The Syntax of Determiners in Attic Greek

A Theoretical Approach

by

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For the other two members of the *Triumpueri*, Bacchus and Scipio, and Antonia

Acknowledgments

Abstract

This linguistic investigation is concerned with the syntax of complex nominal phrases in Attic Greek and particularly determiners. I attempt to establish subcategories for the Greek determiner based on the distribution of the so-called adjective πᾶς, the cardinal numeral δύο, the demonstratives ὅδε, οὗτος, ἐκεῖνος, and the definite article, ὁ, ἡ, τό. I then offer a syntactic analysis of the determiner phrase from the perspective of generative linguistics (X-bar theory, in particular), in which I propose an article phrase (ArtP), demonstrative phrase (DemP), and quantifier phrase (QP), noting other relevant features of complex nominal phrases as they come up. I also address the various positions of the definite article in detail and propose a mechanism by which the postposed article is generated, namely the raising of the noun (N).

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1. Introduction

1.1 The Topic

Human language features universal syntactic categories (i.e., parts of speech) such as nouns and verbs that are used as the building blocks of clauses and sentences. This study is concerned with providing a synchronic analysis of one such category, the Attic Greek determiner as used in the work of Plato, from the point of view of generative linguistics. Ancient Greek is a topic that has historically been the subject of extensive study, but such studies—including those conducted in recent times—have for the most part[1] taken a standard philological approach, that is an empirical one with a limited theoretical framework. My aim is to add to the abundant empirical documentation an extensible model of a particular feature of the language, namely determiners.

Most work in syntax is done on living languages, not dead ones, as languages such as Attic Greek lack (living) native speakers, which makes it difficult to collect data and test the resulting conclusions. It seems worthwhile nonetheless to attempt to shed some light on the nature of Greek phrase structure through the application of modern syntactic theory and at the same time to assess how the theory holds up to ancient languages such as Greek.

1.2 Some Preliminaries

Each syntactic category (X) has an associated phrase (XP) of which the word belonging to category X is said to be the head. In this case, we are concerned in part with the determiner phrase (DP), the head of which is the determiner (D). Determiners can be subcategorized (that is, split up into separate syntactic categories) based on their distribution in relation to the noun they

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[1] Notable exceptions that I have encountered include works by Devine & Stephens.

are associated with. It is often the case that the determiners of one language do not have a one-to-one correspondence to those of another language. Carnie (2007) lists the subcategories of the determiner of English as follows:

a)   Articles: *the, a, an*

b)   Deictic articles: *this, that, these, those, yon*

c)   Quantifiers: *every, some, many, most, few, all, each, any, less, fewer, no*

d)   (Cardinal) numerals: *one, two, three, four,* etc.

e)   Possessive pronouns: *my, your, his, her, its, our, their*

f)   Some wh-question words: *which, whose*

Greek should have similar distinctions among its determiners. Chapter 2 is concerned with what those distinctions are, based on the distribution of determiners in Plato—that is, what combinations they occur in and how they are ordered with respect to one another. Determiners are subject to co-occurrence constraints; for example, certain classes of the English determiners listed above cannot co-occur. Thus *my two brothers* is grammatical while **the my brothers* is not. Chapter 3 is concerned with the internal structure of DPs with respect to the associated noun phrase (NP).

This investigation will assume a schema in which the syntax takes on a tree structure with nodes and branches (fig. 1.2.1). Each node may only branch to two other nodes, creating a binary structure. A node branching to a lower node is said to be the lower node's parent, and the lower node the parent's daughter. Two nodes that share the same parent are said to be sister nodes, and parents' parents (and so on) are called ancestors, while daughters' daughters (and so on) are descendents. There exists a restriction such that branches of the syntax tree may not cross, so that

the linear order of words must be reflected in the tree structure. (The triangle in fig. 1.2.1

represents structure that has been collapsed for simplicity.)

```
                    VP
              ⎯⎯⎯⎯⎯⎯⎯⎯⎯
            V              PP
         φαίνεται       ⎯⎯⎯⎯⎯⎯⎯
                      P          DP
                    κατὰ       △
                           τὸν σὸν λόγον
```
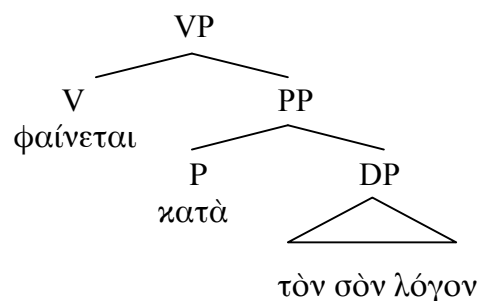
Figure 1.2.1: An example of a syntax tree (adapted from Pl. Rep. 353e12)

The sentence from fig. 1.2.1 can also be represented in a collapsed form, which conveys all the

same information:

    [VP [V φαίνεται] [PP [P κατὰ] [DP τὸν σὸν λόγον]]]

    The allowed tree structures in a language can be represented by phrase structure rules.

For example, the above prepositional phrase is generated by the following rule:

    PP   →   P   DP

X-bar theory, however, to which this investigation adheres, requires an intermediate ("bar")

level, the notation for which is X', where X is standing in for a lexical category. Thus for a

prepositional phrase, we would write:

    PP   →   P'
    P'   →   P   DP

The recursion of phrase structure rules accounts for the recursive nature of human language, e.g.,

the big bear, the big big bear, the big big big bear, etc.

    X-bar theory also posits a specifier (Spec) position for each phrase:

```
PP      →      Spec   P'
P'      →      P      DP
```

The specifier rule is not recursive like bar rules, so there can exist only one Spec per XP, just as there can exist only one head, X, per XP. The function of the specifier position depends somewhat on the lexical category of its phrase. Generally speaking, the relationship between specifier and its associated head is one that allows for grammatical interaction such as agreement and feature-checking. For example, it has been proposed that clausal subjects are generated in the Spec of the verb phrase (SpecVP), where they receive their thematic role. The Spec of functional projections (those that serve some pragmatic function but do not necessarily have an articulated head, i.e., a head that holds a lexical item) serves as a landing place for other elements in the tree, for example, the VP-internal subject, which raises to SpecIP to be checked for *wh*-features (Bernstein 2001, p. 540).

1.3 The Problems

As English exhibits subcategories of determiners that which can only occur in specific combinations and orders—

the cat
a cat
*the a cat

—so does Greek:

ὁ λόγος
ὅδε ὁ λόγος
*ὁ ὅδε λόγος

Based on data from Plato, we can construct a model describing which determiners are allowed to co-occur, and based on that information we can establish subcategories of the determiner. We

can also establish the default order of determiners relative to the NP, which will provide some insight into the internal structure of the DP, from which we can build a syntax tree.

Finally, a mechanism by which the various positions of the definite article (ὁ, ἡ, τό) relative to the noun head arise is needed to explain structures such as ὁ ἀνὴρ ὁ ἀγαθός, where the article follows the noun head and is duplicated.

2 Distribution of Determiners

2.1 Overview

By analyzing the positions of determiners relative to the noun head, adjectives, and other determiners, we can assess which determiners belong to which classes and how these different classes interact with one another, that is, we can establish various positions into which particular classes of determiner fit. As Longobardi (p. 578) has stated, "the existence of different positions is manifested, rather universally, in the relative linear order of adjectives with respect to each other, and, with some parametric variation, with respect to the head noun." So too, as we can see in English,[2] does this phenomenon apply to DPs.

2.2 Quantifiers

Quantifiers include the cardinal numerals and words such as πᾶς[3] 'all, whole.'

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[2] Cf. *neither of my somewhat unusual long thin chipped ancient blue Chinese porcelain flower vases*, where the order of adjectives may not vary (http://www.angelfire.com/wi3/englishcorner/grammar/rules/adjord.html).

[3] Certain textbooks and grammars like to refer to πᾶς as an adjective, though this is clearly a misnomer given its position with respect to the article and noun in the provided data.

2.2.1 πᾶς, πᾶσα, πᾶν and its compounds

The position of this determiner is quite variable. Here are some examples of its usage in

The Apology, where it precedes the article (and therefore the noun):

(1)　**πᾶσαν** τὴν ἀλήθειαν (17b8)
　　　the whole truth

(2)　**πᾶσαν** ὑμῖν τὴν ἀλήθειαν (20d5)
　　　the whole truth (to you)

(3)　**σύμπαντες** οἱ ἄλλοι (20a5)
　　　all the others

(4)　**ἅπαντας** τούς τι δοκοῦντας εἰδέναι (21e6)
　　　all who seem to know something

(5)　**ἅπαντες** οἱ παρόντες (22b7)
　　　all those present

(6)　**παντὸς** τοῦ βίου (33a1)
　　　the whole of life

Example (2) is interesting in that there is an intervening word (an indirect object of the verb) that

does not belong to the NP (or associated DP) sandwiched between quantifier and article. This

phrase in fact occurs twice. According to Devine and Stephens (1999), this example represents

simple hyperbaton, where πᾶσαν has raised to a higher position in its clause (p. 15).

Πᾶς seems to take the same position when no article is present:

(7)　**πάντες** ἄνθρωποι (25b1)
　　　all men

(8)　**παντὶ** τρόπῳ (33c6)
　　　in every way

And such is the case with pronouns, which are never found with the article:

(9)　**πᾶσιν** ὑμῖν (32b5)
　　　to all of you

(10)　**πάντας** ὑμᾶς (38d1)
　　　all of you

The following data represent πᾶς in attributive position:

(11)   ὁ **πᾶς** χρόνος (40e3)
       the whole time

(12)   τῶν ἄλλων **ἁπάντων** ζῴων (25b6)
       all the other animals

Examples such as (11) and (12) are few in comparison with the other arrangements. Πᾶς may

also follow the noun head (only one example of this arrangement occurs in *The Apology*):

(13)   τῷ πρόσθεν χρόνῳ **παντì** (40a5)
       the whole time prior

When a noun is omitted and the article present, the quantifier may also follow the NP:

(14)   τὰ ὑπὸ γῆς **πάντα** (18b8)
       all the things under the earth

(15)   τὰ ἄλλα ἀγαθὰ τοῖς ἀνθρώποις **ἅπαντα** (30b4)
       all the other goods for men

(16)   τἆλλα **πάντα** (31b8)
       everything else

(17)   οἱ ἄλλοι **πάντες** (33b7)
       all the others

According to Smyth (§1172), the words ἄκρος, μέσος, ἐσχάτος, and ὅλος all occur in the same

positions as πᾶς, with similar distinctions in meaning.

2.2.2 δύο

I have chosen δύο 'two' as a representative cardinal numeral (under the assumption that

all cardinal numerals behave the same in Greek), as it is likely to provide the greatest abundance

of data. An analysis of *The Republic* reveals that the cardinals follow the article (and sometimes

the noun) but never stand before the article as πᾶς does in examples (1–6) above. We see three

possible arrangements for δύο, the first being in attributive position:

(18) τοὺς (μὲν γὰρ) **δύο** μισθοὺς (347a8)[4]
      the two rewards

(19) τὰ **δύο** εἴδη (397b4)
      the two kinds

The second arrangement is equivalent to that above but with the article omitted:

(20) **δύο** τοιούτω δακτυλίω (360b3)
      two such rings

(21) **δύο** τέχνᾱ (411e4)
      two skills

(22) **δύο** ταῦτα ὀνόματα (470b4)
      these two names

(23) **δυοῖν** (δὲ) νόθαιν (587b14)
      two spurious ones

Interestingly, the numeral in (22) precedes a demonstrative that typically precedes the article, yet

when the article is present, the numeral follows the article. The third arrangement consists of the

numeral following the noun:

(24) ταῦτα τὰ σκεύη **δύο** (596b3)
      these two implements

2.3 Demonstratives

Demonstratives include the words ὅδε 'this,' οὗτος 'this/that,' and ἐκεῖνος 'that.'

2.3.1 ὅδε, ἥδε, τόδε

Ὅδε often follows proper names (without the article):

(25) Παράλιος **ὅδε** (*Ap*. 33e7)
      this Paralius

---

[4] I have set off words that do not belong to the NP (or DP) with parentheses in this and subsequent examples. Here, μέν and γάρ have taken up second position in their clause, rendering the DP discontinuous by Wackernagel's Law, which states that enclitics normally follow the first accented word of their clause (Anderson 1993).

(26) Πλάτων (δὲ) **ὅδε** (*Ap*. 38b6)
      (and) this Plato

(27) Θεόδωρος **ὅδε** (*Theaet*. 147d3)
      this Theodorus

(28) Σωκράτης (γὰρ) **ὅδε** (*Laches* 180c5)
      (for) this Socrates

Ὅδε, however, can also precede proper names:

(29) **ὅδε** (δὲ) Ἀδείμαντος (*Ap*. 33e8)
      (and) this Adeimantos

Attributive adjectives follow ὅδε:

(30) **ὅδε** τρίτος συμπότης (*Symp*. 213b6)
      this third fellow drinker

Ὅδε precedes the article:

(31) **ὅδε** ὁ κόσμος (*Tim*. 29a2)
      this cosmos

(32) (ἐν) **τῷδε** τῷ βίῳ (*Rep*. 619a6)
      (in) this life

(33) (περὶ) **τοῦδε** τοῦ πώματος (*Phaedo* 117b6)
      (about) this drink

Or follows the noun, as in (25–28) above, when the article is present:

(34) ὁ ἐραστὴς **ὅδε** (*Phaedrus* 257b5)
      this *erastes*

(35) (περὶ) τὸν κόσμον **τόνδε** (*Phileb*. 59a3)
      (about) this cosmos

2.3.2 οὗτος, αὕτη, τοῦτο

Οὗτος precedes the noun (without article):

(36) **Οὗτος** ἀνὴρ (*Gorgias* 467b1, 505c3)
      this man

(37) **τούτῳ** Σωκράτει (*Theaet*. 147d1)
      this Socrates

Οὗτος may also follow the noun (without article):

(38)   Σωκράτης **οὗτος** (*Symp*. 175a7, 213b9)
   this Socrates

(39)   Ἱπποκράτης **οὗτος** (*Protagoras* 316b2)
   this Hippocrates

Οὗτος directly precedes the article when present:

(40)   **οὗτος** ὁ ἀνὴρ (*Ap*. 21c6)
   this man

(41)   **οὗτος** ὁ θεὸς (*Cratylus* 405d3)
   this god

(42)   **οὗτος** ὁ μῦθος (*Theaet*. 156c3)
   this story

Οὗτος may also follow the noun when the article is present:

(43)   ὁ Μέλητος **οὗτος** (*Euthyphro* 5c6)
   this Meletus

(44)   ὁ λόγος **οὗτος** (*Phaedo* 88d4)
   this argument

(45)   ὁ αὐτὸς **οὗτος** (*Cratylus* 420a8)
   this same man

Likewise with substantive adjectives:

(46)   οἱ ἄλλοι **οὗτοι** (*Euthyd*. 274b4)
   these other men

2.3.3 ἐκεῖνος, ἐκείνη, ἐκεῖνο

Like ὅδε and οὗτος, ἐκεῖνος precedes the noun (without article):

(47)   **ἐκεῖνος** πολίτης (*Gorgias* 515d10)
   that citizen

Or with the article:

(48)   **ἐκεῖνος** ὁ ποιητής (*Alc*. 142e2)
   that poet

(49) **ἐκεῖνος** (μὲν) ὁ τῶν κακῶν καθαρὸς τόπος (*Theaet*. 177a5)
      that place free of evils

(50) **ἐκεῖνος** ὁ ἐραστὴς ὁ πάνδημος (*Symp*. 183d8)
      that common *erastes*

Like ὅδε and οὗτος, ἐκεῖνος may also follow the noun:

(51) ὁ Ῥαδάμανθυς **ἐκεῖνος** (*Gorgias* 526b4)
      that Rhadamanthus

(52) (ἐκ) τῆς λίθου **ἐκείνης** (*Ion* 536a4)
      (from) that stone

2.4 The Article

The definite article can take either of two positions relative to the noun. The first of these

positions precedes the noun:

(53) **ὁ** μιμητῆς (*Ion* 602a8)
      the imitator

Likewise the article precedes substantive adjectives and adverbs:

(54) περὶ **τῶν** ἐν Ἅιδου (*Ion* 531c8)
      about matters in Hades

(55) **τὸν** εὖ λέγοντα (*Ion* 531d14)
      he who speaks well

The second of these positions follows the noun:

(56) πόλιν **τὴν** αὑτῶν (*Rep*. 600d1)
      their own city

The preposed and postposed article may co-occur:

(57) **τῆς** τέχνης **τῆς** ῥαψῳδικῆς (*Ion* 539e3)
      of the rhapsodic art

(58) **τὸν** βίον **τὸν** ἀνθρώπινόν (*Ion* 607d9)
      the human life

(59) **τοὺς** δακτυλίους (ἄγει) **τοὺς** σιδηροῦς (*Ion* 533d5)
      (attracts) the iron rings

This is much more common than the previous arrangement, where an article follows the noun but no article precedes it. The discontinuous noun phrase in example (59) represents what Devine and Stephens (1999) call simple verb phrase hyperbaton (see pp. 12–13).

3 Internal Structure of DPs

3.1 D-Structure

In order to determine the internal structure of DPs, we should consider the possible surface structures as outlined above. A major difficulty in analyzing the data is that examples of the co-occurrence of multiple determiners are sparse. Thus it may be the case that two determiners are in complementary distribution, or that the data simply do not provide examples of the determiners in contrast because the corpus is too small.

Of the classes of determiners outlined in chapter 2, the position of the definite article relative to the noun head shows the least variation except in the case of the postposed article, which will be addressed in section 3.3. For now, let us consider the more usual order:

(1)   (σου) ἡ ψυχή (Pl. *Ion* 536b8)
        (your) soul

It is clear that the noun phrase is embedded in the article phrase (ArtP), as in English,[5] as described by the following phrase structure rules:

ArtP   →   Spec   Art'
Art'   →   Art   NP

This gives us the following tree for (1), where the NP is the complement of the head, Art:

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[5] See Carnie (2007), pp. 198–201 for a brief discussion of the DP of English, and see Abney (1987) for the original proposal.
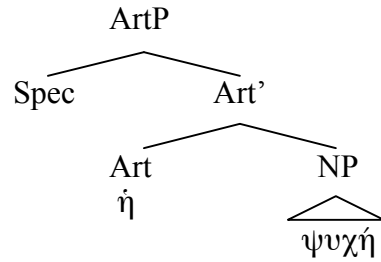
```
              ArtP
           /        \
        Spec        Art'
                  /      \
                Art       NP
                 ἡ        /\
                        ψυχή
```

Figure 3.1.1: ArtP with complement NP

Notice that the NP will always be present whether or not there is an articulated noun, so that in

cases such as

(2)   οἱ ἀκούοντες (Pl. *Ion* 534d2)
       those listening (i.e., the audience)

where a participle, or some other adjectival modifier, is used substantively, an NP is still

generated that has a null head and contains the substantive modifier. The tree corresponding to

(2) looks like:

```
              ArtP
           /        \
        Spec        Art'
                  /      \
                Art       NP
                 οἱ      /    \
                      Spec     N'
                             /     \
                            AP      N'
                           /\       |
                    ἀκούοντες       N
                                    Ø
```

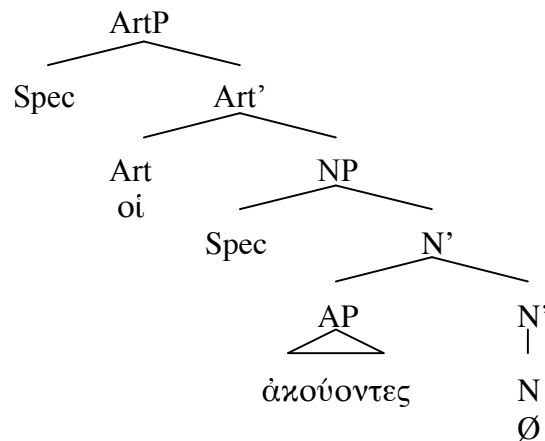*Figure 3.1.2: NP with null head*

The quantifier πᾶς, according to the data presented in section 2.2, can take any of the

following three positions relative to the article and noun, as is the case with the words ἄκρος,

μέσος, ἐσχάτος, and ὅλος, all of which occur in the same positions as πᾶς with similar distinctions in meaning (Smyth §1172):

(a)   Q-Art-N

(b)   (Art)-Q-N

(c)   (Art)-N-Q

In order to account for the variation in position, I propose that Q is base-generated post-nominally and may raise to positions (a) and (b) through a mechanism called movement. Movement refers to transformational rules whereby one tree is transformed into another tree through the movement of elements in the tree structure (Carnie 2007, p. 244). The deep structure (D-structure) of a sentence represents the tree as it is generated before any transformations are applied, while the surface structure (S-structure) represents the output of the transformational rules. Accordingly, (c) most closely corresponds to the D-structure. An example of word order (c) from above is as follows:

(3)   τῷ πρόσθεν χρόνῳ **παντὶ** (Pl. *Ap.* 40a5)
       the whole time prior
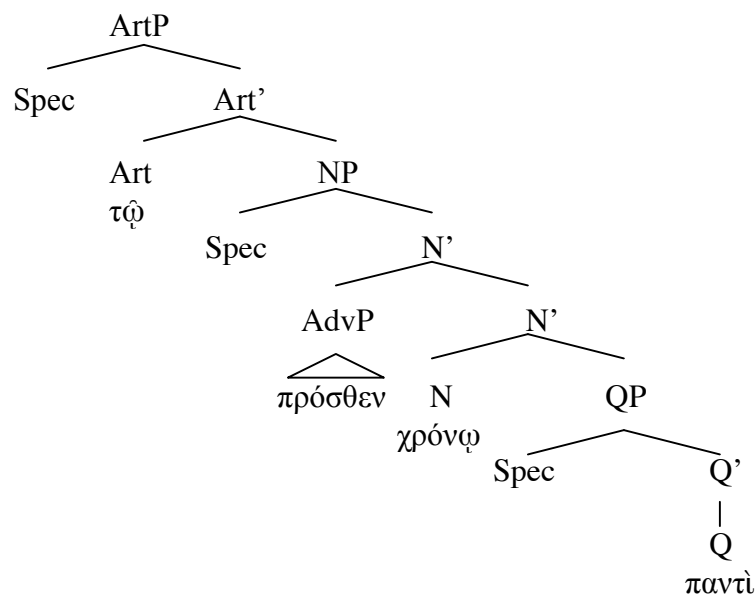
The tree will look like the following:

Figure 3.1.3: QP in its post-nominal position

The cardinal numerals take the same positions as πᾶς and its compounds, but never precede the article in the data. Nevertheless the same treatment is applicable to numerals with the restriction that the numeral may not raise to a position above Art.

The demonstratives ὅδε, οὗτος, and ἐκεῖνος appear in the same environments and cannot co-occur, so it is correct to treat them as a single lexical class. According to the data in section 2.3, the demonstrative can take either of two positions[6] relative to the article and noun:

(a)   Dem-(Art)-N
(b)   (Art)-N-Dem

The article need not be present, but often does occur in the presence of a demonstrative, since the article expresses definiteness and the referent of a demonstrative is nearly always definite. Since the demonstrative does not appear between article and noun, it seems best not to treat it like the quantifiers above, but instead to treat it like the article by positing a DemP in which the NP is nested and to account for order (b) through movement of NP. So

(4)   ταῦτα οὖν πάντα ἄξια (Pl. *Ion* 530c6)
       all these worthy things

would be represented by:

---

[6] Smyth (§1176) confirms that the demonstratives never stand in attributive position in Greek.

```
                          DemP
                  ┌────────┴────────┐
                Spec             Dem'
                          ┌────────┴────────┐
                        Dem              NP
                        ταῦτα      ┌──────┴──────┐
                                 Spec         N'
                                        ┌──────┴──────┐
                                       AP          N'
                                      ╱──╲     ┌─────┴─────┐
                                     ἄξια      N         QP
                                               Ø    ┌─────┴─────┐
                                                  Spec        Q'
                                                              │
                                                              Q
                                                            πάντα
```
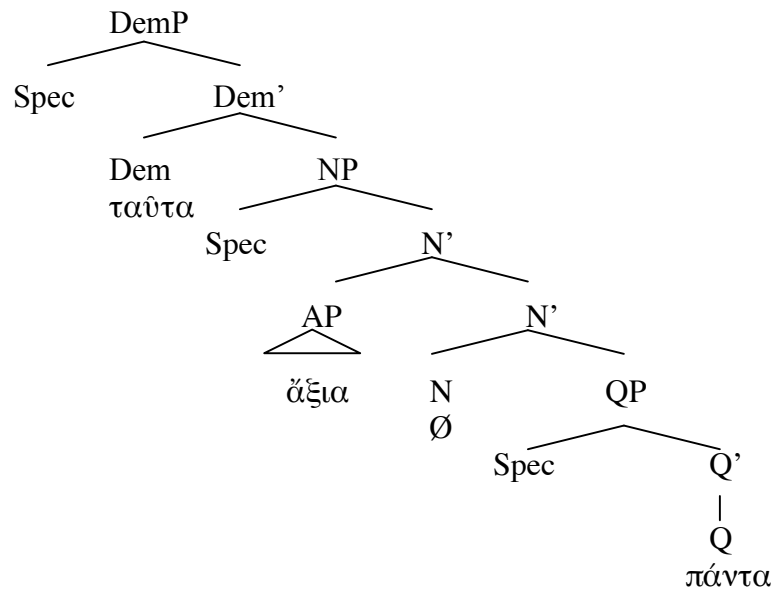
Figure 3.1.4: The D-structure of (4), where NP is embedded in DemP

The movement of Q mentioned above accounts for the position of πάντα in the surface structure. In cases where article and demonstrative co-occur, the ArtP is embedded in DemP as evident in the word order Dem-Art-N. We can represent this hierarchy in the phrase structure rules:

DemP	→	Spec	Dem'
Dem'	→	Dem	ArtP
Dem'	→	Dem	NP
ArtP	→	Spec	Art'
Art'	→	Art	NP

There is no reason to assume that the ArtP or DemP is generated when no article or demonstrative is present (hence the third phrase structure rule above).

To account for Θεόδωρος ὅδε (Pl. *Theaet*. 147d3), we can posit a D-structure where the demonstrative is generated according to the above rules, and an S-structure where NP has raised to the Spec of DemP (fig. 3.1.5).
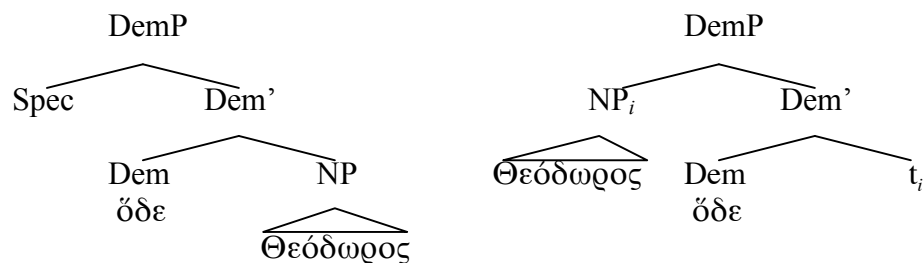
DemP
Spec   Dem'
Dem   NP
ὅδε
Θεόδωρος

DemP
NP$_i$ Dem'
Θεόδωρος   Dem   t$_i$
ὅδε

Figure 3.1.5: A transformation whereby the order of N and Dem is reversed

Note that since every element in the nominal phrase receives case as realized in case endings (that is, every element that can receive case, barring prepositional phrases, for instance), there is no need to posit any sort of CaseP. We can assume that the entire nominal phrase receives case at the highest level in the tree, and the case feature is distributed to each lexical head.

3.2 The Definite Article

The definite article presents additional challenges in describing the internal structure of complex nominal phrases because it may appear in several positions and may occur twice for a single NP, as outlined in section 2.4. It attaches to its NP as a proclitic, but adjuncts to N may intervene between article (Art) and N. The following represents a typical NP with a modifier (X):

1)   (διὰ) τοῦ φαυλοτάτου ποιητοῦ (Pl. *Ion* 534e6)   (Art-X-N)
        (through) the most insignificant poet

Adjuncts to N usually follow the article directly. This position is traditionally referred to as "attributive position" by textbooks and grammars. An oddity of Greek is the ability to repeat the article, thereby allowing modifiers to follow N:

2)   ὁ ἄνθρωπος ὁ μακρός   (Art-N-Art-X)
        the tall man

Both articles must match the gender number and case of the noun head. Also possible are the following arrangements:

3) ἄνθρωπος ὁ μακρός   (N-Art-X)
    the tall man

4) μακρός ὁ ἄνθρωπος   (X-Art-N)
    the man, tall

5) ὁ ἄνθρωπος μακρός   (Art-N-X)
    the man, tall

Strings like (4) and (5) either represent two separate phrases linked by an (often omitted) copulative verb (e.g., "the man is tall"), or the modifier (X) is an "adjunct of state that expresses a temporary state of the referent (e.g. 'I like the door black' = 'I like the door when black')" (Bakker 2008). This becomes evident when we look at an example in context: ὀρθαι αἱ τρίχες ἵστανται ὑπὸ φόβου '(my) hair stands up straight from fear' (Pl. *Ion* 535c7). So, for the purposes of explaining the syntax of the article, (4) and (5) need not be further explored, as the associated adjectives actually belong to the predicate and not to the NP,[7] which leaves (2), Art-N-Art-X, and (3), N-Art-X, to be explained. In terms of the semantic distinctions among (1), (2), and (3), the adjective of ὁ μακὸς ἄνθρωπος serves to further limit the noun, and that of (ὁ) ἄνθρωπος ὁ μακρός is emphatic.[8] The arrangement Art-X-Art-N is not attested in any dialect of classical Greek (Welo, p. 188).

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[7] Although A. Pires (personal communication, January 14, 2009) indicates that the analysis of cases of secondary predication such as ὀρθαι αἱ τρίχες ἵστανται ὑπὸ φόβου is still somewhat controversial, one solution he offers is that ὀρθαι heads an adjunct clause to V (ἵστανται) with a PRO subject, that is, a covert subject that is controlled by αἱ τρίχες, from which it receives case. In this example, ὀρθαι would have been base-generated within VP and then raised to a focus or topic position:

[$_{DP}$ αἱ τρίχες$_i$] [$_{VP}$ [$_{V'}$ [$_{V'}$ [$_V$ ἵστανται]] [PRO$_i$ ὀρθαι]] [$_{PP}$ ὑπὸ φόβου]]]

Therefore the adjective does not belong to the NP but the predicate.

[8] Menge (1961) states that "when an adjective simply expresses the more exact characterization of a noun, then it takes the attributive position between article and noun, e.g., ὁ ἀγαθὸς ανήρ 'the good man.' If it should be emphasized more strongly, then it is placed after noun with replicated article, e.g., ὁ ἀνὴρ ὁ ἀγαθός 'the man, namely the good one' (as distinguished from ἀνὴρ ὁ ἀγαθός 'a man, namely the good one')" [trans. from the German].

Creating a recursive rule (as below) for the ArtP will not solve this problem, as it would allow the generation of a variety of ungrammatical strings:

Art'   →   Art'   ArtP

* Art-N-Art-N
* Art-N-Art-N-Art-N
  etc.

The repetition of the article may not be sufficiently described by the phrase structure rules themselves, but this phenomenon may instead be the result of movement of some kind within the nominal phrase, accounting for the postposed article in a string such as (ὁ) ἄνθρωπος **ὁ** ἀγαθός.

Some languages, including Haitian Creole, show signs of movement in an articulated trace—that is, an element that stands in where the word that underwent movement originally was—as in this example adapted from Déprez (1992):

Jan   sanble li   pati
John seems he leave.INF
"John seems to leave"

Here, *Jan* has raised from the subject position of *pati* to the subject position of *sanble*, leaving a trace in the form of a personal pronoun, *li*.[9] So too may the postposed article be an articulated trace of some element in the nominal phrase.

We can represent (1) by the tree in figure 3.3.1, where the NP is the complement of Art:

---

[9] Indeed the article has its origin as a demonstrative pronoun (PIE *so-/to-*), which around Homer's time started coming into use as an article and by the time of Plato had mostly lost its pronominal usage except in some fixed constructions such as ὁ μέν…ὁ δέ 'one…the other' (Welo, p. 187).

```
              ArtP
         _____
        /           \
      Spec          Art'
                 _____
                /        \
              Art         NP
              τοῦ      _____
                      /        \
                    Spec        N'
                            _____
                           /        \
                          N'         AP
                          |         /\
                          N      φαυλοτάτου
                        ποιητοῦ
```
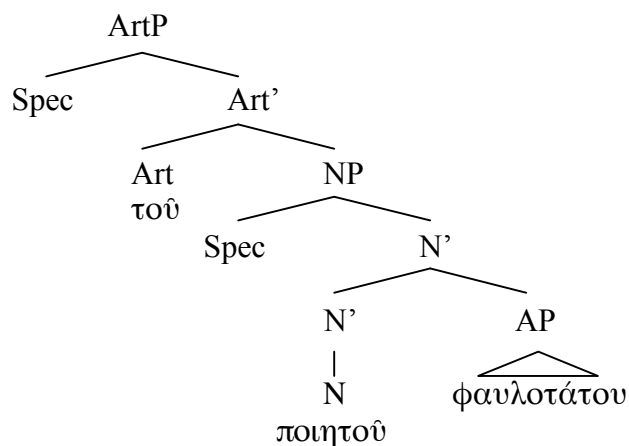
Figure 3.2.1: Here, NP is the complement of Art, and AP an adjunct to N

I propose that the adjunct (here, the AP) is generated to the right of the noun head,[10] to account for adjectives that follow the noun when no article is present, and for reasons that will become evident when we analyze the postposed article as a trace of N. In order to achieve the surface structure seen in (1), we must posit that the adjunct raises to a higher position, thus bringing it to the left of N. The only available position is the Spec of NP:

```
              ArtP
         _____
        /           \
      Spec          Art'
                 _____
                /        \
              Art         NP
              τοῦ      _____
                      /        \
                   AP_i         N'
                   /\        _____
              φαυλοτάτου N'       /    \
                         |      N'      t_i
                         N
                      ποιητοῦ
```
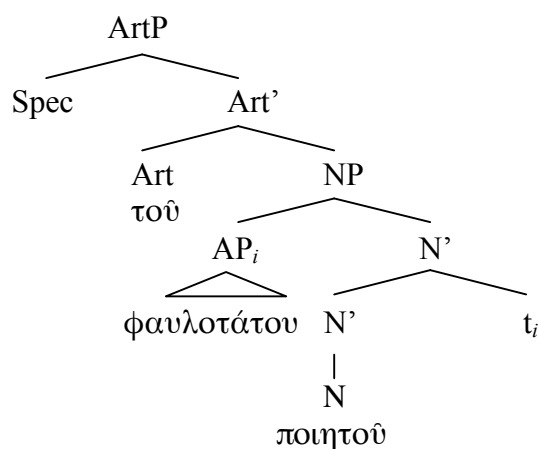
Figure 3.2.2: The adjunct, AP, raises to Spec NP

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[10] Dik (1997) makes the same claim, that adjectives are base-generated in a postnominal position.

We can represent a construction such as (2) by raising N[11] to the Spec position of NP leaving an articulated trace in the form of the article matching its antecedent in gender, number, and case, as in figure 3.2.3:
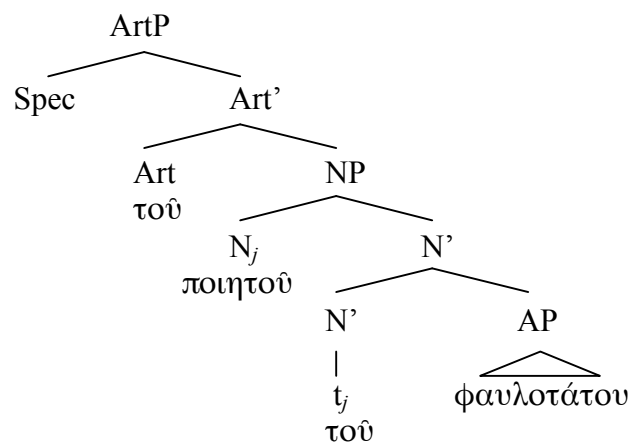
```
                    ArtP
                   /    \
                Spec     Art'
                        /    \
                      Art     NP
                      τοῦ    /   \
                          Nⱼ      N'
                        ποιητοῦ  /   \
                              N'     AP
                              |    φαυλοτάτου
                              tⱼ
                              τοῦ
```

Figure 3.2.3: N raises to Spec NP, leaving an articulated trace

Note that the movement of N blocks the movement shown in figure 3.2.2, correctly blocking strings such as *τοῦ φαυλοτάτου ποιητοῦ τοῦ.

This model accounts for multiple adjectives requiring a coordinator in attributive position, since only one element may fill the Spec position (e.g., ὁ ἀγαθὸς καὶ σοφὸς ἀνήρ "the good, wise man," but *ὁ ἀγαθὸς σοφὸς ἀνήρ). However, Smyth provides data from Xenophon where an adjective or genitive and a PP co-occur in attributive position without a conjunction.[12] Therefore it may be necessary to adjust the model to account for a higher level of complexity in the nominal phrase with respect to adjectival modifiers. Julien (2005) solves a similar problem in Norwegian by positing that each AP sits in the Spec of nested functional

---

[11] I have not come across any examples of Art-X-N-Art-Y (where X and Y are adjuncts to N) in the data, but if this construction is possible, it may be necessary to posit the raising of not only the head, N, but of a branching N' node.
[12] According to Smyth (§1033), "if one substantive has several attributive adjectives, these are sometimes added without a conjunction (by *Asyndeton*)." Smyth's examples of this do not include the article.

projections, which she refers to as αP. If we adopt this solution for Greek, we can assign each lexical or semantic category of adjectival modifier to an αP:[13]

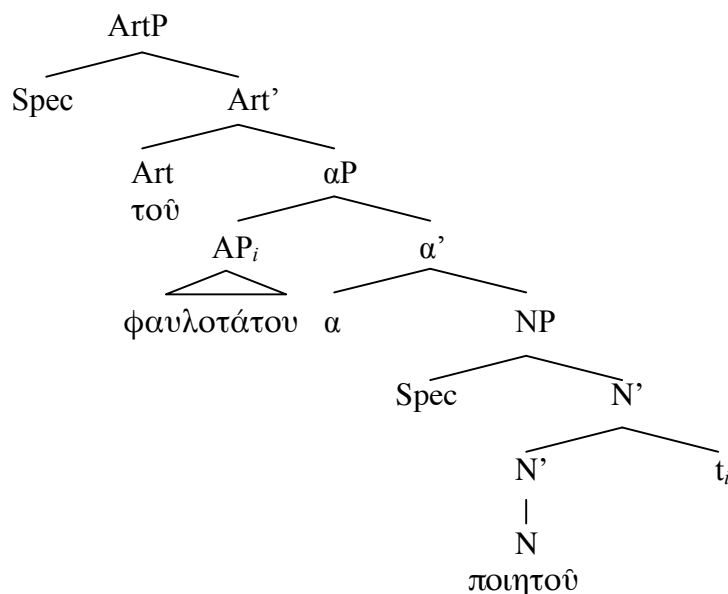*Figure 3.2.4: The αP with the raised AP in its Spec*

It follows that prepositional phrases will have their own αP to raise to, and so on, but these projections will only be generated as needed (i.e., if there are lexical items for them to hold).

Given the phrase structure rules presented in section 3.1 and the model of movement accounting for the postposed definite article, we can take a more complex example,

(5)   τῶνδε (μὲν) τῶν τόπων τῶν ἐν τῇ γῇ (Pl. *Phaedo* 114b7)
         of these locations on the earth

where both demonstrative and definite article occur:

---

[13] It is beyond the scope of this investigation to describe how many such phrases exist and what distinctions are made among the modifiers they can hold.
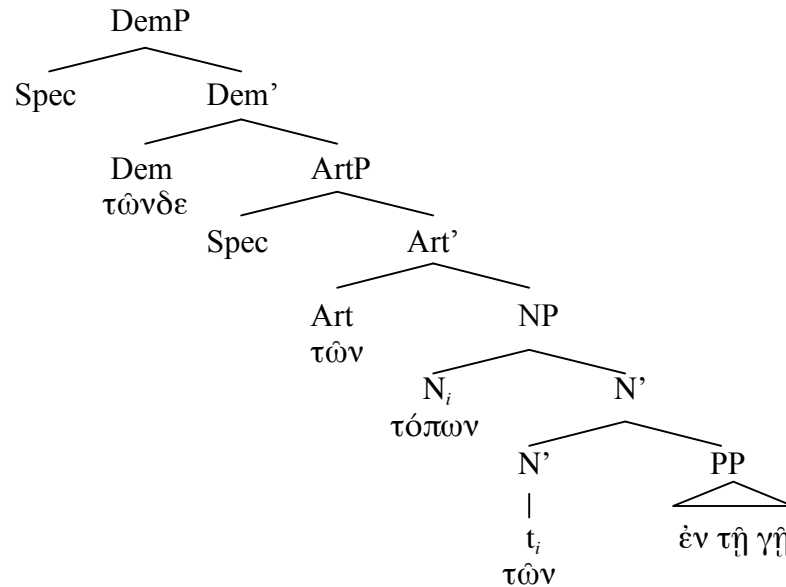
```
                        DemP
                      /      \
                  Spec        Dem'
                            /      \
                         Dem        ArtP
                        τῶνδε      /     \
                               Spec       Art'
                                        /      \
                                     Art        NP
                                     τῶν      /    \
                                           N_i      N'
                                          τόπων   /    \
                                               N'       PP
                                               |      /    \
                                               t_i   ἐν τῇ γῇ
                                               τῶν
```

Figure 3.2.5: DemP with nested ArtP

3.3 Position of Genitives

Devine and Stephens (1999) classify the four possible positions of a genitive modifier as

follows (adapted from data on p. 103):

(1)   τὰς ναῦς **τῶν Ἀθηναίων** (Thuc. 7.74.2)
        the ships of the Athenians

(2)   **τῶν Ἀθηναίων** τῷ περὶ τὰς ναῦς ἐρύματι (Thuc. 8.55.3)
        the fortification of the Athenians around the ships

(3)   τὰς **τῶν Ἀθηναίων** ναῦς (Thuc. 7.23.3, 7.36.3)
        the ships of the Athenians

(4)   ὅλον τὸ στράτευμα τὸ **τῶν Ἀθηναίων** (Thuc. 8.50.5)
        the entire army of the Athenians

They refer to arrangements (1) and (2) as external (in predicative position) and to (3) and (4) as

internal (in attributive position). The genitive of (1) tends to be in a "simple modifier position,

apparently just a sister to the head determiner phrase"—a non-contrastive position—whereas the

internal genitive of (3) belongs in a functional projection (similar to αP above)—a position for

contrastive or exclusive focus (pp. 103–4). This pattern is akin to the usage of certain Italian

adjectives such as *vecchio* 'old' that occur before their noun when used non-contrastively and

after their noun when used contrastively:

> *la strada vecchia*
> the old street (i.e., not the new one)
>
> *quel vecchio libro*
> that old book

Given Devine and Stephens's analysis, we can account for more complex examples,

where a genitive resides inside the DP, such as:

(5)   οἵ (τε) τῶν ἐπῶν ποιηταὶ οἱ ἀγαθοί (Pl. *Ion* 533e5)
         the good poets of epic poetry

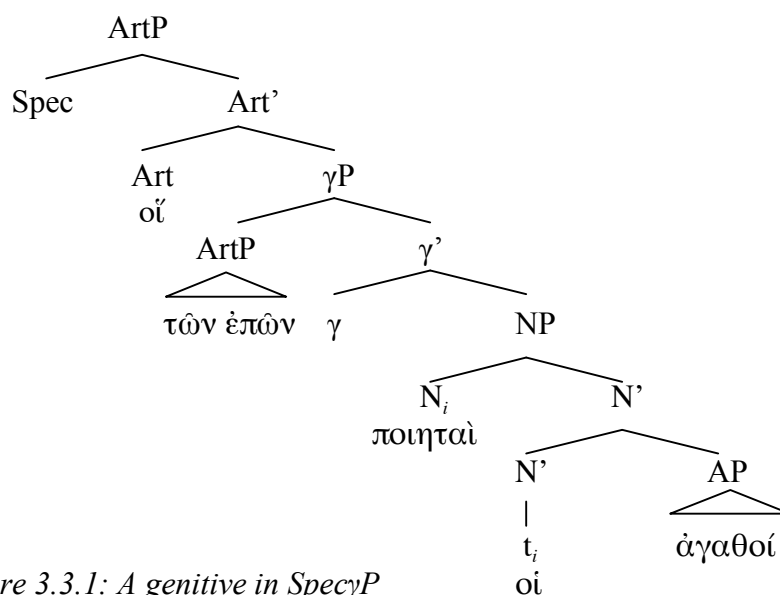I will refer to this functional projection in which the genitive resides as γP.

Figure 3.3.1: A genitive in SpecγP

The projection γP is acting as a focus position just like αP above, as a genitive residing in its Spec position is focused or contrasted in the same way[14] as attributive adjectives. Thus γP and αP may be equivalent.

4 Conclusion

4.1 Summary

We have established several subcategories of determiner based on the serial order of words in nominal phrases and the constraints on the co-occurrence of these words. We can split quantifiers into at least two classes: the πᾶς class (which includes those associated words listed above) and the cardinal numerals. We have established (or verified, really) the class of demonstratives, and established that the definite article belongs to its own subcategory of determiner. We then offered a structural description of the DP and a mechanism by which the postposed article is generated.

4.2 Further Points

The snapshot of the subcategories of determiner presented here can be broadened through the consideration of a larger group of words. Additionally, a study of the semantic contexts of these words in relation to their positions relative to the noun will inform the analysis of their internal syntax.

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[14] As Menge (1961) states the difference in meaning among internal and external genitives, "the attributive genitive normally stands between article and noun, e.g., ἡ τοῦ γείτονος οἰκία or, if it is more strongly emphasized, it is placed after the noun with repetition of the article, e.g., ἡ οἰκία ἡ τοῦ γείτονος…Thus, for example, ὁ τῶν Ἀθηναίων δῆμος means 'the *Athenian* people' (as contrasted with other peoples), while ὁ δῆμος τῶν Ἀθηναίων means 'the Athenian *people*' (as contrasted with the Athenian senate or the nobles or the slaves in Athens)" [trans. from the German].

The proposed mechanism for generating the postposed definite article should be extended and revised in order to account for the rare occurrence of examples such as τὸ τεῖχος τὸ μακρὸν τὸ νότιον 'the long southern wall' (And. 3. 7.), which indicate that the postposed article is generated through a recursive process, either through multiple transformations, where N (or N') raises in steps, or through a recursive generative rule working in some manner other than that mentioned and dismissed in section 3.2.

One of the attractions of the DP that led to its proposal by Abney (1987) and its wide acceptance is its cross-categorical nature. The DP at the nominal level corresponds to the complementizer phrase (CP)[15] at the clausal level, neatly drawing parallels between the nominal and clausal domains.[16] It would be advantageous if parallels could be drawn between some of the ideas presented here regarding the nominal domain and the Greek CP, as these two domains could inform one another in constructing a more complete model of Greek syntax within the framework of X-bar theory.

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[15] CP represents the highest structure of a clause and holds complementizers (subordinating conjunctions) and *wh*-question words.

[16] See Bernstein (2001) for an overview of the morphological, syntactic, and semantic evidence for DPs, including discussion of these parallels to CP.

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