, appositive in nature, and hence does not constitute a counterexample for the low rate of postposed genitive in family relations. Moreover, according to Brugmann (1911: 601), a kinship term is implied at the end of this phrase, with a resulting underlying preposed genitive, such as Κροῖσος ὁ Ἀλυάττεω παῖς. The interpretation of an implied postposed head noun is supported by Latin evidence, where the abbreviated form for "son" (*f* = *filius*) commonly appears after the abbreviated genitive proper noun, e.g. *L. Aienus L. f.* (CIL I$^2$ 756). The other Italic languages show the same Latin idiom, cf. Oscan *paci decries f* "Paci(us) Decrius f(ilius)" (Vetter 1953: §210.a); Umbrian *ca puplece ma fel* "C. Publicius Ma(rci) fil(ius)" (ib.: §232.c).

Table 2. Relations of kinship in Herodotus

| Historiae | GN | NG | Total |
|---|---|---|---|
| Book I | 48 | 11 | 59 |
| Book II | 37 | 9 | 46 |
| Book III | 32 | 5 | 37 |
| Book IV | 25 | 18 | 43 |
| Book V | 28 | 7 | 35 |
| Book VI | 38 | 5 | 43 |
| Book VII | 47 | 12 | 59 |
| Book VIII | 12 | 2 | 14 |
| Book IX | 14 | 7 | 21 |
| TOTAL* (%) | 281 (79%) | 76 (21%) | 357 (100%) |

* $P < 0.001$, Chi-Square

The decrease of NG in Herodotus as compared to Homer is due to the fact that in the narrative style of the former redundant descriptions of parental relations by means of non-referential genitives are dramatically reduced. They occasionally appear in idioms deliberately hinting at Homer, as in the response of oracles talking in verses, where the Athenians are called παῖδες Ἀθηναίων lit., "sons of the Athenians" (5.77.4), and human beings are addressed as τέκνα γυναικῶν lit., "sons of women" (7.141.4; 7.142.2). See how the same head noun "stirps" is differently employed in (5) and (6).

(5) γενεαὶ ἀνθρώπων
"Generations" (2.100.1; cf., also γενεαὶ ἀνδρῶν in 1.7.4 and 5.28)

(6) Περσέων γένεα
"Stirpes of the Persians" (1.125.3)

The former example is a Homer-reminiscent definition (cf., Il. 1.250 and Od. 3.245), and is used to mean "generations" rather than to identify someone's stock. The example in (6) refers to particular genealogical stocks, which Cyrus gathers in

order to fight against the Medians, and which are described in detail as composed of Pasargadae, Maraphians, Maspians, etc. The genitive has a more referential function in the latter case, where it is represented by a proper noun, than in the former case, where a common noun appears.

The contrast between a specific and a generic kinship relation emerges in close passages. In section 2.119.3 Menelaus, who is impatient to sail away from Egypt with Helen, and is held up by adverse winds, sacrifices two children[5] seized by chance among the local people. In this phrase, the genitive is postposed (7).

(7) δύο παιδία ἀνδρῶν ἐπιχωρίων
"Two children of the local people" (2.119.3; cf., also 2.2.2 and 7.114.1)

In section 2.120.3 Herodotus assumes that Helen was not at Ilium at the time of the war between Greeks and Trojans. The latter would have given her back, in order to stop the disasters they were faced with, even if Priam himself had been living with her, since at least two, three or even more of Priam's own sons died every time battle was joined. In this case, where GN appears (8), it is crucial to identify the dead men as the king's own sons, to affirm the Trojans' interest in stopping the war.

(8) αὐτοῦ [...] Πριάμου [...] δύο ἢ τρεῖς ἢ καὶ ἔτι πλέους τῶν παίδων
"Two or three or even more of Priam's sons" (2.120.3)

Moreover, a genitive postposed to a kinship term may metaphorically refer to an animal (e.g. τὸ γένος τῶν βοῶν "the stirps of the oxen", 4.29) or to an inanimate object. Herodotus describes the source and the tributary of a river (or of a lake) as its mother and daughter, respectively. "The Hypanis rises in

[5] In Herodotus, the name of the "son" is *παῖς*, which literally means "child", whereas Homer uses *υἱός*, for which the meaning of "son" is original (cf., Skr. *sūnú-*, Av. *hunu*, Goth. *sunus*, Lith. *sūnùs*, Slav. *synŭ*, etc., from the root **su / sū* "beget, procreate"). The semantic change from "child" to "son" is typologically quite common (Dahl & Koptjevskaia Tamm 2001).

Scythia. The source of this river is a large lake on the margins of which live wild white horses. The lake is rightly called *mother of the Hypanis*." (μήτηρ Ὑπάνιος, 4.52.1; cf., also 9.51.2) As can be seen in Table 2, the fourth book contains the highest amount of NG with kinship terms. Still, a third of them has a non-referential reading (4.76.3 "the mother of the gods"; 4.146.3 "the wives of the Minyans") or a non-human referent (4.29; 52.1; 86.4; 180.5).

### *3.2. Part-Whole relations*

3.2.1. Part-Whole relations in Homer. Part-whole relations referred to inanimate objects more frequently select NG, but the two overall orders in Homer do not significantly differ from a frequency point of view. As can be seen in Table 3, we found 23 GNs and 29 NGs in the first five books of the Iliad, with GN slightly prevailing in the second and third book, and NG slightly prevailing in the first, fourth, and fifth book. Apparently, genitives expressing a part-whole relation and genitives expressing a kinship relation have opposite dominant word order and yet, in Homer, almost the same equal distribution with respect to the recessive order, with NG attested in 56% of cases in part-whole relations (Table 3) and GN attested in 57% of cases in kinship relations (Table 1).

Table 3. Part-whole relations referred to inanimate objects in Homer

| Il. I-V | GN | NG | Total |
|---|---|---|---|
| Book I | 1 | 5 | 6 |
| Book II | 10 | 9 | 19 |
| Book III | 5 | 3 | 8 |
| Book IV | 5 | 6 | 11 |
| Book V | 2 | 6 | 8 |
| TOTAL* (%) | 23 (44%) | 29 (56%) | 52 (100%) |

* $P > 0.05$, Chi-Square

It is significant, however, that in the second book, for example, where more instances of part-whole relations involving inanimate objects have been found, 9 out of 10 GN contain a genitive proper noun denoting a mountain or a river, i.e. Il. 2.167 "down from the Olympus' peaks", 533 "on Boagrius' streams", 592 "Alpheus' ford", 603 "under Kyllene's steep peak", 735 "Titanus' white peaks", 755 "a Styx' branch", 821 "in Ida's slopes", 869 "Maeander's streams", and 869 "Mykale's steep peaks". Quite differently, NG is mainly associated with common nouns, which appear in 6 out of 9 instances, and particularly in Il. 2.135 "the wood of the ships", 144 "the big waves of the sea", 154 "the props of the ships", 159 "on the wide surface of the sea", 209 "the waves of the loud-roaring sea", and 773 "the surf of the sea". Compare the following genitive phrases denoting watercourses.

(9) φὴ κύματα μακρὰ θαλάσσης
"Like the big waves of the sea" (Il. 2.144)
(10) Οἳ [...] ἐνέμοντο [...] Θρύον Ἀλφειοῖο πόρον
"Those who dwelled in Thryon, Alpheus' ford" (Il. 2.592)

The contrast between the common noun in (9) and the proper noun in (10) is an epiphenomenon of the different referentiality that the two genitives play in their context. The former example is a stereotyped description of the sea, and is inserted in a similitude: the assembly of the Greeks was stirred by Agamemnon's words like the waves of the sea are moved by the winds. Instead, the genitive proper noun in (10) identifies a spot whence a squad of the Greek army has come to Troy: "Next (came) the men who used to inhabit Pylos and lovely Arene, and Thryon, *where is Alpheus' ford*, and well-built Aepy, and Kyparisseis, Amphigeneia, Pteleus, Helos, and Dorion", etc. In the display of the Greek forces, nouns of places like these anchor the various contingents and commanders to specific regions that can be recognized by the hearer.

In epics, the rivers that receive a proper noun are often portrayed as anthropomorphic gods rather than as inanimate

objects. The river Alpheus, for example, is the ancestor of the two Greek champions Orsilochus and Crethon (Il. 5.545ff.). The Asian rivers Scamander and Simoïs are active characters in supporting the Troyan army (Il. 21.308ff.). The mountains are populated by deities. The weapons are the personalized companions of a soldier. They portray the marks that are traditionally associated with a lineage. They can be supplemented with other pieces of weaponry that have been taken away from a defied enemy, so that they recall the various performances that a soldier has been faced with. Accordingly, a weapon is a means for identifying a soldier (it suffices to think of Patroclus who was killed instead of Achilles because he was wearing Achilles' weapons), and often provides him with a characteristic epithet. For example, Hector is traditionally called κορυθαίολος "moving the helmet quickly" i.e. "with a glancing helm" (Liddell-Scott 1940: 834). As a result, nouns of weapons can show the GN order, which is typical of highly individuated referents, when they play an important role in their context, i.e. when they persist in the subsequent discourse. According to Givón (1983a), persistence is a heuristic tool to assess the importance of a noun in a text. Menelaus' belt (ζωστήρ), which is denoted by the genitive in (11), is mentioned two times further on in the discourse.

(11) ζωστῆρος ὀχῆες
"The belt's buckles" (Il. 4.132; cf., also 3.272, 3.362, and 5.99)

In reporting how Menelaus had his life saved thanks to his heavy armor, Homer describes in details the precious manufacture of the armor. Athena turned an arrow away from Menelaus' flesh: "She guided it to where the golden *buckles of the belt* were fixed and the corslet overlapped. The sharp arrow fell *in the fastened belt*. It drove *through the decorated belt* and pressed on through the ornate cuirass, and through the apron that Menelaus wore as a last protection against flying weapons. This did more than all the rest to save him."

3.2.2. Part-whole relations in Herodotus. This animistic and detailed view of objects is usually absent in prose, where constructions similar to (11) present a different word order, as can be seen in phrases such as τῇσι περόνῃσι τῶν ἱματίων "with the buckles of the clothes" (5.87.2) and ἐκ τοῦ ζωστῆρος τοῦ θώρκος "from the belt of the breastplate" (9.74.1). In Herodotus, part-whole relations involving inanimate objects have a more homogeneous distribution and a more definite prevalence of NG with respect to Homer. Table 4 shows that in the Histories the prevalence of NG (63%) is significantly higher than GN (37%) ($P < 0.001$, Chi-Square).

Table 4. Part-whole relations referred to inanimate objects in Herodotus

| Historiae | GN | NG | Total |
|---|---|---|---|
| Book I | 26 | 38 | 64 |
| Book II | 33 | 57 | 90 |
| Book III | 12 | 18 | 30 |
| Book IV | 23 | 39 | 62 |
| Book V | 3 | 4 | 7 |
| Book VI | 2 | 4 | 6 |
| Book VII | 13 | 22 | 35 |
| Book VIII | 4 | 9 | 13 |
| Book IX | 0 | 10 | 10 |
| TOTAL* (%) | 116 (37%) | 201 (63%) | 317 (100%) |

* $P < 0.001$, Chi-Square

The same context reveals a word order contrast depending on whether the genitive refers to the part of an animate or inanimate object. The name of a "hand" appears in a NG phrase if its referent is the part of a statue (12), while it appears in a GN phrase if its referent belongs to a human body (13). The two possessors are related to each other, since the statues represent the serving-maids, and happen to have the same destiny ("the same thing has happened to their statues as happened to their

living originals"), since both lose their hand. Their word order contrast is therefore particularly striking.

(12) τὰς χεῖρας τῶν κολοσσῶν
"The hands of the statues" (2.131.3)
(13) τῶν ἀμφιπόλων [...] τὰς χεῖρας
"The hands of the serving-maids" (2.131.2)

The use of GN for human body parts also contrasts with the use of NG for animal body parts. In the second book of the Histories, body part nouns seemingly do not show a relevant disparity between GN (24 instances) and NG (20 instances). However, the context reveals that, out of 24 GN, 21 refer to humans and 3 refer to animals, whereas, out of 20 NG, 14 refer to animals, 4 to humans, and 2 to inanimate objects. This tendency can also be observed by taking into account the different distribution of the same body part noun with respect to different genitives. In (14)-(17), all occurrences of lexical possession are reported for the body part nouns ὠμός "shoulder" and ὀστέον "bone", as indicated in Powell's lexicon (1938: 386; 273).

(14) τῶν ἀποσφαγέντων ἀνδρῶν τοὺς δεξιοὺς ὤμους
"The right shoulders of the slaughtered men" (4.62.4; cf., also 1.114.5 and 8.128.2.)
(15) τοὺς ὤμους τῶν ἵππων
"The shoulders of the horses" (4.72.4)
(16) τὰ 'Ορέστεω τοῦ 'Αγαμέμνονος ὀστέα
"The bones of Orestes, (the son) of Agamemnon" (1.67.2; cf., also 9.83.2.)
(17) ὀστέα ὀφίων
"Bones of snakes" (2.75.1; cf., also 2.41.5 and 4.61.1)

These examples show that the violation of Behagel's law in Ancient Greek occurs in precise circumstances, which can be defined by taking into consideration the semantics of the constituents that are pre- or postposed. Commonly, genitives referring to humans are preposed even when they are heavy, while genitives referring to animals are postposed even when they are light. The opposition between GN and NG is especially remarkable in

(14) and (15), selected from close passages. In (16) and (17), a contrast emerges between a preposed proper noun and a postposed common noun. From an anthropocentric point of view, nouns of animals are usually presented in texts as generic entities. A more appropriate translation of (17) is "snake bones", as the author describes "heaps" (σωροί) of bones and spines, "the amount of which is countless". The name of the "snake" lacks an article, behaving thus like a mass noun (§3.3).[6]

However, the author occasionally chooses to introduce an animal as specific. Accordingly, GN is employed. Nouns belonging to the same semantic class, and even the same lexeme, behave differently to the extent that they are specifically or generically conceived. For the different distribution of the same head, consider (18) and (19).

(18) τοῦ λαγοῦ τὴν γαστέρα
"The hare's stomach" (1.123.1)
(19) τὰς γαστέρας τῶν ἱρηίων
"The stomachs of the victims" (4.61.1)

The former example refers to a particular hare, which plays a notable role in Harpagus persuading Cyrus to march on Media. Harpagus slits open the hare's stomach and, without removing any of its fur, inserts a letter in which he has written down his ideas. Then, he sews up the stomach again, and gives the hare to his servant, with verbal instructions to give it to Cyrus. Instead, the genitive in (19) denotes random victims ("whatever animal the victim is") that the Scythians stew. For the different distribution of the same dependent, consider (20) and (21).

[6] Articles are also missing when a stereotyped image or a typical quality rather than a proper denotation of an animal is conveyed. For example, in the book devoted to Egypt, Herodotus describes various exotic animals by using comparisons with animals that a Greek public is more familiar with. The crocodile has "the eyes of a pig" (ὀφθαλμούς...ὑός, 2.68.3). The hippopotamus has "the hoofs of an ox" (ὁπλαὶ βοός, 2.71) and "the mane of a horse" (λοφιήν...ἵππου, ib.). The ibis "has the legs of a crane" (σκέλεα...γεράνου, 2.76.1).

(20) τοῦ ἵππου τοὺς πόδας
"The horse's feet" (5.112.2)
(21) τὰ ὦτα τῶν ἵππων
"The ears of the horses" (7.70.2)

The former case refers to a specific horse, famous for having been trained by his owner Artybius to rear up against soldiers in heavy armour. A servant suggests to Artybius' enemy to shear off the horse's feet during the fight. In this way, Artybius and his horse fall on the field together. The second case concerns generic horses, which are used by soldiers of Xerse's army on their outfit. The Ethiopians "wore a head-dress consisting of *a horse-scalp* (προμετωπίδια ἵππων, NG), including the ears and mane. The mane resembled a crest, and *the ears of the horses* were stiffened into an upright position."

Grammatical number, which is directly involved in the presentation of a referent as more or less specific, correlates with the position of the genitive, in such a way that the genitive of a singular or plural noun is usually placed in prenominal or postnominal position, respectively. Differently, gender does not immediately reflect the animacy of the referent, and therefore its relation with the distribution of the genitive is not as straightforward as in the case of number. The only inference that can be drawn from our data is that the genitive of neuter nouns, which mainly have inanimate referents, is usually postposed.

### *3.3. Relations of material and content*

3.3.1. Genitives of material and content in Homer. A typical non-referential relation is that of genitives representing either the substance out of which something is made (22) or the substance that something contains (23).[7]

[7] Here relations of content are considered together with relations of material because they share the same constructions in Ancient Greek. Koptjevskaia-Tamm (2001) labels "pseudo-partitive" relations of content such as *a cup of tea*, since they disallow a specific interpretation of the genitive, like relations or material, and unlike bona fide partitive constructions (*a cup of this good tea*). A more typical non-referential relation such as purpose (*a tea*

(22) ἕρκος κασσιτέρου
"A fence made out of tin" (Il. 18.564)
(23) δέπας οἴνοιο
"A cup of wine" (Od. 8.70)

All examples of these relations reported in Chantraine (1953: 62, note 1) present NG, e.g. Il. 11.24 οἶμοι κυάνοιο "stripes of cyanos", Od. 4.124 τάπης ἐρίοιο "carpet of wool", Od. 21.7 κώπη ἐλέφαντος "haft of ivory", etc. Gehring's (1891) lexicon confirms that NG is the only order attested for these mass nouns in the entire Homeric poems. The genitive of "cyanos" has 0 GN and 3 NG (Il.11.24, 11.35, and Od. 7.87, Gehring 1891: 468). The genitive of "ivory" has 0 GN and 2 NG (Od. 8.404 and 21.7, ib.: 274). The genitive of "tin" has 0 GN and 8 NG (Il. 11.25, 11.34, 18.565, 18.574, 18.613, 20.271, 21.592, and 23.561, ib.: 431). The genitive of "wine" has 0 GN and 12 NG (Il 4.346, 8.232, 18.545, Od. 8.70, 2.340, 2.431, 3.46, 3.51, 3.391, 5.265, 9.196, and 9.346, ib.: 589).

A relation of material may have both literal and metaphorical meanings. For example, the head noun ἕρκιος "fence" is not only described as consisting of tin as in (22) (incidentally, the same NG word order is found in Hdt. 9.97 ἕρκος καὶ λίθων καὶ ξύλων "a fence of stone and of wood"), but also appears in the phrase ἕρκος ὀδόντων "fence of the teeth". This idiom (10 times attested, in Il. 4.359, 9.409, 14.83, Od. 1.64, 3.230, 5.22, 10.328, 19.492, 21.168, and 23.70, Gehring 1891: 312) represents the teeth as the constituent material of the ring around the tongue (*den Stoff angebend, woraus der Zaun besteht*, Delbrück 1893: 344), and is a redundant description of the teeth or of the mouth. It is generally used for words that have been improperly pronounced, and is intended as a reproach of a previous utter-

*cup*, that is, a cup made for drinking tea) has not been included here, since in Ancient Greek it is expressed by an adjectival compound (e.g. οἰνοφόρος κύλιξ "wine cup").

ance. The metaphor[8] also emerges from the translations, which simplify the periphrasis as in (24). Occasionally, what crosses the fence of the teeth is the soul (Il. 9.409) or the poison (Od. 10.328).

(24) τέκνον ἐμόν, ποῖόν σε ἔπος φύγεν ἕρκος ὀδόντων
"My child, what are you saying?" (Od. 5.22, translated by Rieu 1946: 63;
Lit. "My child, which word escaped from the fence of your teeth?")

The unique case of GN with the head noun ἕρκος occurs in part-whole relations, and particularly in a phrase denoting the "vineyard's fence" (ἀλωῆς ... ἕρκος, Od. 24.224) that Odysseus' servants are building. Part-whole relations present objects as internally structured and more individuated with respect to relations of material. As a result, when the same genitive displays a different word order for a material or a part-whole relation, GN is more likely to appear in the latter.

3.3.2. Genitives of material and content in Herodotus. As in Homer, genitives of material and content in Herodotus are commonly light constituents and mainly select the postnominal position, contrarily to Behagel's law. In the Histories, NG is found in 77% of cases (Table 5; $P < 0.001$, Chi-Square).

[8] Metaphorically, a fence is also seen as a defense of someone (Ajax is ἕρκος Ἀχαιῶν "defense of the Achaeans" in Il. 3.229, 6.5, and 7.211) or as a defense from something (the war in Il. 1.284 and 4.299, the javelins in Il. 4.137 and 15.646, and the arrows in Il. 5.316). All these cases present a NG pattern.

Table 5. Relations of material and content in Herodotus

| Historiae | GN | NG | Total |
|---|---|---|---|
| Book I | 1 | 13 | 14 |
| Book II | 2 | 6 | 8 |
| Book III | 4 | 4 | 8 |
| Book IV | 5 | 19 | 24 |
| Book V | 2 | 3 | 5 |
| Book VI | 1 | 2 | 3 |
| Book VII | 0 | 4 | 4 |
| Book VIII | 2 | 2 | 4 |
| Book IX | 0 | 3 | 3 |
| TOTAL* (%) | 17 (23%) | 56 (77%) | 73 (100%) |

* $P < 0.001$, Chi-Square

Instances of mass noun genitives are relatively infrequent (73 instances counted), considering the extensiveness of the Histories, because relations of material are preferably expressed by means of derived adjectives (as in *golden* vs. *of gold*). Derived adjectives frequently compete with genitives in Ancient Greek and in the other IE languages (Delbrück 1893: 446ff.; Wackernagel 1908). Such competition is not limited to the relation of material, although it is more typical for material than for kinship and for part-whole relations. This does not affect the gist of our interpretation, since the same head – modifier order as genitives of material also applies to adjectives of material, as shown by Bergson (1960: 42–45) with various examples selected from Herodotus.[9] Compare the similar arrangement of the genitive phrase in (25) and of the adjectival phrase in (26).

[9] It must be pointed out that in Homeric poetry genitives of material have not always the same distribution of derived adjectives of material, since adjectives in general are often emphatically preposed, independently of the semantic relation they convey. Owing to this, Bergson (1960) does not take into account poetry in his study on adjective word order. It appears that in Homer adjectives of material show the emphatic AN order notably in the description of objects made out of precious substances. In the first book of

(25) ταρσοὺς καλάμων
"Mats made out of reeds" (1.179.2)
(26) τόξα καλάμινα
"Bows made out of reeds" (7.64.1)

Bergson (1960: 42–43) points out that the normal position of adjectives of material after their head noun does not exclude an inverse placement when they are emphasized in a given context. This is also the case as far as genitives of material are concerned: when they express a contrast with other materials, or when they play a crucial role in the subsequent discourse, GN is selected. Consider the example in (27): it contains the same genitive dependent as (25), but it shows the opposite word order.

(27) καλάμου [...] τὰς ὀροφάς
"Roofs made out of reed" (5.101.1)

Herodotus starts section 5.101 by explaining why the Ionians did not have the opportunity to sack the city of Sardis. "What kept them from looting the city, after they captured it, was *this* (τόδε). Most of the houses in Sardis were made out of reeds, and even the ones that were made out of bricks had *the roofs made out of reeds*. Then, as soon as one of the soldiers set alight

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the Iliad, 4 adjectives of material occur, all of them preposed to the head noun, i.e. 1.15 χρυσέῳ ἀνὰ σκήπτρῳ "on a golden staff", 49 ἀργυρέοιο βιοῖο "of the silvery bow", 219 ἐπ' ἀργυρέῃ κώπῃ "on the silvery haft", and 246 χρυσείοις ἥλοισι "with golden studs". In cases like these, a preposed adjective emphasizes the beautiful texture of an object and, indirectly, the wealth and power of its possessor. By contrast, adjectives of material that are commonly postposed to the head noun, and which therefore share the same head – modifier order as genitives of material, refer to simple or ordinary substances, e.g. wood or stone. Consider the similar distribution of the derived adjective λίθεος "stony" (ἱστοὶ λίθεοι "looms of stone" in Od. 13.107) and of the genitive of the noun λίθος "stone" (θάλαμοι ξεστοῖο λίθοιο "apartments of polished stone" in Il. 6.244 and 248). It is reasonable that in Homer an emphatic prenominal position and a word order variation is found in adjectives rather than in genitives, to the extent that the adjective is the most flexible nominal modifier in languages (Bakker 1998: 388). It is also reasonnable that in Herodotus, where adjectives are not emphatically used, such an alternative word order depending on the type of denoted material does not take place.

one of the houses, immediately the fire proceeding from house to house spread out in the whole city." The demonstrative pronoun ὅδε, ἥδε, τόδε "this" is regularly used "to indicate something *immediately to come*" (Liddell-Scott 1940: 1198). In the burning of the city, which continues in the subsequent section, the material texture of the roofs is a crucial piece of information. It also contrasts with the rest of the houses, which were made out of bricks (πλίνθιναι).

Differently, (25) is inserted in the description of the city of Babylon, whose walls were built with the earth that was dug out of the surrounding moat. During the excavation, the earth of the moat was molded into bricks, which were fired in kilns. "Inserting *mats of reed* every thirty layers of bricks, they built first the banks of the moat, and then the wall itself in the same way." Herodotus proceeds by describing the top of the wall, the river Euphrates, the streets of the city, etc. without mentioning the reeds any further. They only have a limited importance in this story, similarly to other genitives of material that portray details of Babylon's construction, and which are equally postposed to the head noun, such as δόμων πλίντου "layers of brick" (1.179.2) and θρόμβους ἀσφάλτου "lumps of bitumen (1.179.4). The different importance of similar structures in different contexts is also perceived by translators. Waterfield (1998: 78; 344) renders the phrase in (25) with the compound *reed mats*, and the phrase in (27) with the fuller expression *roofs thatched with reeds*.

### *3.4. Relations of measure*

3.4.1. Relations of measure in Homer. Unlike genitives of material and content, genitives of measure preferably display GN in Homer. This is probably related to the presence of a numeral, which is typical of expressions of measure, and which makes a noun phrase more specific with respect to relations of material and content. For example, the same genitive inflected name "gold" is postposed when involved in a relation of mate-

rial (28), but is preposed when it expresses measure together with a numeral (29) (cf., also Il. 9.122, 9.264, 18.507, 19.247, 23.269, 23.614, and 24.232). In the only two Homeric cases where a genitive of measure based on the name "gold" is post-posed to the head noun, the phrase does not properly contain a numeral, but rather denotes "a half-talent of gold" (ἡμιτάλαντον δὲ χρυσοῦ, Il. 23.751 and Il. 23.796).

(28) περόνη χρυσοῖο
"A brooch of gold"[10] (Od. 19.226; cf., also Il. 18.574)
(29) δέκα δὲ χρυσοῖο τάλαντα
"Ten talents of gold" (Od. 4.129)

3.4.2. Relations of measure in Herodotus. As in Homer, relations of measure in Herodotus show a higher occurrence of GN than relations of material and content. However, not all expressions denoting measure have the same distribution in the Historiae. In particular, relations of quantity (30) must be kept apart from relations of duration (31), since in the former NG is still the preferred pattern, albeit to a lesser extent than in the case of material and content, while duration definitely favors GN.

(30) μέδιμνον ἀλφίτων
"One medimnus of flour" (6.57.2)
(31) δυῶν ἡμερέων πλόον
"A two days voyage" (4.89.2)

Table 6 includes genitive of quantity that depend on head nouns representing units of weight (τάλαντον, στατήρ, and μνᾶ), dry measures (χοῖνιξ and μέδιμνον), and liquid measures

[10] One can argue that in (30) NG is the only possible order, since the prosodic pattern of the reverse structure χρυσοῖο περόνη (– – ˘ ˘ ˘ –) entails a violation of the dactylic hexameter. However, the insertion of an element with the prosodic structure ˘ – (e.g. καλή) between the genitive and the head would make this acceptable. Homer is not hopelessly constrained by metrics: if there was the intention to express something with a particular order, it would be possible to find a way to fit it into the metrical scheme of epic poetry (cf., Fraser 2002). That in most genitive phrases of our corpus either order is metrically acceptable indicates that the choice of word order depends on factors other than metrics.

(κοτύλη and ἀρυστήρ). NG occurs in 62.5% of cases ($P > 0.05$, Chi-Square). In Table 7, genitives denoting duration depend on the head nouns ὁδός "journey", πλόος "voyage", ἄνοδος "journey inland", ἀνάπλοος "voyage upstream", and δρόμος "course". Here GN is attested in 87.5% of cases ($P < 0.001$, Chi-Square).

Table 6. Relations of quantity in Herodotus

| Historiae | GN | NG | Total |
|---|---|---|---|
| Book I | 2 | 2 | 4 |
| Book II | 4 | 4 | 8 |
| Book III | 0 | 7 | 7 |
| Book IV | 0 | 0 | 0 |
| Book V | 0 | 1 | 1 |
| Book VI | 4 | 2 | 6 |
| Book VII | 2 | 2 | 4 |
| Book VIII | 0 | 2 | 2 |
| Book IX | 0 | 0 | 0 |
| TOTAL* (%) | 12 (37.5%) | 20 (62.5%) | 32 (100%) |

* $P > 0.05$, Chi-Square

Table 7. Relations of duration in Herodotus

| Historiae | GN | NG | Total |
|---|---|---|---|
| Book I | 3 | 1 | 4 |
| Book II | 7 | 4 | 11 |
| Book III | 1 | 0 | 1 |
| Book IV | 26 | 1 | 27 |
| Book V | 4 | 0 | 4 |
| Book VI | 0 | 0 | 0 |
| Book VII | 0 | 0 | 0 |
| Book VIII | 1 | 0 | 1 |
| Book IX | 0 | 0 | 0 |
| TOTAL* (%) | 42 (87.5%) | 6 (12.5%) | 48 (100%) |

* $P < 0.001$, Chi-Square

The functions of material and content are semantically more similar to the function of quantity than to the function of duration. This is because genitive phrases expressing material, content, and quantity have a mass noun as a head noun, unlike genitive phrases expressing duration. Moreover, quantity often represents the conventionalized interpretation of material and content. Units of quantity originally denote either pieces of a substance with a certain weight or recipients for certain substances. For example, τάλαντον literally means "anything weighed" (Liddell-Scott 1940: 1753), from the same root of the verb τλῆναι "to take upon oneself, hold out"; the plural form τάλαντα denotes a pair of scales. The κοτύλη refers to a small vessel or to "anything hollow" (Liddell-Scott 1940: 986). Quite differently, nouns of days, months and years expressing duration are countable par excellence, since they regularly entail the presence of a numeral. They also set the temporal frame of a state of affairs. In particular, days and months receive a name in languages, and are well individuated in discourse. Accordingly, they show in Herodotus a consistent GN order, which is typical of specific genitives.

As can be seen in Tables 5–7, the percentage of GN progressively growing from material and content (23%) to quantity (37.5%) and duration (87.5%) is directly proportional to the increasing countability of the genitive.[11] The difference in word order between material and duration is particularly striking: consider how the same head noun ὁδός behaves depending on whether it means "road" and is involved in a relation of material (32), or instead means "journey" and expresses duration (33).

(32) ὁδὸς λίθου
"A road paved with stone" (2.138.4)
(33) ἑπτὰ ἡμερέων ὁδόν
"A seven days journey" (3.26.1)

## *4. Discussion*

### *4.1. The effect of salience on genitive word order*

The data so far illustrated suggest that the distribution of the genitive in Ancient Greek is related to the animacy hierarchy, posited in Silverstein (1976) and developed in many further studies, such as Timberlake (1977), Comrie (1981: 185–200), Lazard (1984), Croft (1990: 111–117), etc. Accordingly, GN is found with decreasing frequency when the genitive is a proper noun, a common noun of a human being, a noun of an animal, a noun of an inanimate countable object, and a mass noun that is non-specified by a numeral. Moreover, GN more frequently occurs when the genitive is a singular noun denoting a specific individual than when the genitive is a plural noun denoting a class of individuals. The higher or lower level of animacy, humanness, individuality, and referentiality that is exhibited by

[11] The contrast between the absence and the presence of a numeral in (30) and (31) shows that numerals are more frequently lacking in quantity than in duration. In quantity, numerals lack in 8 out of 32 cases (25%), whereas in duration they lack in 7 out of 48 cases (14.6%). Moreover, as far as relations of quantity are concerned, the numeral is lacking more often in NG (7 out of 20 cases, 35%) than in GN (1 out of 12 cases, 8.3%).

genitive nouns in GN and NG is a manifestation of the higher or lower topicality of their referents in discourse. A discourse is commonly about humans that can be identified in a given context, while animals and inanimate objects are presented as generic patients or instruments of human action, and do not remain on the scene for a long text span.

In most cases, humanness overlaps with importance, i.e. with persistence in the surrounding discourse. When, however, this is not the case, importance overrides humanness. As a result, genitives denoting animals or inanimate objects that are the center of attention are preposed, as in (10), (11), (18), (20), and (27), and genitives denoting non-important humans are postposed, as in (7). In Homer, NG appears in formulas where the genitive denotes generic humans, such as ἄναξ ἀνδρῶν (Il. 1.7, 172, 442, 506, etc.), κοσμήτορε λαῶν (Il. 1.16, 1.375, etc.), and ποιμένα λαῶν (Il. 1.263, etc.). The fixed order of these idioms, which redundantly describe a general-in-chief, cannot be accounted for by syntactic or metrical considerations. From a functional perspective, however, it is clear that in these formulas, as well as in further phrases such as οὐλαμὸν ἀνδρῶν "throng of men" (Il. 4.251, 4.273, etc.) and στίχας ἀνδρῶν "rows of men" (Il. 4.231, 4.250, 12.48, etc.), humans have the same non-referential meaning as inanimate objects. Νέφος ... πεζῶν "cloud of foot-soldiers" (Il. 4.274, 23.133, etc.) behaves like κονίσαλος...ἀελλής "cloud of dust" (Il. 3.13).

The postposed order of these genitive phrases is not only due to the lexical categories of common noun and plural number. Even in the case of singular proper nouns, what decisively affects genitive word order is the pragmatic context. When they have a non-referential or metaphorical reading, and therefore are not represented as salient participants of the discourse, genitive names of humans or gods select NG. Consider the formulas μῶλον Ἄρηος "toil of Ares" (Il. 2.401) and φόβον Ἄρηος "fear of Ares" (Il. 2.767). Here Ares is not meant as an anthropomorphic god who is toiling or whom someone fears, but rather is an appellative for war, as in the expression ξυνάγωμεν

Ἄρηα "we will join battle" (Il. 2.381, cf., Liddell-Scott 1940: 239). In the same vein, the name of Aphrodite is also employed as an appellative of love and pleasure (Od. 22.444 "Until they have forgotten about Aphrodite that they used to enjoy with the suitors"). In this sense, the genitive inflected name of Aphrodite is postposed in the formula δῶρ' Ἀφροδίτης "gifts of Aphrodite", which is traditionally interpreted as "personal charms" (Il. 3.54, 3.64, etc., Liddell-Scott 1940: 465). In these cases, the proper noun is tantamount to an abstract noun.

Further common formulas where the singular proper noun of a human being is postposed are σθένος Ἠετίωνος "strength of Eetion" (Il. 23.827), ἶς Τηλεμάχοιο "force of Telemachus" (Od. 2.409), μένος Ἀλκινόοιο "vigor of Alkinus" (Od. 13.20) etc., where the head-noun does not refer to a specific possessee, but rather is a redundant denotation of the possessor. The periphrastic usage of the genitive phrase in (34) comes out of the masculine form of the participle ἰδών "looking", which agrees in gender with the genitive rather than with its syntactic antecedent ἶς "force", which is feminine.

(34) ὣς φάτο, μείδησεν δ' ἱερὴ ἶς Τηλεμάχοιο
ἐς πατέρ' ὀφθαλμοῖσιν ἰδών
"The holy force of Telemachus smiled,
looking at his father with his eyes." (Od. 16.477)

*4.2. The effect of predictability on genitive word order*

Our data show that GN often occurs at the first mention of a phrase, while NG is favored in repetitions. Cf., Hdt. 2.42.4 τοῦ Διὸς τῶγαλμα "Zeus's statue" vs. 2.42.6 τῶγαλμα τοῦ Διὸς; 4.15.2 Ἀριστέω ... ἐπωνυμίην "Aristeas' name" vs. 4.15.4 ἐπωνυμίην ... Ἀριστέω; 9.84.1 Μαρδονίου ... ὁ νεκρός "Mardonius' corpse" vs. 9.84.2 τὸν νεκρὸν τὸν Μαρδονίου. GN is preferred at the beginning of a chapter or in a context with topic shift, especially in a contrastive environment. In 2.28.1 Herodotus starts a discussion on the mysterious location of "the Nile's sources" (τοῦ Νείλου τὰς πηγάς, GN). This

phrase shows the opposite order in the inner part of the same chapter, in 2.28.3 (τὰς πηγὰς τοῦ Νείλου, NG). The former pattern with a preposed genitive reappears later, at the beginning of a new chapter (2.34.1), where it expresses a contrast, enhanced by the particles μέν ... δέ "on the one hand ... on the other hand". Namely: "It is well known that the Ister flows through inhabited lands, *but* no one can state where *the Nile's source* (GN) is, because the part of Libya through which the river flows is uninhabited desert". In the second book of the Historiae, focused on Egypt, we often find cases where a referent that is new or even extraordinary for a Greek public is first denoted by a preposed genitive, and then resumed by a postposed genitive, which represents the last mention of the referent. Examples (35) and (36) are located at the opening and at the closure, respectively, of the same section.

(35) ἐστι δὲ Αἰγυπτίων ἑπτὰ γένεα
"The Egyptian classes are seven." (2.164.1)
(36) γένεα μὲν Αἰγυπτίων τοσαῦτα ἐστι
"The classes of the Egyptians are these ones." (2.164.1)

The latter clause contains the demonstrative pronoun τοσοῦτος / τοσαύτη / τοσοῦτο "so much", which regularly refers to what precedes in Ancient Greek, and often signals the conclusion of a given issue (Liddell-Scott 1940: 1808). By contrast, the cataphoric pronoun ὅδε / ἥδε / τόδε "this" matches with GN, as seen in the discussion on (27). The interplay between genitive word orders and demonstrative pronouns is crucial, since many languages use different demonstrative pronouns depending on whether their referent is (important) brand-new or whether it has been already introduced in the discourse, that is, according to criteria similar to those already observed for the genitive word order variation. The use of a demonstrative pronoun for a referent that has been already introduced, which is called homophoric, is considered provided with a lower referential force (Halliday & Hasan 1976: 71; Parenti 2001).

### *4.3. Comparison between genitive word order and clause word order*

The principles underlying the distribution of the genitive can be related to the operations involved in the information structure of the clause. Givón (1988: 275–76) shows that clause word order is conditioned by the relative predictability and by the relative importance of a nominal constituent. Accordingly, information that is anaphorically less predictable and cataphorically more recurrent tends to be fronted. Unpredictability may involve information that is new, discontinuous, or contrastive. In some languages, new information precedes old information (see Tomlin & Rhodes 1979 on Ojibwa; Derbyshire 1979 on Hixkaryana; Mithun 1987 on Cayuga; Payne 1987 on Papago, etc.). In other languages, it is the initial position of a paragraph, as well as referential, temporal, spatial, or modal discontinuity, that correlates with a preverbal subject. By contrast, if there is no subject shift, and no other nominal antecedents exist that can be confused with the subject, the VS order prevails (see Silva-Corvalán 1977 on Spanish; Givón 1977 and Fox 1983 on Biblical Hebrew, etc.). Fronted new information, which apparently undermines the universality of the topic – comment structure assessed by the Prague school, reveals that information accessibility is not the only factor affecting word order, and that topical importance must also be taken into account. For example, Payne (1987) reveals that in Papago many indefinite objects, which by definition convey new information, follow the verb because they are not mentioned again in the discourse. The association between fronted position and important referents relies on cognitive facts pertaining to attention and memory. "The string-initial position invites the hearer to pay more attention, and thus to store and retrieve the information more efficiently". (Givón 1988: 276; cf., also 1992)

Fronting of salient constituents holds true also in the IE domain. In Ancient Greek (Dik 1995: 53ff.; Matic 2003), SVO is the most frequent pattern to the extent that narrative deals

with human participants, who syntactically are more often associated with subjects than with objects, and semantically are more often associated with agents than with patients. If, however, the external argument conveys information that is not relevant in the current discourse, it is placed after the verb. In the description of Xerses' army (Hdt. 7.61–80, cf., Dik 1995: 111ff.), the internal argument of the verb ἄρχω "to rule", denoting the people commanded and partaking to the Persian expedition, is a much more persistent piece of information than the external argument, denoting the commander. Whereas the people commanded are accurately described in their weaponry and equipment, the commander is a detail which is just mentioned for completeness' sake, and which immediately disappears. As a result, in this con-text the prevailing order is OVS.

That the distribution of the genitive with respect to the head noun in Ancient Greek tallies with the distribution of subject and object with respect to the verb, is due to pragmatic functions pervasively operating through different parts of speech. It must not be interpreted as an example of putative syntactic consistency across the different categories of verbal arguments and nominal modifiers. Theories of cross-categorical harmony, as suggested in Lehmann (1973), Venneman (1975), and Hawkins (1983) among others, deal with word order as with a static phenomenon, so that a language must belong to the type SOV, GN, AN, NPost, etc., or to the type VSO, NG, NA, PreN, etc. Mixed languages, where more than one pattern is admitted, are considered exceptions to the rule. Such theories can hardly be accommodated to Ancient Greek and to the old IE languages, where the rule is rather word order variation.

## *5. Conclusions*

Genitive word order in Ancient Greek cannot be syntactically accounted for. Diachronically, the hypothesis of a drift from GN to NG, which is allegedly consistent with a drift from SOV to

SVO, is not supported by the early records of this language, where both GN and NG are attested. Synchronically, the variation between GN and NG does not abide by Behagel's law, since we commonly find both light preposed and heavy postposed genitives. We have shown that this apparent word order freedom can be accounted for by relating different semantic and pragmatic functions to the different orders of the genitive. On the one hand, different semantic relations are conveyed by different word orders: kinship relations select GN, while relations of material and content select NG. On the other hand, the same semantic relation favors different word orders in different contexts. Kinship is associated with NG when the genitive does not identify a person in terms of his/her relatives, but rather represents a social position or a metaphoric relation between two items. Likewise, a genitive headed by a mass noun selects GN when a numeral is added: countability increases the individuation of a substance. Unless a numeral is involved, most heavy preposed and light postposed genitives have a human and an inanimate referent, respectively.

It is conceivable that the findings of this paper can be extended to other IE languages. For example, in Latin, the preposed genitive of phrases such as *Marci pater* or *Marci filius* contrasts with the postposed genitive of the idiom *pater familias*. The latter indicates social status rather than a specific family, and semantically corresponds to compounds of other IE languages, such as Ancient Greek δεσπότης and Vedic *dámpati-* "householder". The qualitative genitive, which typically has a non-referential meaning, is postposed to the head both in Ancient Greek (γυναῖκα πολυκλήρων ἀνθρώπων "a wife of a land-owning family", Il. 14.211) and in Latin (*homo magnae eloquentiae*). We believe that considering PIE as a strictly SOV and modifier-head language, as suggested in Delbrück (1878: 13; 1888: 15–16), is too strong a hypothesis, which does not explain the large word order flexibility attested in most of the daughter languages. On this point, we agree with Meillet (1934: 365–66): "Aucun mot n'avait dans la phrase indo-européenne

une place définie et constante. [...] C'est le grec qui garde le mieux l'usage indo-européenne de mettre d'abord le mot principal."

The present paper may also be of interest for a more general linguistic issue, since it shows that semantic and pragmatic principles can influence minor constituent order. Functionalist studies on word order acknowledge that Greenberg's (1966) syntactic parameters are not necessarily aligned. The order of adnominal modifiers with respect to the head noun does not have to conform to the order of the object with respect to the verb. Rather, the current order of a given parameter reflects its own grammaticalization pattern, which in principle is independent of the diachronic route followed by the other parameters. Even English, which is a quite fixed SVO language, does not abide by cross-categorical consistency, to the extent that it has AN and GN. The Saxon genitive *John's house* derives from the condensation of the loose paratactic structure *John, his house* (Janda 1980), which does not depend on the arrangement of the verb vs. the object. Thus, the latter has no substantial reason to be qualified as the major constituent order. Nevertheless, the placement of subject, verb, and object is privileged in functionalist research (Payne 1992; Myhill 1992: 164–215), which is mainly focused on the relation among different clauses in a multi-propositional discourse (Chafe 1987; Downing & Noonan 1995). Similarly, clause and discourse are the domains that are mainly investigated in studies on word order in Ancient Greek, such as Frisk (1933), Loepfe (1940), Dover (1960), Dunn (1988), Dik (1995), and Matic (2003). This is because the order of adnominal modifiers is commonly more fixed and more determined by syntactic constraints than the order of verbal arguments in languages. However, this is not always the case: in many early IE languages, the order of the adjective and the genitive with respect to the head noun is as flexible as the order of subject and object with respect to the verb, and interacts in interesting ways with determination devices. Therefore, nothing impinges upon the possibility that different functions lie behind

the different order of the genitive as in the order of subject, verb, and object.

## *Bibliography*

Allen, T. W. (1974): Homeri Opera. Oxford: Oxford University Press.

Bakker, D. (1998): Flexibility and consistency in word order patterns in the languages of Europe, in Siewierska, Anna (ed.). 383–419.

Bergson, L. (1960): Zur Stellung des Adjektivs in der älteren griechischen Prosa. Stockholm – Göteborg – Uppsala: Almqvist & Wiksell.

Brugmann, K. B. (1911): Vergleichende Laut-, Stammbildungs- und Flexionlehre der Indogermanischen Sprachen. II Band. II Teil. Strassburg: Trübner.

Chafe, W. (1987): Cognitive constraints on information flow. In Tomlin, R. S. (ed.) Coherence and grounding in discourse. Amsterdam and Philadelphia: Benjamins. 21–51.

Chantraine, P. (1953): Grammaire homérique. Tome II. Syntaxe. Paris: Klincksiek.

CIL $I^2$ = Corpus Inscriptionum Latinarum. 1986. Berlin: de Gruyter.

Comrie, B. (1981): Language Universals and Linguistic Typology. Oxford: Blackwell.

Croft, W. (1990): Typology and Universals. Cambridge: Cambridge University Press.

Dahl, Ö. & Koptjevskaja-Tamm, M. (2001): Kinship in grammar. In Baron, I., Herslund, M., and Sørensen, F. (eds.) Dimension of possession. Amsterdam – Philadelphia: Benjamins. 201–25.

Delbrück, B. (1878): Die altindische Wortfolge aus dem Çatapathabrāhmaṇa dargestellt. Syntaktische Forschungen III. Halle: Waisenhaus.

– (1888): Altindische Syntax. Syntaktische Forschungen V. Halle: Waisenhaus.

– (1893): Vergleichende Syntax der Indogermanischen Sprachen. I Theil. Straßburg: Trübner.

Derbyshire, D. (1979): Hixkaryana syntax. University of London. Doctoral thesis.

Dik, H. (1995): Word order in Ancient Greek. A pragmatic account of word order variation in Herodotus. Amsterdam: Gieben.

Dover, K. J. (1960): Greek word order. Cambridge: C.U.P.

Downing, P. & Noonan, M. (eds.) (1995): Word order in discourse. Amsterdam – Philadelphia, Benjamins.

Dryer, M. S. (1998): Aspects of word order in the languages of Europe. In Siewierska, A. (ed.). 283–319.

Dunn, G. (1988): Syntactic word order in Herodotean Greek. Glotta 66. 63–79.

Fox, A. (1983): Topic continuity in Biblical Hebrew narrative. In Givón, T. (ed.) (1983b). 215–254.

Fraser, B. (2002): Word order in Greek stichic verse: subject, verb, and object. Glotta 78. 51–101.

Frisk, H. (1933): Studien zur griechischen Wortstellung. Göteborg: Wettergren & Kerbers.

Gehring, A. (1891): Index Homericus. Lipsiae: Teubner.

Givón, T. (1977): The drift from VSO to SVO in Biblical Hebrew: The pragmatics of tense-aspect. In Li, Ch. N. (ed.) Mechanisms for syntactic change. Austin: University of Texas Press.

– (1983a): Topic continuity in discourse: an introduction. In Givón, T. (ed.) (1983b). 1–41.

– (ed.) (1983b): Topic continuity in discourse: a quantitative cross-language study. Amsterdam: Benjamins.

– (1988): The pragmatics of word order: predictability, importance and attention. In Hammond, M., Moravcsik, E., and Wirth, J. (eds.) Studies in syntactic typology. Amsterdam – Philadelphia: Benjamins. 243–84.

– (1992): The grammar of referential coherence as mental processing instructions. Linguistics 30.5–55.

Greenberg, J. H. (1966): Some universals of grammar with particular reference to the order of meaningful elements. In Greenberg, J. H. (ed.) Universals of Grammar. 2nd edition. Cambridge, MA: MIT Press. 73–113.

Halliday, M. A. K. & Hasan, R. (1976): Cohesion in English. London – New York: Longman.

Hawkins, J. A. (1983): Word order universals. New York: Academic Press.

Hude, C. 1927. Herodoti Historiae. Oxford: Oxford University Press.

Janda, R. D. (1980): On the decline of declensional system: The overall loss of OE nominal case inflection and the ME reanalysis of *-es* as *his*. In Traugott, E. C., Labrum, R., and Shepherd, S. (eds.) Papers from the 4th international conference on historical linguistics. 243–53. Amsterdam: Benjamins.

Jeffers, R. J. (1976): Rezension zu Lehmann, W. P. 1974. Language 52. 982–88.

Koptjevskaja-Tamm, M. (2001): "A piece of the cake" and "a cup of tea": partitive and pseudo-partitive constructions in the Circum-Baltic languages. In Dahl, Ö. & Koptjevskaja-Tamm, M. (eds.) The Circum-Baltic languages: Typology and contact. Volume 2. 523–568.

– (2002): Adnominal possession in the European languages: form and function. Sprachtypologie und Universalienforschung 55.2: 141–172.

– (2003a): Possessive noun phrases in the languages of Europe. In Plank, F. (ed.) 621–722.
– (2003b): A woman of sin, a man of duty, and a hell of a mess: non-determiner genitives in Swedish. In Plank, F. (ed.) 515–558.
Lascaratou, Ch. (1998): Basic characteristics of Modern Greek word order. In Siewierska, A. (ed.) 151–71.
Lazard, G. (1984): Actance variations and categories of the objects. In Plank, F. (ed.) Objects. Toward a theory of grammatical relations. London: Academic Press. 269–292.
Lehmann, W. P. (1973): A structural principle of language and its implications. Language 49. 47–66.
– (1974): Proto-Indo-European Syntax. Austin – London: University of Texas Press.
Liddel, H. G. & Scott, R. (1940): A Greek – English lexicon. Ninth edition, revised and augmented throughout. Oxford: Clarendon.
Loepfe, A. (1940): Die Wortstellung im griechischen Sprechsatz (erklärt an Stücken aus Platon und Menander). Freiburg: Paulus.
Manzelli, G. (1990): Possessive adnominal modifiers. In Bechert, J., Bernini, G., and Buridant, C. (edd.) Toward a typology of European languages. Berlin: Mouton De Gruyter. 63–111.
Masica, C. P. (1976): Defining a linguistic area: South Asia. Chicago and London: The University of Chicago Press.
Matic, D. (2003): Topic, focus, and discourse structure. Ancient Greek word order. Studies in Language 27.573–633.
Meillet, A. (1934) : Introduction à l'étude comparative des langues indo-européennes. 7th edition. Paris: Hachette.
Miller, G. D. (1975): Indo-European: VSO, SOV, SVO, or all three? Lingua 37. 31–52.
Mithun, M. (1987): Is basic word order universal? In Tomlin, R. (ed.) Coherence and grounding in discourse. Amsterdam: Benjamins. 281–328.
Myhill, J. (1992): Typological discourse analysis. Oxford: Blackwell.
Nocentini, A. (1993): Diachrony v. Consistency: The case of negation. Folia Linguistica Historica 14. 177–212.
Panhuis, D. G. J. (1982): The communicative perspective in the sentence. A study of Latin word order. Amsterdam – Philadelphia: Benjamins.
Parenti, A. (2001): "Sulla semantica dei dimostrativi" in Archívio Glottologico Italiano 86: 174–193.
Payne, D. L. (1987): Information structuring in Papago narrative discourse. Language 63. 783–804.
– (1992) (ed.): Pragmatics of word order flexibility. Amsterdam – Philadelphia: Benjamins.

Plank, F. (2003) (ed.): Noun Phrase Structure In The Languages Of Europe. Berlin – New York, Mouton De Gruyter.

Powell, E. J. (1938): A lexicon to Herodotus. Cambridge, UK: Cambridge University Press.

Rieu, D. C. H. (1946): Homer, The Odyssey. Revised translation of Rieu, E. V. 1946. London: Penguin.

Schwyzer, E. (1950): Griechische Grammatik. II Band. Syntax und syntaktische Stilistik. München: Beck.

Siewierska, A. (1998a): Introduction. In Siewierska, Anna. (ed.). 1–18.

– (1998b) (ed.): Constituent order in the languages of Europe. Berlin – New York: Mouton De Gruyter.

Silva-Corvalán, C. (1977): A discourse study of some aspects of word-order in the Spanish spoken by Mexican-Americans in West Los Angeles. M.A. thesis. Los Angeles. UCLA.

Silverstein, M. (1976): Hierarchies of features and ergativity. In Dixon, R. (ed.) Grammatical categories in Australian languages. Canberra: Australian Institute of Aboriginal Studies. 112–71.

Strunk, K. (1977): Heterogene Entsprechungen zwischen indogermanischen Sprachen. Zeitschrift für vergleichende Sprachforschung 91. 11–36.

Timberlake, A. (1977): Reanalysis and actualization in syntactic change. In Li, Ch. N. (ed.) Mechanisms of Syntactic Change. Austin – London: University of Texas Press. 141–177.

Tomlin, R. & Rhodes, R. (1979): An introduction to information distribution in Ojibwa. Chicago Linguistics Society 15. 307–320.

Venneman, Th. (1975): An explanation of drift. In Li, Ch. N. (ed.), Word order and word order change. Austin – London: University of Texas Press. 269–305.

Vetter, E. (1953): Handbuch der italischen Dialekte. Heidelberg: Winter.

Wackernagel, J. (1908): Genetiv und Adjectiv. In Kleine Schriften 2. 1346–1373.

Waterfield, R. (1998): Herodotus, The Histories. Oxford: Oxford University Press.

Watkins, C. (1976): Towards Proto-Indo-European syntax. Problems and pseudo-problems. In Steever, S. B. et al. (eds.) Papers from the parasession on diachronic syntax. Chicago. 305–326.