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WH-INTERROGATIVES IN ANCIENT GREEK DISENTANGLING FOCUS- AND WH- MOVEMENT*

Nicolas Bertrand & Richard Faure

Abstract. This article explores the problem of information structure in ancient Greek direct constituent questions from the perspective of *wh*-placement. It begins with the observation that *wh*-items are intrinsically focused and that typologically, *wh*-placement is predictable based on the focusing properties in some languages, such as Indonesian (*in situ* strategy) and Basque or Hungarian (focus position strategy), but not in others, such as English (specific *wh*-position strategy). Ancient Greek has multiple ways to express narrow focusing, e.g., *in situ* or in a preverbal devoted position. Puzzlingly, with respect to *wh*Ps, the former way is only marginally attested and there is no good evidence for the latter way. Instead, based on syntactic and prosodic tests, we show that ancient Greek offers a third strategy, in which a high position in the structure is available. Nevertheless, when this result is recast in the framework of Phase Theory, the tests of *wh*-duplication and stranding indicate that *wh*Ps must go through all three positions, receiving their argument function *in situ*, checking their focus feature preverbally and verifying their *wh*-feature in the high position. The specificity of ‘why’ questions is addressed along the way.

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1. Introduction

This article aims to explore the position of *wh*-constituents in *wh*-questions in ancient Greek (henceforth AG) and determine whether the position is predictable based on the focus properties of the language. We adopt a typological perspective and ultimately contribute to the ongoing debate regarding information structure in questions (Engdahl 2006).

AG word order has been the focus of many studies since the 1990s, and it is now firmly established that it expresses information structure (Bertrand 2010; Celano 2013; Dik 1995, 2007; Matic 2003). In particular, the preverbal position hosts information-focus constituents in narrow-focus sentences, and it is expected that the same position also accommodates *wh*-phrases (*wh*Ps) in *wh*-questions, since they correspond to focal elements in the answer and in assertive clauses. Nevertheless, AG provides us with contradictory data. For example, in (1) below, where is *tí* ‘what’ located?

- (1) **Tí** ἄλλο τίς εἶποι?
what PTC other someone would.tell¹
‘What else could one call (it)?’ (Dem. 23.63)²

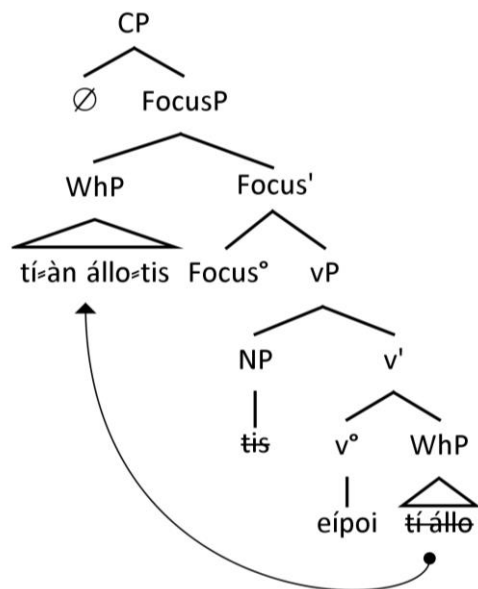
It is reasonable to assume that *tí* forms a constituent with *ἄλλο*.³ This raises an important question. Was the group *tí ἄλλο* fronted before the group *τίς εἶποι*, as in Figure 1, or was it moved higher up in the structure, as in Figure 2, thus mimicking *wh*-fronting, a strategy largely available across languages?

¹ For better readability, we opted for loose glosses for AG, rather than the more precise glosses along the Leipzig indications, because we are more concerned with the word order in sentences than with categories or grammatical functions.

² Our corpus is defined in section 2.1.4. The references of the examples are given by means of the speech or play’s number according to the *Thesaurus Linguae Graecae*, followed by the paragraph or line number.

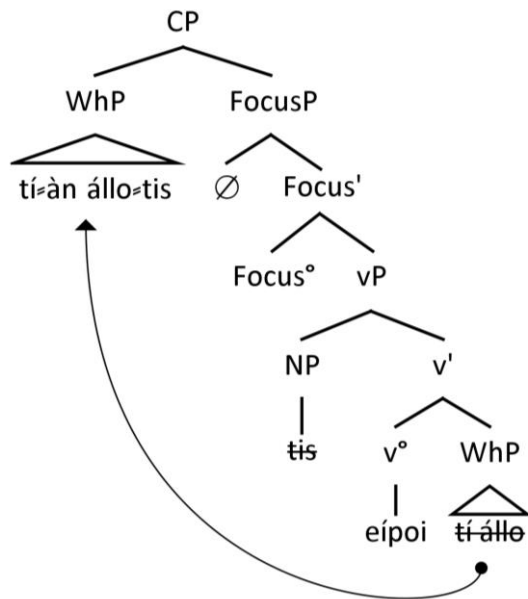
³ Another analysis will arise as a result of the paper’s findings, however (see Section 5.4).

Figure 1. *WhP* in Focus.⁴



⁴ Constituents in their original position are struck through. The symbol ‘Ø’ does not necessarily indicate void position but may cover projections that we need not worry about. The symbol ‘≠’ signals the intonational attachment site of post-positives (here *èn* and *tis*), not specifically clisis per se. Note that this attachment does not mean that *tis* is focused but that it is hosted by an element of the focus phrase, due to phonological rearrangement. Irrelevant projections are ignored.

Figure 2. *WhP* in clause peripheral position.



As the bulk of the literature on AG word order has been restricted to declarative clauses, it fails to adequately answer these questions. Given that it is also well known that, crosslinguistically, the word order in interrogative clauses is often different from the canonical declarative word order (e.g., subjects are postverbal in English questions), this paper investigates the placement of *wh*-words in AG direct interrogatives and the relation this placement entertains with the independently known properties of focal constituents in the language. More generally and against a typological background, this paper answers the question whether *wh*-placement in a specific language is predictable based on broader focus properties.

This study is cast in a generative (minimalist) framework. Although we refrain from technicalities until Section 5 and the discussion of phases, we use its theoretical assumptions and operations (after definition) throughout the article. The verb phrase is labelled vP, according to the VP-shell theory (Larson 1988), in which the verb phrase is made of several layers ('shells'), the highest being called vP since Chomsky (1995). IP or inflexion phrase is the domain above vP, in which, typically, time relations are encoded, but also agreement between the subject and the verb. Finally, CP stands for Complementiser Phrase and designates the highest position of the clause, because it is standardly where complementisers appear. However, provided that the right conditions

are met, any type of phrase can occupy this field, which is designated as the CP domain or left periphery (Rizzi 1997).

The analysis proceeds in four steps. Section 2 sets the stage for our investigation by presenting what is known about AG word order, crosslinguistic strategies of *wh*P placement and the corpus of our paper. In Section 3, we adduce different arguments to prove that AG has the option of placing *wh*Ps in a dedicated WH position. Section 4 then argues against alternative placement possibilities and for a generalisation of the WH position regarding almost all *wh*-questions. Section 5 recasts our findings in the frame of Phase Theory, indicating that they are independently predicted by this theory, while Section 6 recapitulates our results and explores further questions arising from them.

2. Preliminaries

2.1 *The problem*

2.1.1 *The Ancient Greek Word Order Template (AGWOT)*

Although AG was, for a long time, deemed to be a non-configurational language, we now know that the constituents of the clause are arranged according to the informational function they carry. The key notions are topic and focus. Topics are what the sentence is about, and they come in (at least) two forms: ratified and non-ratified (Lambrecht & Michaelis 1998:495 for the terminology; Matic' 2003:588–600 for the validity of this distinction in AG). Ratified topics are non-prominent given elements, whereas non-ratified topics are elements being established as topics at the moment of the utterance. *Potatoes* in (2b) is an example of a non-ratified topic⁵ (comparing with (2a), note that

⁵ Note that, unlike English, AG does not need the topic to be contrastive to left-dislocate it.

this function is indicated through an operation of fronting called topicalisation). Focused elements are new information. They often carry additional stress, arguably to attract attention. In the context of (3a), *a house* in (3b) is a case of focus.

- (2) a. I like potatoes.
 b. [Potatoes]_{NRTOP}, I like.
- (3) a. What did you buy?
 b. I bought [a house]_{FOC}

The template for AG word order that we used in this study is the result of several endeavours on the subject. It was first partially devised by Dik (1995), then developed by Matic (2003) and refined by Bertrand (2010). Schematically, AG word order can be represented as in (4).

- (4) a. NRTop(s) **NFoc** Verb RTop(s) Presupposed element(s)
 b. NRTop(s) [Verb RTop(s) **Focused element(s)**]_{Focus domain}

Non-ratified topic (NRTop) expressions occur first. The speaker then has a choice between two constructions. Specifically, if the focal part of the clause is only one non-verbal constituent, this narrow focus (NFoc) expression is located immediately in front of the verb. The verb may be followed by Ratified Topic (RTop) phrases and other presupposed elements. If the focus contains the verb plus or minus other focal elements, a focus domain is constructed, with the verb at its left edge and the last focal element at the end of the clause. One or more RTop phrase(s) may follow the verb and thus interrupt the focus domain. Note that the focus domain is the maximal projection of the focus: it leaves underspecified the actual extension of the focus (Bertrand 2010:106–111). Therefore, it can be used to express an actual broad focus, i.e., the verb + other constituents, or a narrow focus (in competition with template 4a), with only the last

element of the focus domain being actually focused.⁶ In (5), for example, Demosthenes tells how the critical situation of Athens needed a man able to understand what was at stake and to act upon it; he then uses a focus domain where only the last pronoun *egō* is construed as part of the actual focus.

- (5) [Ephánēn ꞑtoínyn hoûtos en ekeinēi têi hēmérāi [**egō**]_{ActualFocus}]_{Focus Domain}
 I.appeared PTC this.one in that day I
 ‘That man who appeared that day was me.’ (Dem. 18.173)

The important point for our purpose is that the AGWOT provides two positions for narrow focus constituents, specifically, either immediately before the verb (narrow focus construction as in 4a) or postverbally (focus domain with a narrow focus construal as in 4b).

2.1.2 *WhPs as focus expressions*

Wh-items are considered to be intrinsically focused because they correspond to the part that is in the focus in the answer (Lambrecht & Michaelis 1998; Rochemont 1986). Nevertheless, this focal status of *whPs* was questioned because *whPs* do not contribute to the informative process, which is the hallmark of focus in assertions (Erteschik-Shir 1986), and they do not attract sentence stress as usual focal constituents do. There are, however, good arguments to support their focal status, and furthermore, cross-linguistically, *whPs* “show up with the formal trappings of focus arguments” (Lambrecht & Michaelis 1998:511).

⁶ This corresponds to the distinction between potential and actual focus in Van Valin (1993:19–23).

First, in languages that express information through word order, *wh*Ps can occupy the same position as focus expressions, as is the case in Hungarian (É. Kiss 1998:249) and Basque (see 10 below).

Second, in some languages, the same particles can be used both for focus phrases in assertions and for *wh*Ps in questions, as in Lete, a Kwa language of the Niger-Congo phylum (Akrofi Ansah 2010), where the particle *ne* marks the *wh*P *mente* in the question (6a) and the focus phrase *hu* in the answer (6b):

- (6) a. Mente **ne** wo dé-dànkè?
 what FOC 2SG PROG-cook
 ‘What are you cooking?’
- b. Hu **ne** n-dé-dànkè a.
 fufu FOC 1SG-PROG-cook TP
 ‘I’m cooking fufu.’ (Akrofi Ansah 2010:100–101, adapted)

Third, clefting is a focus marking strategy used by languages where the focus must be aligned with the right edge of the clause (Féry 2013:696–697; Lambrecht 1994). Colloquial French is a case in point. In this language, *wh*Ps can be clefted, which is a clear sign that they correspond to a focus phrase.

- (7) C’est qui que tu as vu hier?
 it.is who that you have seen yesterday
 ‘Who is it that you saw yesterday?’

Fourth, as *wh*Ps cannot be treated as given and destressed, they are akin to focal constituents (Hamlaoui 2009:chap. 4). In (8a) and (8b), *bleu* and *comment* are stressed because there are in the focus.⁷ Now, imagine a situation in which two people were in a

⁷ Small capitals indicate that the term receives additional stress compared to the rest of the words in the sentence.

club with blue lighting, which made the skin look blue. The hearer was under drugs and believed she was actually blue skinned. The speaker can rectify this belief by focusing on the dressing as in (8a'), in which *bleu*, being given, is deaccented (Féry & Samek-Lodovici 2006; Schwarzschild 1999). Crucially, this is not possible for *comment*. Thus, in any context, (10b') is out.

- (8) a. Vous étiez habillée en BLEU.
 you were dressed in blue
 a'. Vous étiez HABILLÉE en bleu.
 'You were wearing blue.'
 b. Vous étiez habillée COMMENT?
 you were dressed how
 b'. #Vous étiez HABILLÉE comment?
 c. Comment vous étiez HABILLÉE?
 'How were you dressed?'

Fifth and complementarily, *wh*Ps compete with focal elements. In an optimality framework, Hamlaoui (2010) analyses the examples of *wh*-fronting, as in (8c), which is the result of a competition between two focal items. In French, the last position receives additional stress and is the default focal position, as illustrated with the assertive sentence (8a). In a *wh*-question, the *wh*-word can be clause-final as in (8b). However, this option is not available when another constituent is stressed in the sentence, as in (8b'). In this case, French has no choice but to front the *wh*-word as in (8c). This is because the *wh*-word and the stressed non-*wh*-word share a feature, most likely a focus feature.

This focal status must be attributed to the context change potential of *wh*-questions, because a question serves to inform the hearer that the speaker wants to know something or lacks some knowledge. Questions, thus, also have the ability to change the state of knowledge of the discourse participants, much like assertions (Lambrecht & Michaelis 1998:513).

2.1.3 Strategies of *whP* placement

Before exploring the AG situation, an understanding of the three typologically available strategies for *whP* placement is necessary (Dryer 2013).

STRATEGY #1 is used by languages that leave the *whP in situ*. Consider (9), in Indonesian, an Austronesian language (Cole & Hermon 1998). We observe that the *whP siapa* ‘who’ (9a) has the exact same position as the corresponding element *ibuku* ‘my mother’ in the answer (9b), namely within the NP *rumah X* ‘the house of X’. Note, too, that Indonesian does not have a devoted position for focal constituents.⁸

- (9) a. Rumah ini rumah **siapa**?
house this house who
‘Whose house is this?’
b. Rumah ini rumah **ibu-ku**.
house this house mother-1sg.
‘It is my mother’s house.’

STRATEGY #2 consists of placing the *whP* in the position usually devoted to host focus phrases. In Basque, for instance, the *whP* (here, *señek* ‘who’) holds the preverbal position of other focus phrases in that language (Arregi-Urbina 2002:161; Saltarelli et al. 1988).

- (10) a. Jon [señek]_{Focus} ikusi rau?
Jon-ABS who-ERG see.PRF AUX.PR
‘Who saw Jon?’

⁸ More precisely, focus phrases must be part of the vP. The only means to focus subjects, including subject *whPs*, is a type of cleft construction with the relative pronoun *yang* (Abraham 2003). Note that adverbial *whPs* such as *kenapa* ‘why’ or *bagaimana* ‘how’ cannot remain *in situ* either, but must undergo movement (Cole & Hermon 1998:225–226).

- b. Jon [Mirének]_{Focus} ikusi rau.
 Jon-ABS Mirén-ERG see.PRF AUX.PR
 ‘MIREN saw Jon.’ (Arregi-Urbina 2002:165)

Other languages, however, use a third option, STRATEGY #3, where a special position, usually at the left edge of the clause, harbours *wh*P_s. In English, for instance, *wh*P_s preferably come first in the sentence, as in (11).⁹

- (11) Where is the car going ~~where~~?

2.1.4 A question about questions

In summary, our argument is based on the following assumptions: (i) AG word order expresses information structure, with two different narrow focus positions, i.e., preverbal and final; (ii) *wh*P_s are narrow focus expressions; and (iii) typologically, many languages have a special position for *wh*P_s, i.e., generally, the initial position. Hence, the question that emerges is: where are *wh*P_s located in AG? More precisely, does AG resort to Strategy #1, #2, or #3, or to a combination of strategies? Is the behaviour of AG *wh*P_s predictable from the properties of AG focus marking strategies? To answer these questions, we analysed all direct constituent questions in Demosthenes’ speeches and Aristophanes’ plays.¹⁰ For Demosthenes, the spurious speeches were also

⁹ *In situ wh*P_s do exist in English, but they are mostly used for echo questions (about the rare instances of non-echo *wh-in-situ* questions, see Pires & Taylor 2007; Bobaljik & Wurmbrand 2015, a.o.). Similarly, modern Greek has both echo and non-echo *wh-in-situ* (Vlachos 2012, 2014).

¹⁰ The search was conducted by automatically looking for question marks in the *Thesaurus Linguae Graecae (TLG)*, a digital database of AG texts, using Peter Heslin’s *Diogenes* software (<https://d.iogen.es/d/credits.html>). The digital text is based on *Demosthenis Orationes* vol. 1–3, ed. S. H. Butcher & W. Rennie, Oxford: Clarendon Press, 1966 (2nd ed.) and *Aristophane*, ed.

included, as they all belong to the same chronological and dialectal stratum, viz. Attic Greek from the second part of the 4th century BCE.¹¹ Aristophanes provides both another chronological layer, since his plays range between 425 and 388 BCE, and another genre (comic dialogue), while the dialect is the same. This double corpus allows us to generalise our findings on classical (Attic) Greek, rather than limiting their range to only one author.

Our corpus amounts to 4438 interrogative clauses (Dem. 1825, Ar. 2613), out of which 2749 (Dem. 1253, Ar. 1493) are constituent interrogatives. However, we restricted our investigation to the 1979 (Dem. 925, Ar. 1054) instances where there is no ellipsis of the verb, since it is a pivotal element in the analysis of focal constituents.

2.2 The data

At first glance, two positions are available for *wh*Ps in AG, corresponding to the two NFoc positions. Some occurrences display the use of STRATEGY #1, with the *wh*P *in situ* in the postverbal focus position. In (12), the *wh*P *tí* is in the same postverbal position as the predicative adjective *alēthē* in the declarative sentence (13).

- (12) Taûta ðd' [estì **tí**]_{Focus domain?}
 that PTC is what
 ‘And what are those?’ (Dem. 9.39)

V. Coulon, & M. van Daele, vol. 1–5, Paris: Les Belles Lettres, 1967 (1st ed. corr.). Admittedly, the punctuation is the result of modern editorial choices, but, while this can be an issue when identifying yes/no interrogatives (which may be ambiguous between an assertive and an interrogative construal), no such problem arises with constituent interrogatives.

¹¹ All of the speeches were considered a part of the *Alexandrian Canon* compiled by Aristophanes of Byzantium and Aristarchus of Samothrace no more than 150 years later, but it is likely that this corpus was put together as early as the end of the 4th century BCE (Canfora 1974:74–76). We readily assume that they all reflect the same syntax.

- (13) Taût' [estîn **alēthê**]_{Focus domain}.
 that is true
 'That is true.' (Dem. 2.19)

However, *whPs in situ* only account for 67 instances (Dem. 25, i.e., 2.7%; Ar. 42, i.e., 4%). In Demosthenes, most of those (18×) are stereotyped as example (12), with a demonstrative pronoun as the subject, a copula, and the *whP* as the predicate.¹² Furthermore, they do not seem to require a different interpretation from those in (14), in which the *wh*-word *tí* is in the preverbal position.

- (14) Allà taûta **tí** estin?
 but that what is
 'But what are those?' (Dem. 37.36)

In situ interrogatives in Aristophanes are much more varied, without any discernible pattern.¹³

Actually, most of the questions attested in our corpus exhibit a preverbal *whP*, as in (14) above and (15) below.

- (15) Nÿn ðè **tí** poioûsin?
 now PTC what they.do
 'But now, what are they doing?' (Dem. 27.38)

¹² Another 5 instances are of the type *diaphérei dè tí?* 'what is the difference?'; *légei dè tí?* 'what does he say?' occurs twice. Example (39) below is probably better interpreted differently.

¹³ A difference in genres is likely at play here, since Aristophanes frequently imitates colloquial speech, while Demosthenes, as an orator, uses a higher register. See section 5.3 for further differences between the authors.

The analysis of these examples follows straightforwardly from what was observed in Section 2.1.3, i.e., AG is similar to Basque in that it hosts its *wh*Ps in the same position as its focal constituents in assertive sentences, e.g., compare (16) and (17) below with (14) and (15).

(16) Hoútōs [anaidēs]_{NFoc} estin ho en epistolēi gegraphós.
 so shameless is the in letter having.written
 ‘That’s how shameless is the one who has written the letter.’ (Dem. 7.33)

(17) Mè ðè toúth’ [hōs adíkēm’ emòn]_{NFoc} thêis,
 not PTC that as fault my you.put
 ei kratêsai synébē Philíppōi têi máchēi.
 if Philip happened to win the battle
 ‘Don’t say it is my fault if Philip happened to win the battle.’ (Dem. 18.193)

Nevertheless, not all of our data fit into this pattern. In (18a), for instance, the *wh*-word *tís* is separated from the verb by the infinitive clause *en charádrāi taûta phyteúein*; similarly, in (18b), the two constituents *ho prōktòs* and *eis tòn ouranòn* are located between the *wh*-word and the verb, which is a blatant infringement of the focus-verb-adjacency rule.

(18) a. Kaítoi **tís** ðàn en charádrāi taûta phyteúein axiōseien?
 PTC who PTC in water course that to.plant would.choose
 ‘But who would choose to plant that in a water course?’ (Dem. 55.13)
 b. **Tí** ðèth’ ho prōktòs eis tòn ouranòn blépei?
 why PTC the asshole towards the sky is.looking
 ‘Then why is your asshole looking at the sky?’ (Ar. 3.193)

This could mean that AG features all three of the typologically available strategies. However, there is another possibility, which was referenced in the introduction to example (1). Examples (14) and (15) look similar to Strategy #2 but are also amenable to Strategy #3 because, in both cases, the *wh*-word *tí* could be considered initial in its

clause, if we consider respectively *allà taûta* and *nûn dé* as left-dislocated constituents (see Section 4.1).

We devote the rest of the paper to buttressing the premise that AG does include Strategy #3. As we shall see, there are good arguments in favour of this hypothesis. That said, there are no examples that unambiguously meet Strategy #2. Hence, AG may have not three, but rather two strategies of *wh*-placement, one being far more prominent than the other. This claim is substantiated in the remaining sections of this paper, in which we explore ambivalent structures and the means to disambiguate them.

3. Existence of Strategy #3

3.1 *WhP-verb discontinuity*

The first clue that the *wh*-constituent is not in the focal position but higher in the structure is the fact that elements can occur between the verb and the supposed focused constituent. However, some theories defend the notion that not all of these elements count as interveners as they are transparent.

In fact, the NFoc position is defined by its adjacency to the following verb, and the elements that are found between them are called ‘focus intruders’ by Matic (2003:619–625), because they intervene between two elements belonging to the same domain. Some of them are easily explained away for syntactic or prosodic reasons and dubbed ‘trivial’, because they do not count in the calculus of word ordering. Conversely, ‘nontrivial’ intruders are intruders that should be taken into account and modify the calculus. Importantly, syntactic and prosodic intrusions do not abide by the same rules, meaning that we cannot infer from a prosodic intrusion that there actually is a syntactic intrusion between two syntactic objects. For example, prosodic postposition often does not obey constituency. Specifically, it does not target the first phrase, but the first word of a phrase (Goldstein 2015:69–84). For example, in (19), *oûn* intervenes between a preposition and its complement NP, i.e., *ep(i)... tò lusiteloûn*, which would

amount to breaking the PP at the place in which the syntactic relation is the tightest, i.e., between the head and its complement.

- (19) Ep' **oûn** tò lysiteloûn hautoîs hékastoi chōroûsin.
 towards PTC the being.useful for.themselves each they.go
 ‘So each of them turns aside to what is useful for themselves.’ (Dem. 2.29)

Among the intruders, clitics, postpositives, vocatives and RTop expressions are prosodic interveners, whereas adverbials are syntactic interveners. As we have just stated, clitics and postpositives are invisible regarding the placement of lexical words, and their position is dictated by a different set of rules, as they attach to the leftmost word of a given prosodic domain. This is illustrated in (20), where *oûn* harmlessly intervenes between *tí* and *keleúō*.

- (20) **Tí** **oûn** keleúō?
 what PTC I.recommend
 ‘What then do I recommend?’ (Dem. 4.25)

Two other types of elements are amenable to the same type of explanation. First, vocatives, such as *ánthrōpe* in (21), exhibit a behaviour quite similar to postpositives in that they are usually found after the leftmost lexical word of their prosodic domain, and furthermore, they can even interrupt a phrase.¹⁴

¹⁴ See for instance (i) where the vocative *ándres Athēnaíoi* surfaces between the noun *pleonéktēm(a)* and the adjective *még(a)* in the same NP.

- (i) Pleonéktēm', ándres Athēnaíoi, még' hypêrxe Philíppōi.
 advantage men Athenian-VOC great it.gave to.Philip
 ‘It gave Philip, Athenians, a great advantage’ (Dem. 18.60)

- (21) **Tí** \approx oûn, ánthrōpe, légeis?
 what PTC man you.say
 ‘What do you mean, sir?’ (Dem. 19.94)

Second, RTop expressions are similar in this respect. Because of their informationally given status, they are prosodically demoted and behave similar to postpositives, as (i) they cannot be the first word of a clause, (ii) they attach to the leftmost host of a prosodic domain, and (iii) they may even interrupt a phrase (Bertrand 2009). Consequently, an utterance such as (22) would be regular, if we consider *aut(á)* as postpositive for informational reasons.

- (22) **Tís** \approx gàr aút’ ōnésetai?
 who PTC those will.buy
 ‘Who will buy them?’ (Ar. 5.1252)

In all the preceding cases, the focus intruders can be shown, in some way, to be postpositive, and as such, they do not actually interrupt the focus–verb sequence.

There is yet another category of trivial focus intruders, viz. adverbials. As time and manner adverbials are modifiers of a vP, they should appear directly above it, whereas bottom positions devoted to informational functions, such as NFoc, are above vP and its modifiers, in the low IP area (Belletti 2004; Cinque 1999; Jayaseelan 2001). Accordingly, if we consider adverbials as part of the vP, it is not surprising that they surface between an NFoc phrase and a verb, such as *nÿn* in a declarative (23a) and interrogative context (23b).

- (23) a. All’ [**hÿsteros**]_{NFoc} nÿn êlthon.
 PTC too.late now I.came
 ‘(I wish I took the money when I went to the assembly) but I came too late.’
 (Ar. 10.381)

- b. **En poíoi** \approx dè **lógōi** nÿn enkaleîth’ hōs parédōken?
 in which PTC speech now you.accuse that he.passed.over

‘In what account do you now accuse him of having passed the debt over you?’ (Dem. 38.16)

None of these elements break the rule of focus–verb adjacency, because they either exhibit a postpositive-like behaviour, or are, in fact, part of the vP.

The same cannot be said about what we will refer to as ‘nontrivial focus intruders’. In (24a), the NRTop expression *Phōkéas* intervenes between the *whP tís* and the verb *apolóleke*.

- (24) a. Poíos ∅gàr stratēgòs Hálon, tís ∅dè Phōkéas apolóleke?
which PTC general Halos who PTC Phoceans he.destroyed
‘Which general destroyed Halos? Who destroyed the Phoceans?’ (Dem. 19.334)

In a series of rhetorical questions, Demosthenes reminds the assembly of all the Athenian losses, for which no general is to blame, but only his opponent Aeschines.¹⁵ Demosthenes introduces every loss using an NRTop expression, i.e., *Hálon* and *Phōkéas*, where the questions can be glossed ‘about Hálos, which general...? about the Phoceans, who...?’

Similar examples also occur in Aristophanes. In (24b), Pheidippides contrasts the way he is treated with the way his father Strepsiades is, by using the two NRTop expressions *tò... sòn sôma* and *toumón*, marked as such by the contrastive particles *mén* and *dé*.

- (24) b. Pô̂s ∅gàr tò ∅mèn sòn sôma chrè plēgôn athôion ê̂nai,
how PTC the PTC your body must of.wounds immune to.be

¹⁵ Note that we did not find any difference in the behaviour of rhetorical questions, compared to plain ones. Even if they are used for a different purpose and not to ask for information, they are structurally equivalent.

toumòn ⁂dè mē?

mine PTC not

‘How should your body be without wounds, but not mine?’ (Ar. 3.1414)

NRTops are not the only nontrivial focus intruders, however: we also found NFoc expressions in the same position, such as the infinitive *katēgoreîn* in (25):

- (25) **Tís** ⁂gàr ⁂àn katēgoreîn héloito krinómenos,
who PTC PTC to.accuse would.choose being.judged
échōn hó ti apologésetai?
having what he.will.defend

‘Who would choose to accuse when under trial, if he has a defence to offer?’

(Dem. 19.213–214)

In this context, Aeschines, Demosthenes’ personal foe, is on trial. Aeschines replies by accusing his adversary, rather than providing a defence for himself. In his speech, Demosthenes points out the paradox and uses it as an argument against Aeschines. Thus, *apologésetai* ‘will present a defence’ and *katēgoreîn* ‘accuse’, which are, in principle, mutually exclusive concepts, are marked as contrastive, hence, the positioning of the latter in NFoc. This leaves us with two focus expressions in the same clause, namely, *katēgoreîn* and the *whP tís*, which is intrinsically focused (see Section 2.1.2), while two-focus clauses are, in principle, excluded. However, the two foci are not of the same nature as one is contrastive, while the other is a WH focus, which, we assume, licenses their coexistence.¹⁶

Such nontrivial focus intruders occur even in declarative clauses, as Matic (2003:619–624) has demonstrated. In (26), for example, the pronoun *egō* ‘I’ is focused

¹⁶ See, among many others, the distinction made in Katz & Selkirk (2011); Vallduví & Vilkuna (1998). Horvath (2010) claims that focus and contrast are not activated at the same moment of the sentence derivation, but that contrast comes later.

(note the contrast with *hò patèr* ‘the father’), but still separated from the verb by the adverbial participial phrase *teleutésantos ekeínou* ‘after his death’.

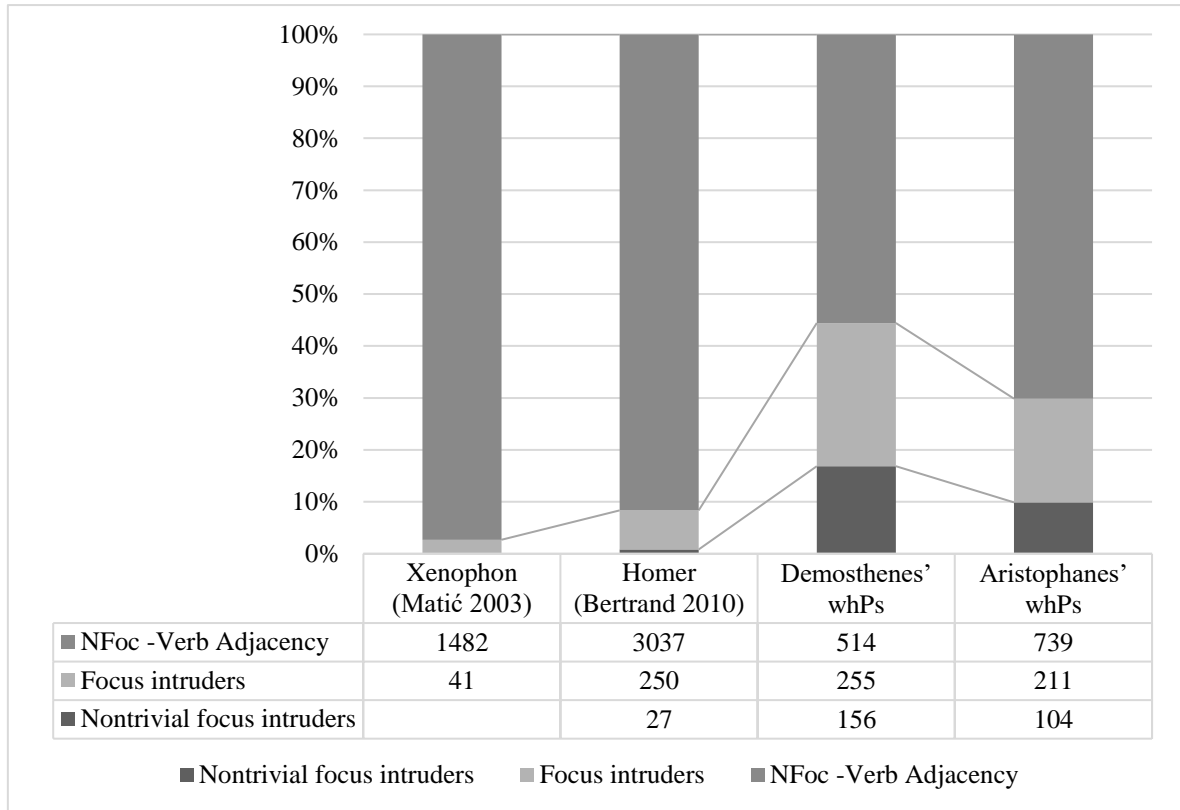
- (26) Ouch ho patèr autoùs all’ [egò]_{NFOc} teleutésantos ekeínou paredexámēn.
not the father them but I having.died this.one I.welcomed
‘It is not my father, but I, after his death, who welcomed them [into this house].’
(Dem. 40.2)

Nevertheless, focus intruders are much more frequent in questions. To assess this difference, we compiled the numbers of three different corpora¹⁷ (Figure 3). Admittedly, since the authors, genres and periods are not the same, and the methodology used in collecting and tagging data may also differ, the graph is only indicative. For instance, it is not clear whether Matic’ included questions in his corpus, but questions are included in the Homeric corpus. Moreover, Matic’ does not give specific numbers for nontrivial focus intruders.¹⁸ Nevertheless, the unusually high proportion of focus intruders in questions (Dem. 44.43%, Ar. 29.89%) is evident, as is, crucially, the exceptionally high number of nontrivial focus intruders (Dem. 16.86%, Ar. 9.87%).

¹⁷ Matic’ (2003) analysed the 1523 clauses in Book II of Xenophon’s *Anabasis* (first half of the 4th century BCE) and Bertrand (2010) the 3314 clauses of Homer’s *Iliad* (Books 5 and 21) and *Odyssey* (Books 1, 9 and 20) (8th century BCE).

¹⁸ Hence, we conflated both types under ‘focus intruders’, leaving the category ‘nontrivial focus intruders’ empty.

Figure 3. Rate of focus intruders in different corpora.



3.2 Prosody

Our second argument to postulate that the *wh*-constituent is not in the focal position but higher in the structure is based on prosody. In many instances, there are clues indicating that the interrogative phrase forms its own prosodic domain (Fraenkel 1964:136–137; Goldstein 2015:200–214). Moreover, this behaviour is independent from the syntactic and informational function of the following word, which suggests that the prosodic autonomy is due to the interrogative phrase itself, rather than due to a property of the following word or phrase. Although it is not straightforward to identify prosodic breaks in an ancient language, we can rely on the following clues.

First, clitics and postpositives signal a prosodic break (indicated by ‘|’ in our examples) before their host-word, as demonstrated by Goldstein (2015:200–214). Thus, in (27), the position of the postpositive modal particle *án* after the verb *epoiēsen* is a clue that there was a prosodic break before the verb.

- (27) **Tí** | epoiēsen =án?
 what he.did PTC
 ‘What would he have done?’ (Dem. 31.9)

The same holds for other postpositive-like expressions (Section 3.1 above), namely, vocatives (*ôndres* in 28) and RTops (*naûs* in 29).

- (28) **Tí** | páschet’, ôndres?
 what you.suffer o men?
 ‘What’s happening to you, guys?’ (Ar. 5.322)

- (29) **Poías** | élaben naûs hymîn
 which he.took boats to.you
 di’ hàs hypò tôn apolōlekótōn epibouleúetai?
 because of which he is plotted against by the ones who lost them
 ‘What ships has he taken for you, to cause the men who have lost them to plot against him?’ (Dem. 23.214)

We also posit a break when the clause is interrupted after the *whP* by a subordinate or an incidental clause, such as the participial clause *toûto mathôn* in (30).

- (30) **Tí** | [toûto mathôn] proségrapsen?
 why that having.learned he.added.in.writing
 ‘Why, with that in mind, did he add that clause [to the law]?’ (Dem. 20.127)

In Aristophanes specifically, line-ends in stichic verses provide another clue that there is a prosodic break, as in (31) before the runover verb *apērgásant[o]*. We registered them only when the break was not also visible in any other way.

- (31) *Tà xýlina toû teíchous tînes | apērgásant[o]?*
 the.wooden.parts of.the wall who they.accomplished
 ‘Who did the woodwork of the wall?’ (Ar. 6.1154–1155)

Table 1 below provides an overview of the different clues we used to detect prosodic breaks.

Table 1. Prosodic breaks between *wh*P s and verbs.

Criterion	Demosthenes		Aristophanes	
	#	%	#	%
Clitics and postpositives	113	12.22%	114	10.82%
RTop expressions	97	10.49%	68	6.45%
Vocatives	24	2.59%	33	3.13%
Intervening subordinates	40	4.32%	22	2.09%
Incident clauses	14	1.51%	3	0.28%
Other	7	0.76%	1	0.09%
Line-end	—	—	30	2.85%
No visible break	630	68.11%	783	74.29%
Total	925	100.00%	1054	100.00%

We do not decide the level of this break in the prosodic hierarchy (Nespor & Vogel 1986), i.e., whether it is an intonational phrase or phonological phrase. Note, however, that the modal particle *án*, which has scope over the entire clause and is sensitive to prosodic breaks at the level of the intonation unit (Goldstein 2010), usually selects as its host the word immediately following the *wh*P (Dem. 70× out of 89, Ar. 20× out of 25), whenever it is not attached directly to the *wh*P.

Overall, prosodic breaks are not decisive *per se*. Rather, they only indicate that the *wh*P can form its own prosodic unit and conspire with the other arguments to indicate that a *wh*P is not located in the preverbal NFoc position.

To summarise, the possibility of focus intrusion and prosody are arguments in favour of Strategy #3 being available in AG. Strategy #3 requires a special position for

*wh*P in AG questions, which we call WH,¹⁹ because it is reserved for focal *wh*-items.²⁰ In contrast, Strategy #2 does not meet such strong arguments.

4. Absence of Strategy #2

The more we further the analyses of the positioning and the derivation of AG *wh*-questions, the more examples of Strategy #3 are identified, which invites us to generalise in its favour. In fact, in almost half of our corpus, the position of the *wh*P is arguably above NFoc, either because there is a prosodic break or a nontrivial focus intruder, or both. Nonetheless, many examples (440, i.e., 47.57% in Demosthenes; 540, i.e., 51% in Aristophanes) are ambiguous, meaning that the clause has the *wh*P contiguous to the verb (or separated from it by a trivial focus intruder), and displays no sign of prosodic autonomy. In these cases, one cannot decide if the *wh*P is in the NFoc or the WH position.

This substantial number of ambiguous cases could lead us to conclude that AG uses all three strategies of *wh*P placement, i.e., *in situ* (#1), normal focus position (NFoc) (#2) and WH (#3). However, changing the perspective, no prediction of Strategy

¹⁹ There have been attempts to propose a fine structure of the ancient Greek left periphery based on Rizzi (1997), e.g. by Arad & Roussou (1997). According to that paper, each postpositive particle spells out a functional head. Nevertheless, their cartography is incompatible with our data. For example, we found plenty of instances of *tí zgar* (e.g., D. 8.44, Ar. 3.36), which would mean that *tí* is in either a Topic or a Force phrase in their approach. However, first, we have seen that interrogative words are focal, which excludes a topic interpretation; second, based on previous research, Rizzi & Bocci (2017) recall that interrogative phrases are always lower than Force.

²⁰ More precisely, only such *wh*-items that belong to the *tís*-paradigm, including the *p*-allomorphs to *t*- in *poîos* ‘which kind of’, *pósos* ‘how much/many’, etc. This is not trivial, as AG also possesses other, morphologically distinct *wh*-items, such as *hós*, which are not focused and do not appear in WH but appear higher in the structure (Faure 2010, 2019a, 2021).

#2 is met, i.e., we found no *whP*+verb sequence in which the *whP* is unambiguously in NFoc. Three arguments could lead to such a conclusion, but none of them is valid. Specifically, the material that precedes the *whP* is actually very high in the structure, neither the negative nor the postpositive particle *án* can precede the *whP*, and even intraclausal *whPs* are high in the structure. In what follows, we examine the three arguments and conclude that Strategy #3 is dominant.

4.1 Material above *whP*

The first argument for the *whP* to be in NFoc in these structures is that there can be material preceding the *whP*, as in (32) and (33):

(32) Ἄν ἡέλῃς τὸν Ἀρίστωνά τῆς βουλευέουσ, τί ἐστὶν;
 if you.convict Ariston of premeditation, what will.be
 ‘If you convict Ariston for premeditation, then what?’ (Dem. 25.73)

(33) Ἀγάθων οὐδὲ ποῦ ἐστίν;
 Agathon PTC where he.is
 ‘And Agathon, where is he?’ (Ar. 9.83)

However, this material is always comprised of setting or NRTop expressions,²¹ such as a conditional clause (32) or an argument of the verb (33). As setting expressions such as conditional, temporal or other adverbial clauses form their own clausal domain, it is not surprising that they can precede the matrix clause. In cases such as (32), *τί* can be considered initial in its own clause, and thus is as likely to be in NFoc as WH. Furthermore, there is independent proof that at least some NRTop expressions in AG, sometimes referred to as themes or extra-clausal topics (Allan 2014; Bertrand

²¹ Recall the AGWOT presented in (2), section 2.1.1.

2010:277–287; Goldstein 2015:121–173; Matic 2003:580–582; Slings 1997), are actually left-detached elements that precede the rest of the clause. For instance, they can display case mismatch, trigger the use of a resumptive pronoun and/or form a prosodic domain of their own. Again, if *Agáthōn* in (33) can be construed either as a regular (internal) NRTop expression or as a left-detached theme expression, we have no definitive indication whether the *whP poû* is in NFoc or WH.

4.2 Position of *án* and negatives

Another argument is based on the behaviour of *án* and the negatives. *Án* is a postpositive particle used in association with a verb form to indicate different modal values, such as irrealis (with secondary tenses of the indicative), potential (with the optative) and virtual (with the subjunctive). It can (almost) never occur farther right in a clause than just after the verb form (Marshall 1987:35; Wackernagel 1892:392), but, as a postpositive scoping over the entire predication, it is frequently found higher up in the structure. More generally, in subordinates, *án* is, as a rule, immediately after the complementiser, with which it sometimes coalesces, e.g., *ei* ‘if’ + *án* > *eán*, *án* or *én*. Therefore, *án* occurs freely before an NFoc expression, such as *abelterótatos* in (34). In this sentence, it clusters with postpositive particles, such as *gár*, which is hosted by *kaí*. The same occurs when the postpositive particle is *dé* and/or when the host is not a conjunction but instead a lexical word (35).

(34) *Kaí* *gár* *án* [abelterótatos]_{NFoc} *eíē* *pántōn* *anthrōpōn*.
 and PTC PTC stupidest he.would.be of.all men
 ‘For he would be the stupidest man on earth.’ (Dem. 9.14)

(35) *Axióistos* *d’* *án* [eikótōs]_{NFoc} *phaínoito*.
 convincing PTC PTC rightfully it.would.appear
 ‘It would rightfully appear convincing.’ (Dem. 1.3)

The same observation can be made with negatives as a negative term can freely precede an NFoc expression, such as *tà hautôn* ‘what is theirs’ in (36), the focal status of which is made clear by the contrast between holding something that belongs to you and acquiring something that is someone else’s property (*allótria*).

(36) *Kaì ouch hápantes hoi échontes [tà hautôn]_{NFoc} échousin,*
 and not all the having the their they.have
allà polloì kaì allótria kéktēntai.

‘And it is not the case that all possessors possess only what is theirs, but many also have what belongs to someone else.’ (Dem. 7.26)

If *whPs* were located in NFoc, one would expect to find at least some instances where either *án* or a negative is to their left. However, *án* never precedes the *whP*, and we found no counterexample in our corpus, among the 338 tokens of *án*.²² Similarly, the negative word never precedes the *whP*, among its 257 tokens.

To illustrate the latter point before coming to *án*, let us consider (37), which features a negative *ou(k)* that precedes the whole sentence except for *tís hymôn*, which precedes the negative. In contrast, a pattern such as that in (38), with the negative word before the *whP*, is not attested. Thus, it is very likely to be ungrammatical.

²² See Marshall (1987:19) for a similar observation, based on Plato, Demosthenes and Thucydides. Actually, there is one instance in Aristophanes where *án* is apparently higher than the *whP*:

(i) *Sý ðgàr àn porísai tí dýnai’ agathòn plèn phóidōn ek balaneíou...?*
 you PTC PTC give what you.could good except burns from bath...?
 ‘And what good thing could you give us, except burns in the bath...?’ (Ar. 11.536)

However, it is likely that *tí* is to be read *tí* instead (the unstressed indefinite rather than the stressed interrogative pronoun), and the sentence should be construed as ‘Could you give us anything good except burns in the bath...?’ Note that AG texts were not accented before Alexandrine times.

(37) **Tís** hymôn **ouk** oïden tôn apopsēphisthént' Antiphônta?
 who among.you not knows the struck.off.the.register Antiphon
 'Who among you does not know Antiphon, who was struck off the register?'
 (Dem. 18.132)

(38) ***Ou tís** hymôn oïden tôn apopsēphisthént' Antiphônta?
 not who among.you knows the struck.off.the.register Antiphon

In our corpus, the only *prima facie* counterexample to that rule is (39).

(39) **Ouk** éxesti ðè poî?
 not is.allowed PTC where
 'And where is this forbidden place?' (Dem. 23.52)

However, it does not contradict our rule for two reasons. First, it involves the contextual formation of a cluster negative+verb. Specifically, Demosthenes has just been citing a law stating that an exile can only be prosecuted for murder when he goes to a forbidden place (*hópoi mē éxesti*, lit. 'where it is not allowed'). The phrase *ouk éxesti* is presupposed as a whole. Second, and more crucially, it could be an instance of *whP in situ*, which would make it irrelevant to our argument.²³

Note that since the interactions between negative and *wh*-words are notoriously difficult, the absence of this pattern could be due to another reason. Several phenomena, such as relativised minimality (Rizzi 1990, 2004), intervention effects (Beck 1996, 2006) and weak-island effects (Abrusán 2014), imply that the syntax and semantics of questions involve an interaction between the *wh*-word and the construal of the question

²³ In another construal, probably preferable, the negated verb *ouk éxesti* is topicalised and left-dislocated, leaving *poî* in whatever position it occupies in the sentence, which may be a high position. AG has the option of topicalising finite verb forms (Bertrand 2010:185–193; Dik 1995:207–235; Matić 2003:604–605).

meaning at the global level of the utterance. These proposals all share the idea that the negative interferes in this interaction and blocks functional heads from interacting, which then leads to a contradictory interpretation or complicates the computation of the question meaning.

However, even if negatives are left aside, clauses with *án* would still provide evidence that NFoc is not an option for *wh*Ps. In our corpus, the particle surfaces as the second word in the clause or immediately after the following negative word 72% of the time, as is regular for a second-position particle. Consequently, inserting patterns (34) and (35) in questions should yield sentences similar to (40) (with *kaí*, *gár* and *án*) and (41) (with *dé* and *án*).

(40) *Kai̯ ðgàr ðàn tínes toútois t̃ôn állōn Hellénōn érisan
 and PTC PTC who with.them of.the other Greeks would.have.competed
 gnómēi kai̯ pléthei kai̯ aretēi?
 in.intelligence and number and virtue
 ‘And who, among the other Greeks, would have competed with them in intelligence, number and virtue?’

(41) *Pròs ekeîno ðd’ ðàn tí légois?
 about this PTC PTC what you.would.say
 ‘And what could you say to this?’

Crucially, these do not occur. Instead, we have (40’) and (41’), in which *án* does not escape the clause and is stuck after the *wh*P. If the *wh*P is in the NFoc position, we fail to see why options (40) and (41) are blocked.

(40’) Kai̯ ðgàr | tínes ðàn toútois t̃ôn állōn Hellénōn érisan
 and PTC who PTC with.them of.the other Greeks would.have.competed

gnómēi kai pléthei kai aretēi?

in.intelligence and number and virtue (Lys. 2.42)²⁴

(41') Pròs ekeîno ðè | tí ðàn légois pròs ekeîno?
about this PTC what PTC you.would.say about this (Dem. 41.17)

4.3 Intra- and extracausal whPs

A last argument in favour of Strategy #2 rests on Goldstein's (2016) distinction between the nuclear clause and what is preposed to it. The particle *án* cliticises onto the first element of the nuclear clause, and everything that precedes this host is extracausal. As we have just seen, according to this criterion, *whPs* are either first in the clause (ex. 40' and 41') or extracausal (27). It is tantalizing to match the intraclausal kind with Strategy #2 and the extracausal one with Strategy #3. However, examples like (42) prove this hypothesis wrong. While *án* ensures that the question word *tí* is intraclausal, the nontrivial intervener *hymeîs* ensures that it is not verb-adjacent, i.e., that it is not in NFoc. This suggests that the position WH may come in two types, related to two different interpretations.

(42) **Tí** ð' ðàn hymeîs agathòn exeúroit[o]?
what PTC PTC you good would.find
'What good could you find?' (Ar. 11.462)

4.4 Interim summary

²⁴ In order to provide an example which was exactly parallel to (34) and contained a *wh*-word, we had to resort to another author, namely Lysias, also an Attic orator of the 4th century BCE.

At this point, we are in a position to assess the hypotheses formulated in 2.1.4 regarding how many *wh*-strategies are available in AG. The higher rate of focus intruders in questions and the potential prosodic independence of the *whP* signal that Strategy #3 is available to AG (Section 3). Conversely, we have no indication that *whPs* can be in the NFoc position (Strategy #2, the present section). In particular, albeit frequent (440 tokens of *án* and/or negative in a question), *án* and negatives never occupy the pre-*whP*-position expected under the latter strategy. Consequently, the generalisation that ensues is that Strategy #2 is ruled out and AG prominently uses Strategy #3, with Strategy #1 as a borderline option. This move is also supported by learnability issues. Given that no instance of Strategy #2 is distinguishable from Strategy #3, how would children tease apart the two strategies and acquire Strategy #2?

Nevertheless, applying our results, especially with respect to prosody, to our introduction's example (1), repeated here, yields a more complex picture.

- (1) **Tí** ðàn | állo ðtis éipoi?
 what PTC other someone would.tell
 ‘What else could one call (it)? (Dem. 23.63)

Recall that (1) was in principle eligible for two analyses according to Figure 1 and Figure 2. In the former, *tí állo*, the whole complement of *éipoi*, is in NFoc, while in the latter, it is in WH. The position of *án* allows for both interpretations. However, the position of the enclitic indefinite *tis* and the availability of stranding in AG pleads in favour of a third analysis. First, the position of *tis* immediately following *állo* suggests that together they form a prosodic domain independent from the group *tí+án* that precedes them. If *tí állo* were a single prosodic domain, enclitic *tis* would have risen to the second position within this domain, namely, right after *tí*, in which *án* is hosted.

Note that an *án+tis* cluster is perfectly possible in AG, as shown by examples (43) and (44), in an assertive and an interrogative sentence, respectively.²⁵

(43) Polloùs *án* *tis* oikéτας ídoi par' hēmîn.
 many PTC someone servants would.see among us
 'One could see many servants among us.' (Dem. 9.3)

(44) Tí *án* *tis* légoi?
 what PTC someone would.say
 'What can one say? (Dem. 8.23)

Consequently, if *tí+án* and *álla+tis* are in two different domains, the two parts of the NP must be in two different informational positions, namely, WH and NFoc, respectively. This means that we have not yet exhausted the subject of the structure of *wh*-interrogatives and that more must be said about the interaction between the WH and the NFoc positions and their derivations.

5. A phasal account of *wh*-placement

On the basis of the results of the previous section, we conclude that most *wh*Ps are neither *in situ* nor in the NFoc position, but rather in a high, WH position, i.e., AG does possess Strategy #3 (like English). We assume that, as in English, this position is in the higher domain (left periphery) of the clause. This stance however raises a number of questions. (i) What is the relation this position entertains with the other focal positions? (ii) How did the *wh*P arrive there? That is, was it base-generated or moved from a lower

²⁵ Note, moreover, that, in (43), *tis* also appears within an NP, thus there is no phrase-impermeability rule at play in (1) either.

location? In the present section, we claim that the two questions must be addressed together, and we adopt Phase Theory and its PIC (Chomsky 2000:108):

(45) PHASE-IMPENETRABILITY CONDITION (PIC) (STRONG VERSION)

In phase α with head H, the domain of H is not accessible to operations outside α , only H and its edge are accessible to such operations.

According to Phase Theory and the PIC (45), a sentence is built in several phases. A constituent α is built and stored before the next constituent β is composed. Hence, the interior of α is not eligible for further syntactic operations, but only its very edge (the upmost part) is accessible for the rest of the derivation. This principle forces the derivation to proceed stepwise. To take a constituent out of a phase, it must stop at the edge of each phase. At a minimum, Phases include vP and CP. For the at-issue question, the theory predicts that the *wh*P originates within the vP and must stop at the edge of the vP on its way to the CP domain. This is acceptable if we match this with the acquaintance of *wh*Ps with focus (see Section 2.1.2). Thus, the three positions through which the *wh*P goes correspond to its base position, the NFoc position and the WH position. This is illustrated in (46). The *wh*-word *tí* is born as the object of *eípoi* and then moved to the NFoc position; from there it is raised further up to the WH position, as indicated with the struck through copies.

- (46) Hòs gàr emoû philippismón, ô gê kai theoí, katēgoreí,
tí hoûtos| ouk ðàn ~~tí~~ eípoi ~~tí~~?
 what this not PTC ~~what~~ he.would.say ~~what~~
 ‘He who accuses me of philippism, o Earth and gods, what would he not say?’
 (Dem. 18.294)

Interestingly, our data confirm this hypothesis, according to the indications of the travel of the *wh*P through the NFoc position.

5.1 *The whP duplication*

In the derivational framework that we adopt herein (Chomsky 1995), movement leaves a copy of the displaced term at each step, as represented in (46). However, when the sentence is spelled out, the speaker utters only one of these copies (the highest one), a requirement of computational efficiency, according to Berwick & Chomsky (2016:99–101). That said, there are occasions when more than one copy are spelled out, as in (47a), which presents a sentence with a matrix and an infinitive subordinate clause. An adverbial clause (*epeidàn...*) intervenes between the two clauses. It is located in the periphery of the infinitive clause, thus suggesting that the latter projects an entire, independent clausal domain. Although the question bears only on one constituent, there are two instances of *tí* ‘what’, one before the matrix verb and the other before the embedded verb:

- (47) a. Kaítoi tòn hápasin aselgô̂s hoútō chró̂menon **tí** oíesthe,
 and the one who has treated you so brutally what you.think
 epeidàn kath’ hén’ hēmôn hekástou kýrios génētai, **tí** poiéseín?
 when he has every one of us in his power what to.do
 ‘And the man who has treated everyone so brutally, what do you think he
 will do when he has every one of us in his power?’ (Dem. 9.35)

- b. **tí** **ἡ** oíesthe **tí** **ἡ** poiéseín **ἡ**
 WH NFoc you.thing WH NFoc to.do base position

We analyse them as two copies of the same *wh*-item, which signals that the derivation of the clause occurred in at least two steps.²⁶ Note, however, that the derivation

²⁶ An anonymous reviewer asks whether the second occurrence of *tí* could be an instance of resumption. We think this analysis is less likely, since resumption mostly features third person pronouns rather than interrogative terms. Overall, instances with a copy of a *wh*-word are extremely rare: only 3 in Demosthenes (with one textually doubtful), and 2 in Aristophanes

probably involves two additional steps through the NFoc positions as presented in (47b). Splitting and Stranding provide evidence of these steps.

5.2 Splitting and stranding

Another indication of movement comes from split XPs. AG can either (i) move the *wh*P as a whole to the WH position (piedpiping), or (ii) split it, with one part staying in its original or intermediate position and only the *wh*-word in the WH position.²⁷ For example, (48) is evidence that complex *wh*P's may be piedpiped to the WH position. The position of the vocative \hat{o} *Leptínē* immediately following *ho sós* indicates that *ho sós* is in a different prosodic domain from *tín(a) rhāistónēn toîs polloîs*. Hence, the latter forms a close chunk that was taken as a whole from its base position to that of WH.

- (48) **Tín'** ϵ oûn **rhāistónēn toîs polloîs** | ho sós, \hat{o} Leptínē,
 what PTC relief to.the many your o Leptines
 poieî nómos **tína rhāistónēn toîs polloîs**
 does law ~~what relief to.the many~~
 'What relief for the many does YOUR law provide, Leptines?' (Dem. 20.28)

*Wh*P's can also be split, leaving one part in its original postverbal position. In (49), *tí* is fronted, while *kérdos* is stranded.

- (49) **Tí** | ên ϵ moi **tí** **kérdos** tò mè 'thélein?
 what was to.me ~~what~~ gain the not wanting
 'What advantage did I have in refusing?' (Dem. 24.93)

(where the first instance of the interrogative is both times *tí dé/gár* and could be analysed as a separate elliptic clause "and then what?").

²⁷ This possibility is not limited to *wh*P's in AG (Biraud 2014; Devine & Stephens 2000).

Crucially, sometimes a part of the *whP* is stranded in NFoc, rather than in its base position, which suggests that the *whP* must pass through the NFoc position before landing in the WH position. This is the case in (50), in which the coordinate *whP* *poíai aiskhýnēi kai symphorái* ‘what disgrace and ruin’ is broken, and only *poíai aiskhýnēi*, the left branch of the coordination, is displaced past the cluster negative+*án* to the WH position.

- (50) È **poíai aiskhýnēi** | ouk ðàn ~~poíai aiskhýnēi~~ **kai symphorái**
 or in.which disgrace not PTC ~~in.which disgrace~~ and ruin
 peripeptōkōs ên ~~poíai aiskhýnēi kai symphorái~~?
 I.would.have.fallen ~~in.which disgrace and ruin~~
 ‘What disgrace and what ruin wouldn’t I have encountered?’ (Dem. 59.11)

Compare also the near minimal pair in (51), where the *whP* is split once between WH and *in situ* positions (51a), and once between WH and NFoc positions (51b).

- (51) a. Ô Hērákleis, toutì **tí** ðpot’ estì ~~tí~~ **thērion**?
 O Hercules that what PTC is ~~what~~ beast
 ‘Hercules, what on earth is that beast here?’ (Ar. 6.93)
- b. Atàr sý **tí** | ~~tí~~ **thērion** ðpot’ eî ~~tí-thērion~~ pròs tôn theôn?
 PTC you what ~~what~~ beast PTC you.are ~~what beast~~ by the gods
 ‘And you, what beast are you, by the gods?’ (Ar. 6.69)

Some apparently very contrived examples of splitting are easily explained along these lines. Thus, in (52), all three positions are occupied by a part of a *whP*, *tí péras kakías* ‘what limit to wickedness’, i.e., the original postverbal position (*kakías*), the preverbal NFoc position (*péras*) and the initial WH position (*tí*).

- (52) **Tí** ðgàr hōs alēthōs | ~~tí~~ **péras** ðàn | phéseíe ðtis eînai
 what PTC really ~~what~~ limit PTC would.say someone to.be
tí **péras kakías**?

~~what limit~~ of.wickedness

‘For what limit, really, could be set to wickedness?’ (Dem. 21.109)

For a similar instance in Aristophanes, consider (53), where the *whP* *poîos óchlos presbytikós* is split in three parts, with only the *wh*-word in initial WH position, as indicated by the negative, while the noun is stranded in NFoc position and the adjective remains in the original postverbal position.

(53) **Poîos** ouk ~~poîos~~ **óchlos**

which not ~~which~~ crowd

periestephánōsen en agorâi **poîos óchlos presbytikós?**

surrounded in market ~~which crowd~~ of.old.people

‘What crowd of old folks didn’t surround me in the market?’ (Ar. 11.786–787)

5.3 The ‘why-effect’

Before we conclude, we must discuss why-questions. Expressions meaning ‘why’ (*tí, dià tí, tίνος héneka*) seem to appear higher in the clause than the rest of the *wh*-words, which is partially confirmed by our measurements. We calculated the average distance between the *whP* and the verb (Figures 4 and 5), both by number of constituents and by prosodic weight, as measured by the number of characters.

Figure 4. Distance between the *wh*P and the verb (Demosthenes).

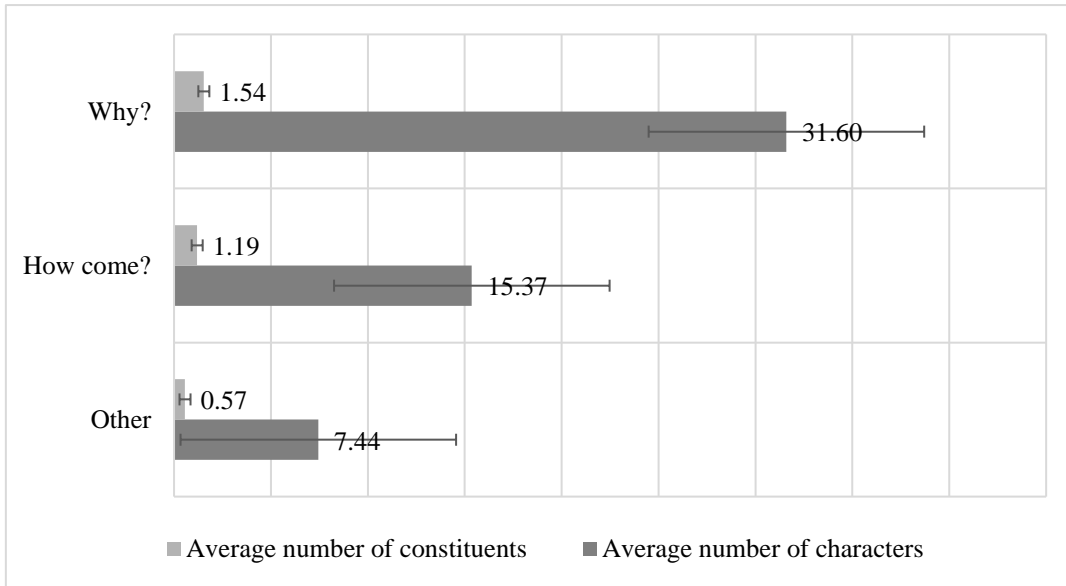
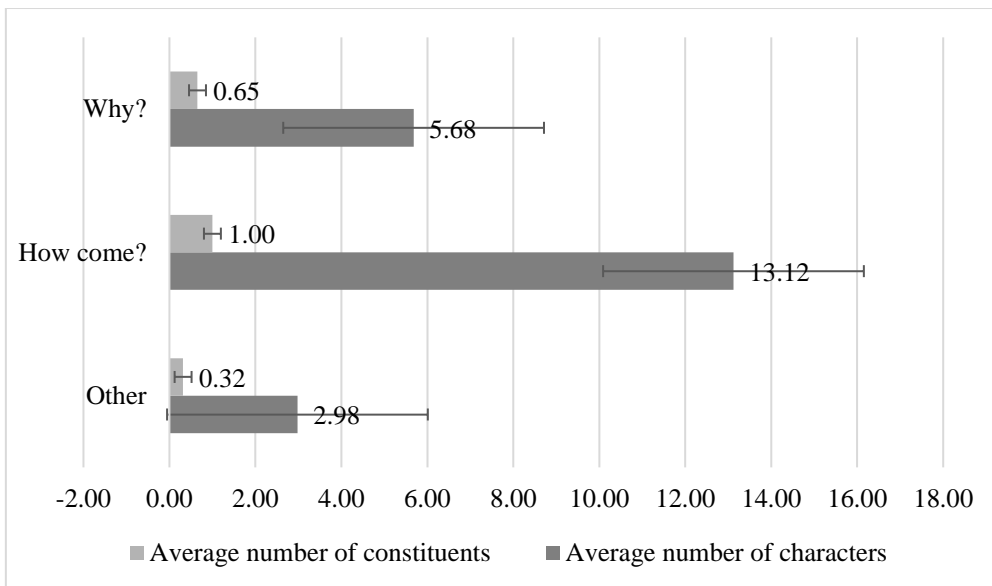


Figure 5. Distance between the *wh*P and the verb (Aristophanes).



We also computed the percentage of instances in each category with a prosodic break and with nontrivial focus intruders (Figures 6 and 7). The differences are

statistically highly significant, except with respect to the difference in the percentage of prosodic breaks.²⁸

²⁸ A χ^2 test results in a less than 0.01% probability of a chance distribution for the average distance between the *whP* and the verb (in number of constituents and in number of characters), as well as for the rate of nontrivial focus intruders. For the rate of prosodic breaks, although pointing in the right direction, such a distribution could be obtained by chance with a probability over 9% in Demosthenes, whereas it is significant in Aristophanes. We are not yet in a position to offer any explanation on the variation between the two authors in this respect, which may be due to different generic norms, although this hypothesis requires further investigation. Another factor could be that we could detect more prosodic breaks in Aristophanes thanks to line-ends, whereas such breaks would be invisible in Demosthenes' prose whenever no clitics or postpositives are present. Note that in the graphs, the error bars represent the standard error.

Figure 6. Separation between the *whP* and the verb (Demosthenes).

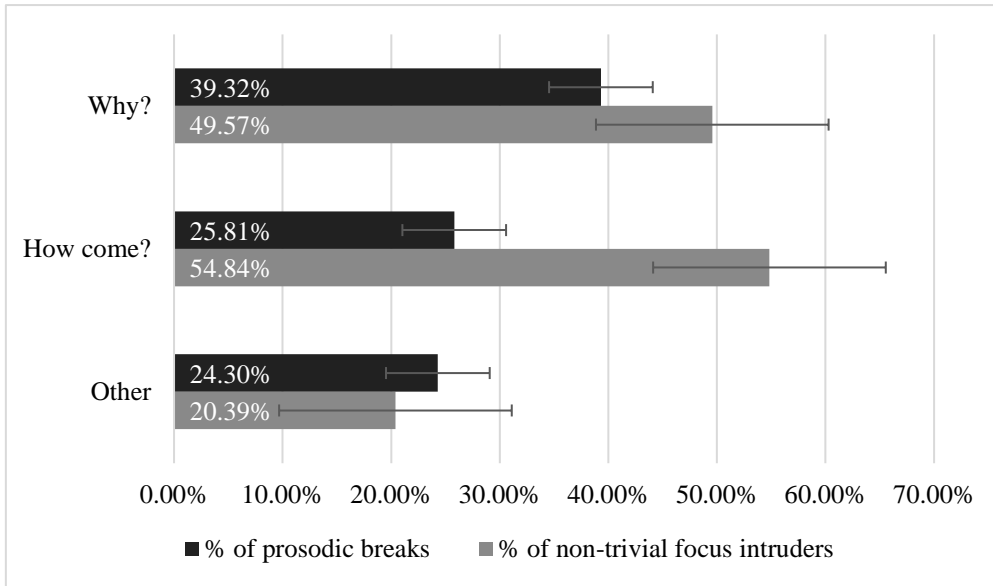
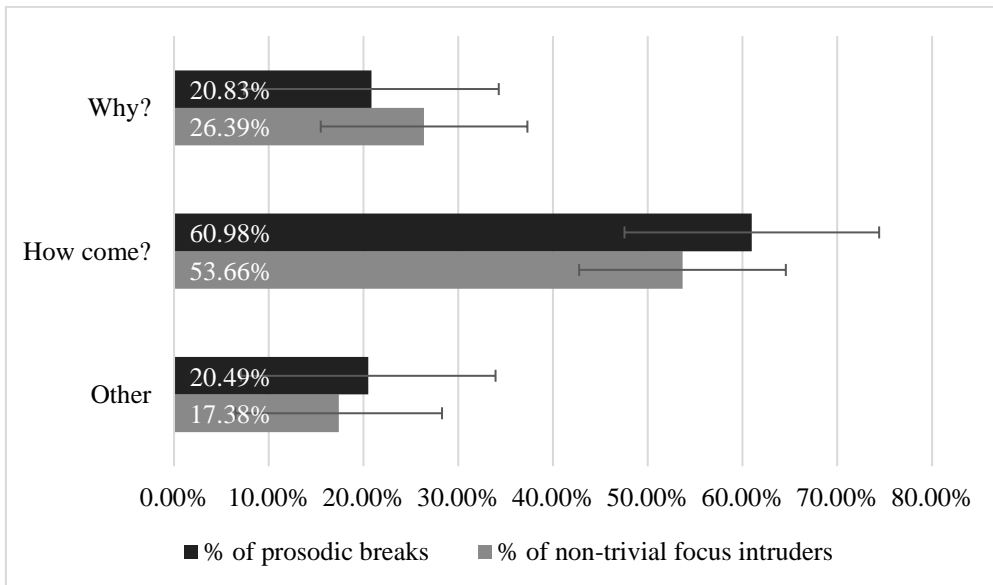


Figure 7. Separation between the *whP* and the verb (Aristophanes).



These results are consistent with observations from the literature. Rizzi (2001), among others, notes that, cross-linguistically, ‘why’ interrogative phrases are higher in the syntactic structure than other *whPs*. For instance, they are compatible with other focus expressions in the same clause, as in colloquial French (54), in which *pourquoi* ‘why’ cohabits with a cleft structure *c’est ... qui* ‘it is ... who.’

- (54) Pourquoi c'est toi qui as cuisiné aujourd'hui?
 why it is you who have cooked today
 Lit. 'Why is it you who cooked today?'

Similarly, in Hungarian, only *miért* 'why' does not obey the rule according to which all *wh*Ps must appear in the preverbal focus position (É. Kiss 1998:249).²⁹ For AG, consider (55), where *pròs tous állous Cherronēsítas* is in the NFoc position. Specifically, its focal status is the result of the contrast with *pròs Kardianoùs* and is confirmed by the negative and the additive *kaí* 'also' bearing on it. The constituent is preceded by the interrogative *dià tí* 'why', which is higher in the structure.

- (55) Hopóte dè perì toutou tolmḗsete pròs Kardianoùs diadikázesthai, eíth' hymetéra estin eít' ekeinōn hē chōra,
dià tí ou [kai pròs tous állous Cherronēsítas]_{NFoc} tò auto díkaion éstai?
 why not also to the other Chersonese people the same right will.be
 'But when you dare let the Cardians judge whether the land is yours or theirs, why won't the same right also apply to the rest of the Chersonesians?' (Dem. 7.43)

This observation is also valid for (56) with *tí* 'why', as well as (57), which features *pōs* in the 'how come' sense.

- (56) **Tí** ροῦν, | eí ρti Dēmōsthénēs ēdíkei, [nŷn]_{NFoc} légeis,
 why PTC if Demosthenes committed a crime now you.say
 all' ouch [hóte tàs euthýnas edídou]_{NFoc} katēgóreis?
 but not when you did the investigation you.accused
 'If Demosthenes committed any crime, why do you bring it up now and did you not accuse him when you did the investigation?' (19.335)

²⁹ See also fn. 8 about Indonesian.

- (57) Kaítoi hóstis en dēmokratíai nomothetôn méth' hypèr tôn hierôn méth' hypèr toû dēmou nomotheteî, all' hypèr hōn eîpon artíōs,
pôs ou [díkaiós]_{NFoc} esti tês eschátēs timōrias tycheîn?
 how not right he.is the extreme penalty to.obtain
 ‘And yet how come a man who, as a legislator in a democracy, legislates neither to protect the temples nor to protect the people, but to protect the ones I have said, is not justified to meet the extreme penalty?’ (24.119)

These data could be taken as an argument against our case for Strategy #3, which would go as ‘why-words are the only *wh*Ps to have access to the left periphery’. This does not hold, however. As observed, there is evidence that the NFoc and WH positions must be distinguished elsewhere than in why-questions. Although why-interrogatives license a greater distance from the verb, this still leaves us with a high number of other *wh*Ps separated from the verb. Thus, even if some why-effect is at play, not all unambiguous *wh*Ps in the WH position are why-interrogatives. Among the 856 tokens overall of *wh*Ps that can be considered to be located in the WH position, either because they are separated from the verb by nontrivial focus intruders, as in (24) and (25), or because they form an independent prosodic domain, as in (27), (28) and (29), the why-effect only accounts for 232 (27%) of them.

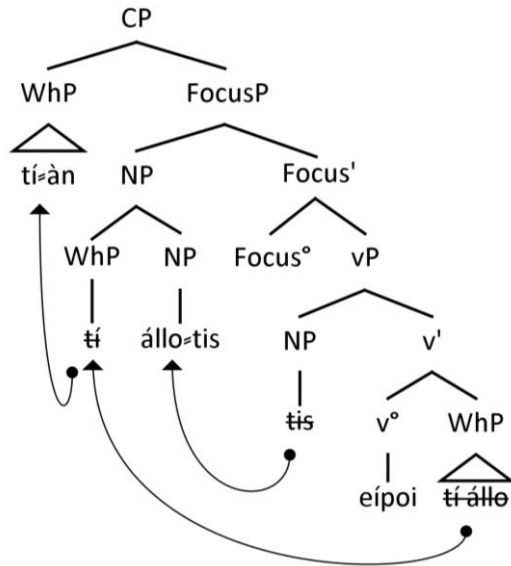
5.4 *Interim summary*

In Sections 3 and 4, it was evident that WH is the predominant position for *wh*Ps in AG. In the present section, we have provided evidence that the existence of this position is not incompatible with other positions being filled. Why-interrogatives indicate that there may be an additional *wh*-position above WH. *Wh*P duplication and stranding signal that the movement of *wh*Ps proceeds stepwise and through the NFoc position, which was predicted by Phase Theory.

The introduction’s example illustrates the point, where *tí* is in the WH position and *állo* in the NFoc position (Section 5.2). We now know that stranding made this

possible. Its actual structure and derivation are presented in Figure 8,³⁰ where the *wh*-word *tí* escapes the NP *tí állo* (leaving *állo* behind) and reaches the higher domain.

Figure 8. The up-to-date structure of example (1).



Although this is descriptively accurate, the movement of *tí* out of *tí állo* is apparently not allowed because it is a case of left branch extraction³¹ and because it looks similar to a head movement into a phrase position. There are, however, several ways out of these issues, as this derivation can be achieved through three operations. First, *állo* could be topicalised within the *whP* [TopWh [NP *állo*] [whP [wh° *tí* [~~NP *állo*~~]]]] before the remnant [whP [wh° *tí* [~~NP *állo*~~]]] is moved to CP, à la Kayne (1998). Second, *tí* could ‘hop’ into the CP domain à la Poletto & Pollock (2021). However, there is third, better solution that dwells on other properties of the language. As observed by Biraud (1991) and Mathieu & Sitaridou (2004), *tís* in AG does not have the properties of a determiner (like the definite article) but rather of a peripheral modifier.

³⁰ The tree is limited to the relevant projections.

³¹ This constraint was identified by Ross (1967), who noticed the ungrammatical nature of sentences such as (i) and (ii):

- (i) *Whose did you see [~~whose~~ father]?
- (ii) *Which did you buy [~~which~~ car]?

Peripheral modifiers can be freely detached from their host NP, such as the demonstrative *toûton* in (58).³² Note that *toûton* must be peripheral, given that it is outside the domain demarcated by the definite article *tón*, with which it co-occurs.

- (58) *Kaì zgar hai symmachíai toûton échousi tòn trópon.*
 and PTC the alliances this have the way
 ‘Because alliances work this way.’ (Dem. 5.16)

Biraud (1991:142–155) has shown that interrogative *tís*-phrases correspond to phrases with a peripheral modifier in answers. Consequently, the base structures of *toûton* (57) or *tí állo* in (1) are presumably (59a) and (59b), in which the demonstrative and the *wh*-item behave similar to adjoined phrases that can be freely extracted.

- (59) a. [NP [DemP *toûton*] [NP [tòn trópon]]
 b. [NP [whP *tí*] [NP *állo*]]

Interestingly, *tís* was reanalysed as a determiner in the history of Greek, which caused the language to lose the possibility to detach it. Such, however, was not the case of demonstratives (Mathieu & Sitaridou 2004), although the demonstrative system was also recomposed (Manolessou 2002).

6. Conclusion

Given both AG focus strategies and typologically available options for *wh*-placement, we expected AG to pattern with languages that position *wh*Ps *in situ* (Strategy #1) or in

³² The crucial property is that the moving term is the most external layer of the phrase (and not the lack of the definite article, *pace* Bošković 2005; Uriagereka 1988). If the language lacks definite articles (as most Slavic languages do), it makes adjectives available for movement.

the NFoc position (Strategy #2). Our data indicate that this prediction is not born out and that AG is not a language in which *wh*-placement and focus properties are derivable from each other.

Our investigation has determined that Strategy #1 is marginal and that there is little evidence of Strategy #2 as there are no unquestionable instances of the latter, whereas the former occurs primarily in copula sentences. More research is needed to determine whether there are other constraints at play. By contrast, we must postulate a position WH higher in the structure (Strategy #3). With sufficient evidence of Strategy #3, i.e., focus intrusion, prosody, placement of *án* and negatives, why-interrogatives, splitting and stranding, this strategy proves to be dominant. Consequently, since Strategy #2 is never formally distinct from Strategy #3, it is more likely that it did not exist at all in AG, which would also make more sense from a learnability point of view, since the child would never have unequivocal input for Strategy #2.

This begs the question, why would AG have a WH position in the first place? It may be that interrogative and indefinite terms are homonymous in AG³³ and leaving the interrogative *in situ* or in an ambiguous informational position would blur clause-typing. In contrast, fronting is the unequivocal way AG can use to mark the sentence as a question (Roussou 1998).

Be that as it may, WH unquestionably exists in AG and our data meet the predictions of Phase Theory that the preverbal position is a necessary stopover for postverbal elements on their way to the left periphery.³⁴ We demonstrated that the initial placement of the *whP* is the result of a two-step movement, from the postverbal position to the preverbal NFoc position, and then to the WH position.

Interestingly, our account also contributes to the debate regarding the information structure of questions (Engdahl 2006), as it indicates that a *whP* is endowed

³³ We remain agnostic as to whether this is real homonymy, or they are one and the same element. In surface, they only differ in stress, with indefinite items being clitics.

³⁴ Note that this phenomenon of stepwise movement is independently attested in the language with topicalisation (Faure 2018, 2019b).

with two features, i.e., Focus and WH, either of which is checked in a (preverbal or preclausal) edge position.³⁵

More investigations must be conducted to confirm this result and allow for a wider coverage. In particular, AG has several *yes/no* question markers (*âra*, *ê*, *môn*, to name but a few). In (60), a constituent in the NFoc position intervenes between *âra* and the verb. *Âra* is followed by the negative *ouk* and *ân* and preceded by a setting expression. This is an indication that the functional interrogative word *âra* is in the same projection as the *wh*P s and spells out the Q(uestion) operator, a silent version of which may be the *wh*-head of the phrase hosting the *wh*P in *wh*-questions.

- (60) Phér', eí s' ho patèr axiôseien anastás, è ménein eph' hoû s' autòs epoiésat' onómatos, è patér' állon sautoû pháskein eînai,
âr' ouk ân [métri' axioûn]_{NFoc} dokoíē?
 PTC not PTC reasonable.things to.ask.for would.seem
 'Come; if my father were to rise from the grave and ask either that you keep the name that he gave you, or declare that you are the son of some other father, wouldn't he seem to ask for something reasonable?' (Dem. 39.31)

A remaining question regards the actual meaning of the *wh*-head and the feature that causes it to attract *wh*P s. Is it reducible to interrogation/question or does it have a more general, informational meaning, one instance of which is interrogation/question? In the latter case, it would be able to be present in assertive sentences and perhaps account for the (very rare) instances of nontrivial focus intruders exemplified in (26). The exact conditions triggering the movement of constituents to this position are still to be explored.

³⁵ That interrogative *wh*P carry these two features may be a universal, the variation depending upon focus properties and syntactic parametrisation (e.g., Bonan 2021a for a crosslinguistic view).

Abbreviations

ABS	absolutive	PRF	perfective
AUX	auxiliary	PROG	progressive
ERG	ergative	PTC	particle
FOC	focus	SG	singular
PR	present	TP	terminal particle

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