Greek numbers

Jordan Bell

March 4, 2017

One-tenth Ex. 16:36; Nu. 18:26, 28; He. 7:1–10. Two-tenths Lev. 23:13. Three tenths Lev. 14:10. One-hundredths Neh 5:11. One-third: appears four-teen times in Revelation, refers to one of three parts which was to be destroyed Rev. 8. One-third 2 S. 18:2, one-half Ex. 25:10, 17, one-fourth 1 S. 9:8, one-fifth Gen 47:24, one-sixth Ezk. 46:14.

Two-thirds "double portion" Dt. 21:17, 2 K. 2:9, four-fifths "four parts" Gen. 47:24, nine-tenths "nine parts" Neh 11:1.

Diogenes Laertius, Vitae philosophorum 7.58 [5, p. 198]:

According to Diogenes [of Babylon] an appellative $[\pi\rho\sigma\sigma\eta\gamma\rho\rho(\alpha)]$ is a part of language which signifies a common quality, e.g. 'man', 'horse'; a name $[\delta\nu\rho\mu\alpha]$ is a part of language which indicates a peculiar quality, e.g. 'Diogenes', 'Socrates'; a verb is a part of language which, according to Diogenes, signifies a non-compound predicate, or, as some say, a case-less constituent of a sentence which signifies something attachable to something or some things, e.g. 'I write', 'I speak'.

Apollonius Dyscolus, Syntax 32.2 [2] Dionysius of Halicarnassus, De compositione verborum chap. II [6, pp. 71–73]:

Composition is, as the very name indicates, a certain arrangement of the parts of speech, or elements of diction, as some call them. These were reckoned as three only by Theodectes and Aristotle and the philosophers of those times, who regarded nouns [ὀνόματα], verbs [ʿπήματα] and connectives [συνδέσμους] as the primary parts of speech. Their successors, particularly the leaders of the Stoic school, raised the number to four, separating the articles from the connectives. Then the later inquirers divided the appellatives from the substantives, and represented the primary parts of speech as five. Others detached the pronouns from the nouns, and so introduced a sixth element. Others, again, divided the adverbs [ἐπιρρήματα] from the verbs, the prepositions from the connectives and the participles from the appellatives [προσηγοριαῶν]; while others introduced still further subdivisions, and so multiplied the primary parts of speech.

The subject would afford scope for quite a long discussion. Enough to say that the combination or juxtaposition of these primary parts, be they three, or four, or whatever may be their number, forms the so-called "members" (or clauses) of a sentence. Further, the fitting together of these clauses constitutes what are termed the "periods," and these make up the complete discourse. The function of composition is to put words together in an appropriate order, to assign a suitable connexion to clauses, and to distribute the whole discourse properly into periods.

Dionysius Thrax, *Tekhne* XI [8, p. 23], [3, p. 176]:

There are eight parts of the sentence: noun [ὄνομα], verb, participle, article, pronoun, preposition, adverb [ἐπίρρημα], conjunction. For the appellative [προσηγορία] is a subspecies of the noun.

Dionysius Thrax, *Tekhne* XII [8, p. 33], [3, p. 178]:

There are the following subtypes of the noun (these also are referred to as 'species'): proper, appellative [προσηγορικόν], attached [ἐπίθετον], relative, quasi-relative, homonymous, synonymous, dionymous, eponymous, ethnic, interrogative, indefinite, anaphoric (also referred to by the names 'similative', 'de?monstrative', and 'correlative'), collective, distributive, inclusive, onomatopoeic, generic, specific, ordinal [ἀριθμητικόν], absolute, participatory.

Dionysius Thrax, *Tekhne* XII, [8, p. 44], [3, p. 180]:

Τακτικόν δέ ἐστι τὸ τάξιν δηλοῦν, οἴον πρῶτος δεύτερος τρίτος. Ἀριθμητικόν δέ ἐστι τὸ ἀριθμὸν σημαῖνον, οἴον εῖς δύο τρεῖς.

An ordinal noun is one which indicates order, such as 'first, second, third'. A numeral noun is one which signifies number, such as 'one, two, three'.

Dionysius Thrax, *Tekhne* XIX [8, p. 72], [3, p. 183]:

An adverb $[E\pi(\rho\rho\eta\mu\alpha)]$ is a part of the sentence which is uninflected; it qualifies verbs or is added to verbs.

Dionysius Thrax, *Tekhne* XIX [8, p. 76], [3, p. 184]:

Τὰ δὲ ἀριθμοῦ δηλωτικά, οἴον δίς τρίς τετράκις.

Some signify number, for example dis (twice), tris (thrice), tetrakis (four times).

onefold, twofold, threefold firstly, secondly, thirdly

half, third, quarter, fifth Kühner [4, p. 621], §181

cardinals, cardinalia, ονόματα αριθμητικά: answers πόσοι, "how many?", one, two, three, four

ordinals, ordinalia, ονόματα τακτικά: answers πόστος, "which in order?", first, second, third, fourth

numeral adverbs: answers "how many times?", once, twice, thrice, four times multiplicative adverbs how many parts: answers "into how many parts?" substantive numerals: unit, pair, triply

multiplicatives, πολλαπλασιαστικά αριθμητικά: the number of parts of which a whole is composed, answers "how many fold?", single, double, triple, quadruple proportionals, αναλογικά αριθμητικά: answers "how many times more?" fractions: half, third, fourth

numeral adverbs: firstly, secondly, thirdly: δεύτερον, τρίτον

five ways, six ways: πενταχῶς, ἑξαχῶς

ποσαπλάσιον. Meno 83b [9, p. 118]: "How many times as big is it?"

Smyth Art. 347 [7]:

		cardinals	ordinals	numeral adverb
1	α΄	εἴς, μία, ἕν	πρώτ-ος, -η, -ον	ἄπαξ
2	β΄	δύο	δεύτερος	δίς
3	γ΄	τρεῖς, τρία	τρίτος	τρίς
4	δ'	τέτταρες, τέτταρα	τέταρτος, -η, -ον	τετράχις
5	ε΄	πέντε	πέμπτος	πεντάχις
6	ਵ′	ĕξ	ἔχτος	ἑξάχις
7	ζ'	έπτά	ἔβδομος	ἑπτάχις
8	η΄	ὀκτώ	ὄγδοος	ὀκτάκις
9	$\dot{\vartheta}'$	έννέα	ἔνατος	ἐνάχις
10	ι΄	δέκα	δέκατος, -η, -ον	δεκάκις
11	ια΄	ἔνδε κα	ένδέκατος	ένδεκάκις
12	ιβ΄	δώδεκα	δωδέκατος	δωδεκάκις
13	ιγ΄	τρεῖς καὶ δέκα	τρίτος καὶ δέκατος	τρεισκαιδεκάκις
14	ιδ΄	τέτταρες καὶ δέκα	τέταρτος καὶ δέκατος	τετταρεσκαιδεκάκι
15	ιε΄	πεντεκαίδεκα	πέμπτος καὶ δέκατος	πεντεκαιδεκάκις
16	เ∈´	έχχαίδεχα	έκτος καὶ δέκατος	έχχαιδεχάχις
17	ιζ′	έπτακαίδεκα	εκτος και σεκατος Εβδομος καὶ δέκατος	έπτακαιδεκάκις
18	ιη΄	όκτωκαίδεκα	οροομος και σεκατος όγδοος καὶ δέκατος	όκτωκαιδεκάκις
19	ເປ້	έννεακαίδεκα	ἔνατος καὶ δέκατος	έννεακαιδεκάκις
20	κ'	είχοσι	εἰκοστός, -ή, -όν	είχοσάχις
21	χα'	είχοσι είς καὶ είκοσι	πρῶτος καὶ εἰκοστός	είχοσάχις ἄπαξ
30	λά λ΄	τρια΄χοντα	τρι <u>α</u> χοστός	τριακοντάκις
40		τετταράχοντα		
50	μ΄ ν΄	1	τετταραχοστός	τετταρακοντάκις
		πεντήκοντα	πεντηκοστός	πεντηκοντάκις
60	ξ',	έξήχοντα	έξηχοστός	έξηκοντάκις
70	o'	έβδομήκοντα	έβδομηκοστός	έβδομηκοντάκις
80	π΄	ογδοήκοντα	ὀγδοηκοστός	ὀγδοηκοντάκις
90	4	ένενήκοντα	ἐνενηκοστός	ένενηκοντάκις
100	ρ´,	έκατόν	έκατοστός, -ή, -όν	έκατοντάκις
200	σ΄	διακόσι-οι, -αι, -α	διαχοσιοστός	διᾶχοσιάχις
300	τ΄.	τριακόσι-οι, -αι, -α	τριᾶχοσιοστός	τριαχοσιάχις
400	υ΄	τετρακόσι-οι, -αι, -α	τετραχοσιοστός	τετρακοσιάκις
500	φ΄	πεντακόσι-οι, -αι, -α	πενταχοσιοστός	πενταχοσιάχις
600	χ΄	έξαχόσι-οι, -αι, -α	έξαχοσιοστός	έξαχοσιάχις
700	ψ΄	έπτακόσι-οι, -αι, -α	ἑπταχοσιοστός	ἑπταχοσιάχις
800	ω΄	ὀκτακόσι-οι, -αι, -α	ὀκτακοσιοστός	ὀϰταχοσιάχις
900	ਐ′	έναχόσιοι	ἐναχοσιοστός	ἐναχοσιάχις
1000	,α	$\chi \bar{\iota} \lambda \iota - \alpha \iota, -\alpha \iota$	χīλιοστός, -ή, -όν	χīλιάχις
2000	,β	δισχτίλι-οι, -αι, -α	δισχιλιοστός	δισχτλιάχις
3000	,Υ	τρισχιλι-οι, -αι, -α	τρισχιλιοστός	τρισχιλιάχις
10000	اً,	μυτρι-οι, -αι, -α	μῦριοστός	μ⊽ριάχις
20000	,́х	δισμυζριοι	δισμυριοστός	δισμυριάχις
100000	,ρ	δεκακισμυ′ριοι	δεκακισμυριοστός	δεκακισμυριάκις

```
1
   ἄπαξ
2
   `lÇ
           δίχα
3
   τρίς
           τρίχα
        substantive numerals
1
        μονάς
2
        δυάς
3
        τριάς
4
        τετράς
5
        πεντάς
6
        έξάς
7
        έβδομάς
8
        ὀγδοάς
9
        ἐννεάς
10
        δεκάς
11
        ένδεκάς
12
        δοδεκάς
20
        εἰκάς
40
        τεσσαραχοντάς
100
        έκατοντάς
1000
        χιλιάς
10000
        μυριάς
   multiplicatives
                     proportionals
   άπλόος, -οῦς
1
   διπλόος, -οῦς
                     διπλάσιος
   τριπλόος, -οῦς
3
                     τριπλάσιος
4
   τετραπλάσιος
```

Nicomachus, Introductio arithmetica I.18 [1, p. 214]:

Once more, then; the multiple $[\pi o\lambda \lambda \alpha \pi \lambda \alpha \sigma (\omega \nu)]$ is the species of the greater first and most original by nature, as straightway we shall see, and it is a number $[\dot{\alpha} \wp \iota \partial \mu \dot{\alpha} \varsigma]$ which, when it is observed in comparison with another, contains the whole of that number more than once. For example, compared with unity, all the successive numbers beginning with 2 generate in their proper order the regular forms of the multiple; for 2, in the first place, is and is called the double, 3 triple, 4 quadruple, and so on; for 'more than once' means twice, or three times, and so on in succession as far as you like.

References

[1] Martin Luther D'Ooge, Frank Egleston Robbins, and Louis Charles Karpinski. *Nicomachus of Gerasa:* Introduction to arithmetic. Macmillan, New York, 1926.

- [2] Fred W. Householder. The Syntax of Apollonius Dyscolus, volume 23 of Studies in the History of the Language Sciences. John Benjamins Publishing Company, 1981.
- [3] Alan Kemp. The *Tekhnē Grammatikē* of Dionysius Thrax: English translation with introduction and notes. In Daniel J. Taylor, editor, *The History of Linguistics in the Classical Period*, volume 46 of *Studies in the History of the Language Sciences*, pages 169–190. John Benjamins Publishing Company, 1987.
- [4] Raphael Kühner. Ausführliche Grammatik der griechischen Sprache. Erster Teil: Elementar und Formenlehre. Dritte Auflage in zwei Bänden, in neuer Bearbeitung besorgt von Dr. Friedrich Blass. Erster Band. Hahnsche Buchhandlung, Hannover, 1890.
- [5] A. A. Long and D. N. Sedley. The Hellenistic Philosophers. Volume 1: Translations of the principal sources, with philosophical commentary. Cambridge University Press, 1987.
- [6] W. Rhys Roberts. Dionysius of Halicarnassus, On Literary Composition. Macmillian, London, 1910.
- [7] Herbert Weir Smyth. Greek Grammar. Harvard University Press, 1956. Revised by Gordon M. Messing.
- [8] Gustav Uhlig, editor. *Dionysii Thracis ars grammatica*. B. G. Teubner, Lipsiae, 1883.
- [9] Robin Waterfield. Plato: Meno and other dialogues. Charmides, Laches, Lysis, Meno. Oxford World's Classics. Oxford University Press, 2005. Translated with an introduction and notes.