## Euclid Out-of-place? A Geometrical Diagram in a Manuscript of the *Corpus Hermogenianum*

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HE USE OF GRAPHS in explaining rhetoric has been an enduring practice since antiquity. Tables, charts, and diagrams—mainly diairetical, i.e. created by division (διαίρεσις) and similar to tree diagrams—could offer a visual counterpart to texts dealing with rhetoric and contributed to enhancing the comprehension as well as the memorization of rhetorical concepts along with their practical application(s). As noted by Copeland and Sluiter in their study of the Western Medieval context, this exercise was tightly connected to widely applied modes of classification and schematization of knowledge: diagrams provided rhetoric with a visible outline, possibly making it "at once externally systematized and internally assimilated" (5).

<sup>1</sup> For an example of the use of diagrams in rhetoric in the Latin Middle Ages see the work of I. O'Daly, "Diagrams of Knowledge and Rhetoric in Manuscripts of Cicero's *De invention*," in E. Kwakkel (ed.), *Manuscripts of the Latin Classics 800–1200* (Leiden 2015) 77–105, and "Managing Knowledge: Diagrammatic Glosses to Medieval Copies of the *Rhetorica ad Herennium*," *IJCT* 23 (2016) 1–28. To get a preliminary sense of the variety of texts in which diagrams could be implemented and used see J. F. Hamburger et al. (eds.), *The Diagram as Paradigm: Cross-Cultural Approaches* (Washington 2022); for a focus on the Byzantine world, L. Safran, "A Prolegomenon to Byzantine Diagrams," in M. Kupfer et al. (eds.), *The Visualization of Knowledge in Medieval and Early Modern Europe* (Turnhout 2020) 361–382.

<sup>2</sup> R. Copeland and I. Sluiter, "General Introduction," in *Medieval Grammar* and Rhetoric: Language Arts and Literary Theory, AD 300–1475 (Oxford 2012) 1–60, at 3–14.

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The same practice can be recognized and was applied in the Byzantine context too: along the same lines, diagrams could accompany the text of the so-called Corpus Hermogenianum, the "primary textbook for the instruction of rhetoric" in Byzantium, to use Papaioannou's words.<sup>3</sup> The *Corpus* includes five treatises: four written by-or erroneously ascribed to-Hermogenes of Tarsos, the second-century rhetor, preceded by a later treatise on preliminary exercises (progymnasmata) by Aphthonios of Antioch (fourth cent.). Created in Late Antiquity, the Corpus remained stable over the entire Byzantine era and the early modern age, as is shown by the extremely large number of copies.<sup>4</sup> Its great success in Byzantium and beyond<sup>5</sup> was owing to the fact that it was the rhetorical handbook par excellence: starting from the preliminary exercises of the *Progymnasmata* up to the more advanced On Forms of style, it was the essential tool to approach, pursue, and deepen the study of rhetoric. Interest in the *Corpus* peaked in the middle Byzantine period (843–1204) when a wide array of commentaries, scholia, accessus, and introductions to the Corpus, both in its entirety or in its components, were produced: these paratexts prove both the success and the continuous discussion generated by these texts.<sup>6</sup> Diagrams too are part of the long, rich, and complex tradition of the *Corpus*: they are often found in its manuscripts, of various types,

³ S. Papaioannou, "Theory of Literature," in *The Oxford Handbook of Byzantine Literature* (Oxford 2021) 76–109, at 79. For a brief but thorough introduction to the *Corpus* see E. Barili, *Building Rhetorical (Self-) Awareness through Hermogenes: John Tzetzes' Commentary on Περὶ ἰδεῶν λόγου* (diss. Univ. of Southern Denmark 2022) xxiii—xxv, with bibliographical references.

<sup>&</sup>lt;sup>4</sup> For a thorough analysis of the manuscript tradition see M. Patillon, *Corpus rhetoricum* I (Paris 2008) V–LXXVI.

<sup>&</sup>lt;sup>5</sup> The influence of Hermogenes' rhetoric was crucial also in the Renaissance: see T. Conley, *Rhetoric in the European Tradition* (New York 1990) 114–120.

<sup>&</sup>lt;sup>6</sup> On the fortune of Hermogenes in the teaching of rhetoric see C. Pepe, "The Rhetorical Commentary in Late Antiquity," *AION* 40 (2018) 86–108.

chiasms and diairetical diagrams being the most frequent.<sup>7</sup>

Against such a broad and varied background, the present paper narrows the focus to a specific diagram that stands out for its unexpected presence in a manuscript of the *Corpus*. This is a geometrical diagram, of the sort found in the mathematical handbook Euclid's *Elements*, and accompanied on the same folio by a long scholion. In this paper, I take my cues from this uncommon co-occurrence, which paves the way for a broader discussion of the context of Byzantine education. First, I provide a general description of the manuscript so as to put the diagram in context. Second, I offer a close analysis of the diagram, assessing its relationship to the main text as well as to the marginal scholion supplementing it. If read together, the diagram and the scholion, I argue, not only are key to better understanding the presence of this diagram; they also provide insights into the cognitive processes underlying learning practices and into the reconceptualization of the threshold between the trivium and the quadrivium that was achieved by rhetoric in the middle Byzantine period. The analysis will be complemented by an edition and translation of the scholion in the Appendix.

#### 1. The manuscript Florence, BML Plut. 60.15

The focus of the present investigation is Florence, Biblioteca Medicea Laurenziana, *Plut.* 60.15, an eleventh-century parchment manuscript featuring the whole *Corpus Hermogenianum*.<sup>8</sup> In

<sup>7</sup> On the use of diagrams in rhetorical teaching see V. Valiavitcharska, "Figure, Argument, and Performance in the Byzantine Classroom," *Rhetoric Society Quarterly* 41 (2011) 19–40, and "Diagrams and the Visual-Oral Nexus: What Visuals Reveal About Oral Pedagogy in Argumentation Training," in A. Pizzone and P. Scattolin (eds.), *Reading the Corpus Hermogenianum in the Middle Byzantine Period: A Rhetoric for the Empire* (forthcoming). For an overview of diagrams in the *Corpus* see C. D'Agostini, "Visualization Strategies in the *Corpus Hermogenianum*: Preliminary Remarks on Byzantine Rhetorical Diagrams," in *Reading the Corpus Hermogenianum*.

<sup>8</sup> The manuscript contains only the *Corpus* with the addition at the very end of a few folia with Greek annotations. See A. M. Bandini, *Catalogus codicum* 

his edition of the *Corpus*, Michel Patillon ascribes the *Laurentianus* to the group of contaminated manuscripts, although he recognizes a relationship with one of the earlier manuscripts of the *Corpus*, Paris, Bibliotheque Nationale de France *Paris.gr.* 2983, belonging to group P and dated to the tenth century.<sup>9</sup>

As is often the case in the *Corpus*, the *Laurentianus* includes several scholia in the margins, a visible mark of its continuous reuse and consultation, likely in connection with an educational setting. The main text is written in a vertically centred space slightly closer to the margin of the spine, and scholia are largely written in the three external margins, creating a *mise-en-page* with a "frame layout," mostly consistent throughout the entire manuscript.<sup>10</sup> The marginal scholia, however, show a marked inconsistency in their distribution.<sup>11</sup> Their presence is systematic in the first treatise of the *Corpus*, Aphthonios' *Progymnasmata*, where almost every folio is filled with extensive marginal scholia; this suggests that Aphthonios' treatise received more attention and was studied more intensively than the other four ascribed to Hermogenes, where instead scholia are fewer and generally shorter.

Modern scholarship has kept a special focus on the first treatise too: Aphthonios' text is the only part of the manuscript that has been analyzed in depth, not coincidentally because of its large number of scholia. In 1908, Alessandro Sabatucci surveyed all the scholia to Aphthonios, distinguishing six hands and dating

manuscriptorum Bibliothecae Mediceae Laurentianae I (Florence 1764) 604–605. The manuscript is fully digitized: https://tecabml.contentdm.oclc.org/digital/collection/plutei/id/1248300/rec/1 (last accessed 8 April 2024).

<sup>10</sup> For description of this layout see M. Maniaci, "Words within Words: Layout Strategies in Some Glossed Manuscripts of the *Iliad*," *Manuscripta* 50 (2006) 241–268, at 242. There are also pages where scholia occupy all four margins, surrounding the main text (e.g. fol. 12<sup>r</sup>).

<sup>11</sup> As noted already by Bandini, *Catalogus* 605: "Haec autem omnia scholiis item marginalibus sunt instructa, rarioribus tamen, quam in Aphthonium."

<sup>&</sup>lt;sup>9</sup> Patillon, Corpus rhetoricum I LXX.

most to the late eleventh/early twelfth century. He also provided an edition of the scholia that are written by an anonymous hand he labeled "hand 2," the second-oldest hand in the manuscript.<sup>12</sup>

The scholia edited by Sabatucci prove quite interesting: they are close to the commentary on Aphthonios by John Doxapatres (eleventh century), 13 and yet they present a different text. Citing correspondences and lack thereof between the two texts, Sabatucci argued that the scholia penned by "hand 2" not only were read by Doxapatres but also that he drew heavily on them in composing his commentary. According to this hypothesis, Doxapatres read this tradition and decided whether to agree and build on it, using it as a source, or to bring in evidence from other rhetors, e.g. John Geometres. Although Sabatucci's analysis does not go further and remains difficult to verify, it is a convenient stepping stone to the study of the entire manuscript: first, the hands he identified and their dating may be helpful also in analyzing the scholia on the following treatises, as the manuscript is a unitary product from a palaeographical point of view; second, the connection with Doxapatres suggested by Sabatucci, although difficult to demonstrate, might hold true also for the commentaries on the other treatises, even though this would be

12 A. Sabatucci, "Scolii antichi ad Aftonio nel cod. Laur. Gr. LX, 15," *StItt* 16 (1908) 41–102. In the appendix, Sabatucci also offers an overview of the three hands that according to him could be dated around the end of the eleventh/beginning of the twelfth century. He does so by describing the different layers of scholia in folio 10<sup>r</sup> and 10<sup>v</sup> (partially). His analysis proves extremely useful, for in fol. 87<sup>r-v</sup>, which will be the core of our analysis, we can see exactly the same layers described by Sabatucci: first there is the indication of the heading of the section that ps.-Hermogenes is dealing with in the corresponding text (fol. 87<sup>r</sup> *peri kyklou*); then a small annotation, in the right margin, added before the rest of the scholion; it seems also that the circle and the diagram with the denotative letters and the word γεωμετρικόν written above the diagram were added before the rest of the scholion.

<sup>13</sup> Doxapatres wrote a commentary on Aphthonios' *Progymnasmata* and prolegomena on *Rhetoric* (II 69–564 Walz). He also penned three commentaries, on Hermogenes' *On Issues, On Invention*, and *On Forms*, which are all still unedited.

perhaps less detectable given the smaller number of scholia.<sup>14</sup>

Shifting then the focus to the presence of diagrams in the manuscript, the situation is quite different, as there are only three, all added in the margins. Interestingly enough, they are of three different types. The first (fol. 82<sup>r</sup>) is placed in the margin at the discussion of the figure periodos, i.e. the concise and rhythmical treatment of a subject in a single sentence (ps.-Hermog. *Inv*. 4.3), 15 and illustrates a chiasmus of the four cola of a tetracolonic period: each colon is one element of the chiasmus, joined two by two by crossing lines. This is a quite common diagram in the Corpus and, as is often the case, the period displayed is taken from Demosthenes' Second Olynthiac: ps.-Hermogenes uses it as the perfect example of a tetracolonic period whose cola can be inverted.<sup>16</sup> The second diagram (fol. 87<sup>r</sup>) is geometrical and displays an equilateral triangle and two circles (fig. 1): this will be the object of our analysis. The third is at the end of the text, in the lower half of fol. 204<sup>r</sup>, the concluding page of On the method of force. It is a diairetical diagram, visually presenting the conversation on the definition of rhetoric inserted in the Platonic dialogue Gorgias (462B–465A). The diagram proceeds from top to bottom by division: the first branch distinguishes between activities per-

<sup>&</sup>lt;sup>14</sup> Close correspondences also with Doxapatres' commentary on the treatise *On invention* can be seen in the text edited below (Appendix). Since the text of Doxapatres is unedited, checks were made directly on the MS. Vatican City, Biblioteca Apostolica Vaticana *Vat.gr.* 2228, considered by Patillon likely the most ancient one preserving the text.

<sup>&</sup>lt;sup>15</sup> See also V. Valiavitcharska, "Glossary of Rhetorical Figures," in *The Oxford Handbook of Byzantine Literature* 743–749, at 747.

<sup>16</sup> Dem. Ol. 2.3: ὁ μὲν γὰρ Φίλιππος ὅσῷ πλείονα ὑπὲρ τὴν ἀξίαν πεποίηκε τὴν ἑαυτοῦ, τοσούτῷ θαυμαστότερος παρὰ πᾶσι νομίζεται ὑμεῖς δέ, ὧ Αθηναῖοι, ὅσῷ χεῖρον ἢ προσῆκε κέχρησθε τοῖς πράγμασι, τοσούτῷ πλείονα αἰσχύνην ὡφλήκατε, "For the more Philip succeeds beyond his deserts, the more wonderful he is considered by all, while as for you, o Athenians, the more poorly you have used your opportunities, the disgrace you have incurred is much more." On the several possible combinations with this tetracolonic period and its use in different Byzantine commentators, see V. Valiavitcharska, Rhetoric and Rhythm in Byzantium: The Sound of Persuasion (Cambridge 2013) 125–132.

taining to the soul (on the left) and the body (on the right); the second division, branching from the first one, results in four positive arts, two applying to the soul and two to the body: justice and legislation, medicine and gymnastic. Beneath those four, there are another four corresponding branches which do not represent a further division, but rather an alternative to the previous ones. They are respectively rhetoric and sophistry (soul) and cookery and self-adornment (body). Because they are not positive, however, these are not defined as arts, as they aim only for people's pleasure, not for their wellbeing.<sup>17</sup>

The three diagrams are all placed in the margins of the text. But there is a quite substantial difference between the second one, i.e. the geometrical, and the other two: while the latter diagrams are not accompanied by any scholion on the same page and they seem to offer a visual summary of the main text, this is not the case with the former. The margins of both the recto—where the geometrical diagram features—and the verso of fol. 87 are almost entirely occupied by a long scholion, which contains within it the diagram.

#### 2. Exegesis of the kyklos: from the diagram to the scholion

The main text on folio  $87^{\rm r}$  concerns the *kyklos*, to which ps.-Hermogenes devotes an entire chapter of the treatise *On invention (Inv.* 4.8). The *kyklos* is a figure of speech  $(\sigma \chi \hat{\eta} \mu \alpha)$  "with its own special beauty of expression" that occurs whenever a poignant statement begins and ends with the same word. This schema seems to have a "stable iconography" in the *Corpus*: it

- <sup>17</sup> The same passage is cited and discussed extensively also in John Doxapatres, *Prolegomena in Aphthonii Progymnasmata* (XXIV 117 ff. Rabe).
- <sup>18</sup> Transl. G. A. Kennedy, *Invention and Method: Two Rhetorical Treatises from the Hermogenic Corpus* (Atlanta 2005) 173.
- <sup>19</sup> Rewording of the definition given by Valiavitcharska, in *The Oxford Handbook of Byzantine Literature* 746.
- <sup>20</sup> Valiavitcharska, in *Reading the Corpus Hermogenianum*. Examples of this iconography can be found for instance in the following manuscripts: *Paris.gr.*

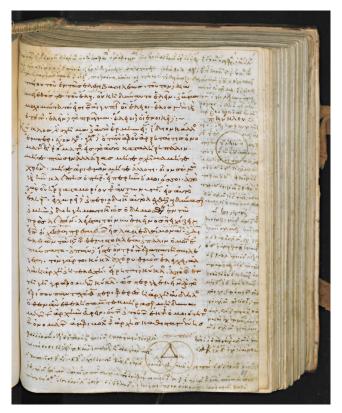


Fig. 1: Firenze, Biblioteca Medicea Laurenziana, Plut. 60.15, f. 87<sup>r</sup>
On concession of the MiC.
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is often graphically represented together with the figures of the *periodos* and the *strongylon*<sup>21</sup> in a group of four diagrams. They are

1983 fol.  $9^{y}$ ; *Paris.gr.* 2977 fol.  $10^{r}$ ; Leiden, *Voss.gr.* Q1 fol.  $68^{r}$ ; Naples, Bibl. Naz. II E 05 fol.  $10^{r}$ .

<sup>21</sup> The figure στρογγύλον is a pithy argument built on opposites or comparison (see the definition by Valiavitcharska, in *The Oxford Handbook of Byzantine Literature* 746). Though in ps.-Hermogenes' text it does not appear as a proper rhetorical figure but rather as a manner of expression, it is consistently present in the tradition of the commentaries (e.g., Anon. in VII.2 805–806

usually juxtaposed on two levels (three diagrams on the first line and one on the second), and each of them is constituted by two concentric circles; each diagram centres on a figure, named in the middle and exemplified by a quotation placed around the edge of the inner circle. The final two diagrams illustrate the kyklos.<sup>22</sup> Generally, this group of diagrams is not located in connection with the account of the figures—both the *periodos* and the kyklos are detailed in the On invention; rather, it is placed either before the treatise *On issues* or else at the beginning of the *Corpus*, before Aphthonios' Progymnasmata, as happens e.g. in Paris.gr. 1983 (fol. 9v), one of the oldest manuscripts of the Corpus.<sup>23</sup> As argued by Valiavitcharska, this illustration may be connected to an oral teaching and training in rhetoric in which the diagrams were used as visual props to practice oral argumentation in the classroom as well as a reminder of the requirements of the figure: they worked as "cognitive tools to create discourse."24

Walz). On the term see also A. Novokhatko, "Στρογγύλα λέγε, ίνα καὶ κυλίηται: On the Use of στρογγύλος as a Rhetorical Term," *Eikasmos* 21 (2010) 357–376.

 $^{22}$  The first diagram for the kyklos quotes ps.-Hermogenes Inv. 4.8, σοὶ μὲν γὰρ ἦν κλέπτης ὁ πατήρ, εἴπερ ἦν ὅμοιος σοί; the second reads σὺ μὲν οὖν αἴτιος τῶν καλῶν πάντων τούτων καὶ ἐμφύτως παρομαρτοῦσιν ἐν σοί, a text not otherwise attested. Interestingly enough, the second example works only orally, as the pronouns opening and closing the schema (σύ and σοί) sound the same in Byzantine pronunciation, pointing to an oral and performative context.

P-scholia, a recension of scholia to the text transmitted here and in *Paris.gr.* 2977 (end tenth/beginning eleventh cent.), published by Walz in the 1830s: https://gallica.bnf.fr/ark:/12148/btv1b10723839j/f16.image. This manuscript is possibly a collection of materials originally produced in late antiquity (fifth-sixth cent.) and then reworked and finalized around the ninth century. On the P-scholia and their transmission see M. Patillon, *Corpus rhetoricum* III (Paris 2012) XXIV–XXVIII; R. Duarte, "The Transmission of the Text of the *P* scholia to Hermogenes' Περὶ στάσεων," *RHT* 5 (2010) 25–42; and V. Valiavitcharska, "The Advanced Study of Rhetoric Between the Seventh and the Ninth Century," *JÖB* 70 (2020) 487–508, at 487–489, esp. n.5 for a thorough bibliographical overview.

<sup>24</sup> Valiavitcharska, in *Reading the Corpus Hermogenianum*.

The case offered by the *Laurentianus*, however, proves different. In contrast to the iconography described above, the diagram linked to the *kyklos* is on the same page as ps.-Hermogenes' presentation of the figure (fol. 87<sup>r</sup>); it is not detached from it and/or combined with other figures, but stands on its own. The diagram is added in the bottom margin, and placed slightly towards the outer margin: the right edge of the diagram seems to be arranged so as to match the right edge of the main text.

Instead of concentric circles, this diagram presents two intersecting circles whose centres are labelled with two denotative letters,  $\alpha$  and  $\beta$ . By linking the two centres  $\alpha$  and  $\beta$  to the upper of the two points of intersection between the circles, an equilateral triangle is drawn. The word yeometrixóv is written above the two circles, in the same brownish ink used for the whole diagram. This adjective seems to have been added before the page-long scholion, as it would be difficult otherwise to explain how and why the copyist left a fairly substantial blank space, viz. the area where the diagram is inserted.

To my knowledge, this diagram is unique in the *Corpus Hermogenianum*, though not itself innovative: it derives from the Euclidean tradition, where it complements the first proposition in Book 1 of *Elements*, which prescribes how "to construct an equilateral triangle on a given finite straight line" (Έπὶ τῆς δοθείσης εὐθείας πεπερασμένης τρίγωνον ἰσόπλευρον συστήσασθαι, 1.1.1-2). According to this proposition, starting from a given straight line αβ, it is possible to build two equivalent circles having as centres the two ends of αβ. By joining α and β with either of the two intersecting points of the two circles, it is possible to draw an equilateral triangle. The sides of the triangle are thus equal to the radii of the each of the two circles, which are equal by definition. As a result, the constructed triangle is equilateral and the two circles equivalent.

The diagram is a direct borrowing from Euclid's first proposition; but it is far from clear why it is placed in the *Corpus Hermogenianum*. Is its presence the result of a contamination with a mathematical manuscript? Was this addition intended? If so,

could it imply an interconnectedness between geometry and Hermogenian rhetoric? This is difficult to ascertain exactly. Nevertheless, in what follows, I will try to offer a few considerations that may improve our understanding of the diagram, by considering it against its context and the text of the scholion.

The figure *kyklos* is not only brought so vividly into focus by the diagram, but is also the main point of the scholion. In particular, the definition of this figure is examined at length. The first point for discussion is the distinction between figures of thought and figures of speech, and our commentator, following ps.-Hermogenes, remarks how the *kyklos* belongs to the latter group:

Διὰ τοῦτο καὶ ὁ τεχνικὸς ὁριζόμενος τὸν κύκλον καὶ εἰπὼν σχῆμα τὸ γένος αὐτοῦ προσέθηκε τὸ "ἑρμηνείας" διαφορὰν διϊστώσης ἀπὸ τῶν τῆς ἐννοίας σχημάτων ἑρμηνείας. ἔστιν ὁ κύκλος σχῆμα οὐχὶ ἐννοίας ὅθεν εἰ ἀμειφθῆ ἐν αὐτῷ ἡ τὸν κύκλον ποιοῦσα λέξις συναμείβεται καὶ ὅλον τὸ σχῆμα· εἰ γὰρ τὸ "ἦν ὅτε ταῦτα ἦν" [ἀ]μείψας εἰπὼν "ἦν ὅτε ταῦτα [ὑ]πῆρχε" συνήμειψα τῆ λέξει τὸ σχῆμα.

For this reason, the technician too (Hermogenes) in defining the *kyklos* and classifying its genre as a figure, added "of speech" as qualification, given that speech is separated from the figures of thought. The *kyklos* is not a figure of thought, and for this reason, if the language forming the *kyklos* changes, the entire figure changes along with it. For if I change this sentence "there were times when these things were ( $\eta \nu$  ote taûta  $\eta \nu$ )" by saying "there were times when these things happened ( $\eta \nu$  ote taûta  $[\upsilon]\pi\eta\rho\chi\varepsilon$ )," I also change the figure together with the diction.

To better explain the difference between figures of thought and of speech, other *schemata* are mentioned as examples: the declarative figure and the *parechesis* (alliteration). The latter, in particular, shares a few features with the *kyklos* and our commentator remarks how they both vary according to the diction. The point of discussion moves then to consider the specific and challenging definition of the *kyklos*, and in this context Euclid's authority (citing *Elements* 1.15) comes into play:

Κύκλος γάρ ἐστιν οὐ μόνον λόγος ἀλλὰ καὶ γραμμή. "Όθεν ὁ Εὐκλείδης: "κύκλος ἐστίν, εἶπεν, σχῆμα ἐπίπεδον ὑπὸ μιᾶς γραμμῆς περιεχόμενον πρὸς ἣν ἀφ' ἑνὸς σημείου τῶν ἐντὸς τοῦ σχήματος κειμένων πᾶσαι αἱ προσπίπτουσαι εὐθεῖαι ἴσαι ἀλλήλαις εἰσίν."

For a *kyklos* is not only verbal but also linear, and for this reason Euclid says "the *kyklos* is a plane figure contained by one line such that all the straight lines falling upon it from one point among those lying within the figure equal one another."

The *kyklos* is not only a figure of speech, but also a geometrical figure, i.e. a plane figure with all the features described by Euclid and quoted word-for-word in the scholion. This multivalent reference of the *kyklos* is the very first item brought to the fore in the analysis. The discussion then turns to the shortcomings of ps.-Hermogenes' definition, a critique shared with other commentators as well:<sup>25</sup> the definition does not seem fully convincing, as it seems simultaneously insufficient and excessive. On the one hand, it is insufficient in that the feature of beauty attributed to it is not specific to this figure, but is shared with other figures as well: as such, it does not prove paradigmatic. On the other, the definition is redundant, for according to our commentator it is not clear and concise enough and is framed more as an in-depth explanation conveyed during teaching.

Be that as it may, a specific emphasis is put on the Euclidean definition: our commentator seems to be interested in geometry and in its connection to this rhetorical figure to such an extent that Euclid's definition is the first element invoked. This emphasis translates also visually on the manuscript page: in the upper right margin, a circle is drawn under the heading *peri kyklou*; added in the margin, this seems to provide a representation of the figure *kyklos* "by design." What is more, in the lower margin, as described above, there is also the diagram

<sup>&</sup>lt;sup>25</sup> Thus for instance the commentaries on this figure by the Anonymous of the tenth century (Walz VII.2 838–840) or the one—still unedited—by John Doxapatres (*Vat.gr.* 2228, fols. 307v–309v).

representing the *kyklos* borrowed from Euclid, considered and built purely geometrically. If that were not enough, this geometrical analogue is further stressed by the addition of γεωμετρικόν above the diagram, a heading which leaves no room for doubt: the diagram provides the geometrical representation and interpretation of the *kyklos* as this figure is "not only verbal but also linear," as aptly explained by Euclid. The diagram instantiates the remark in the scholion, as specified also by the addition of the adjective "geometrical" as a sort of caption.

Rather than being coincidental, moreover, this geometrical association pursues the specific purpose of providing a clear and concise explanation of the rhetorical figure, which ps.-Hermogenes' definition has failed to convey—at least according to our commentator. He seems to fully support the idea that nothing would work better than a geometrical and abstract explanation to account for what a *kyklos* is. In other words, the geometrical value of the figure is given as the best example that will help to understand the rhetorical one too: thanks to its power of abstraction and simplification, geometry proves crucial to grasp the figure's ultimate rhetorical meaning.

This association seems even more meaningful when we compare closely the diagram in the *Laurentianus* with the analogous diagram(s) in Euclid manuscripts.<sup>26</sup> In the first proposition, there is, first, the drawing of a simple circle, and second the construction of an equilateral triangle through two circles, based on the segment  $\alpha\beta$ . These two diagrams as well as their sequence are the same as in fol. 87<sup>r</sup> of the *Laurentianus*. But there is a rather substantial difference in the *Laurentianus* diagram: even though the triangle is built in the same way, the diagram lacks the denotative letter  $\gamma$ , which not only features in the manuscripts of the Euclidean tradition, but is also necessary for building the triangle as explained by Euclid. It is crucial to the geometrical

<sup>&</sup>lt;sup>26</sup> See for instance the ninth-century *Vat.gr.* 190, fols. 14v–15r: https://digi.vatlib.it/view/MSS\_Vat.gr.190.pt.1.

deductive reasoning.<sup>27</sup> One might first think that the y has been used to add the word γεωμετρικόν placed above the diagram, i.e. where the  $\gamma$  would feature. Yet this hypothesis is to be discarded when considered against the context of the whole manuscript: in the probae calami at the end of the manuscript (fol. 205°), there are a few attempts to draw Euclid's diagram and, interestingly enough, the letter  $\gamma$  does not feature in either of the two more complete diagrams' drafts; in the first, only two denotative letters are inserted ( $\alpha$  and  $\beta$ ) while in the second there are no denotative letters at all. The denotative letter  $\gamma$  is missing in the proofs too. This lack, I believe, should not be seen as a mistake, but rather reflects the context in which the diagram is placed and which helps explain its omission here. The diagram is not concerned with a mere geometrical explanation, for it is used to clarify a rhetorical figure: as such, it does not require a precise geometrical demonstration. Rather, since the main purpose of the commentator is to focus on the rhetorical kyklos, the construction of the equilateral triangle becomes secondary while the main attention is directed towards the two circles in the geometrical proof. Fittingly, the removal of the denotative letter  $\gamma$  allows the reader to focus even more on the circular proceeding, on the recursive pattern of the kyklos, crucial to fully grasping the features of the rhetorical figure and its meaning for rhetoric. The tools of geometry are thus modelled and tuned so as to accommodate the needs of our commentator: once adjusted, they can harmonise with rhetoric without losing their cognitive value. The diagram ends up visually and abstractly substantiating the definition of the kyklos, the core of the scholion.

#### 3. The definition of the kyklos in context

Both the scholion and the diagram are mainly focused on the explanation of the *kyklos*, since ps.-Hermogenes' definition is

<sup>&</sup>lt;sup>27</sup> On the use, the construction, and the relevance of lettered diagrams see R. Netz, *The Shaping of Deduction in Greek Mathematics: A Study in Cognitive History* (Cambridge 1999) 12–67.

deemed inaccurate and insufficient. They complement each other by combining verbal as well as visual elements of exegesis. Yet even limiting the analysis to the scholion, the discourse seems to be the result of a combination of different commentaries: it might be considered a compendium of different lines of reasoning blended together or juxtaposed<sup>28</sup> in which the topics introduced are not analytically explored. Nevertheless, the commentary in the *Laurentianus* provides insights into the setting and the context in which attention to this figure might have arisen.<sup>29</sup>

The diagrams traditionally associated with the kyklos are tightly connected to a school setting, one in which oral exchange of ideas was crucial and constituted an essential element of the teaching.<sup>30</sup> These diagrams could have worked as visual props necessary to help students who were practicing rhetorical exercises, likely on the spot: thanks to such visual support, it was easier for students to orally create well-structured *schemata*, in this case of the kyklos. Thus orality was a crucial feature of the application and the teaching of these figures. This centrality surfaces also in our scholion, at least twice. When our commentator criticises ps.-Hermogenes for his redundant definition of the rhetorical figure, he implies that, though accurate, it could be better stated with a detailed classroom definition rather than a ὅρος, and he underlines how a proper textbook definition should be different. Though presented in a negative way, the implied setting is an educational context, the classroom where we can

<sup>28</sup> This happens also in other commentaries; for instance, the late-thirteenth-century commentary by Maximos Planudes (Walz, *Rhetores Graeci* V 212–576) is a summa of a great part of the tradition available at that time on the *Corpus*. It seems that commentaries on these texts were created via accumulation of previous materials.

<sup>29</sup> A much larger discourse could be prompted if we take into account the material offered by the different commentaries on the passage as well as on the topic, e.g. the commentary of the Anonymous of the tenth century or the unedited one by John Doxapatres. The author plans to expand the present work in this direction.

<sup>30</sup> See Valiavitcharska, in Reading the Corpus Hermogenianum.

easily picture long explanations taking place orally. A similar indication is then suggested in the final part of the scholion where the commentator elucidates the Hermogenian sentence έκ τῆς ὁμοιότητος τῶν ὀνομάτων, "from the similarity of nouns." The commentator specifies, first, that with ὀνομάτων, nouns, ps.-Hermogenes refers both to nouns and verbs, and broadly to all λέξεις, words; second, he adds that "from being similar, the nouns end up becoming the very same." This specification and the insistence on the resemblance of words seems to point again to the oral teaching context of eleventh/twelfth-century Constantinople where the practice of schedography was pervasive. This method of teaching was based on rhetorical exercises phrased as puzzles to be solved: words with different meanings but with similar pronunciation were purposefully juxtaposed and combined to create riddles and word games.<sup>31</sup> Also in this case, the explanation of the figure of the kyklos is provided by reference to an educational framework in which oral elaboration played a crucial role. Be that as it may, in both cases not only the educational setting is very much present, but it is also the benchmark to which the author persistently refers when assessing the definition given by ps.-Hermogenes.

From a different point of view, the educational context implied in our text is even broader, one in which rhetoric and scientific discourses meet, sometimes even overlapping. In the lexical and syntactical choices, references to geometry and more broadly to scientific subjects are not limited to the definition taken from Euclid—which is nevertheless decisive in itself. The use of terms such as  $\alpha \pi \alpha \rho \alpha \lambda \lambda \alpha \kappa \tau \sigma v$ , i.e. precisely similar, indistinguishable, used in music (of musical intervals, e.g. Ptol. *Harm.* 1.8.53) as well

<sup>&</sup>lt;sup>31</sup> For an exhaustive definition of the schedographic practice see P. Agapitos, "John Tzetzes and the Blemish Examiners: A Byzantine Teacher on Schedography, Everyday Language and Writerly Disposition," *Medioevo Greco* 17 (2017) 1–57, at 7–8. As he underlines, "the puzzles were based on similarities of sound, called ἀντίστοιχα ("correspondences") […] that need to be acoustically decoded."

as in astronomy (of distance measurements, e.g. in Ptol. *Alm.*)—both constitutive subjects of the so-called *quadrivium*—indicates how the same terms could be safely used in different disciplines. Rhetoric, as it appears, could be appraised as akin to scientific subjects such as geometry and could be conceptualized in scientific terms. Use of the same metaphors underpinning scientific and rhetorical discourse thus entails a shared learning process, one that pairs different subjects which however partake of the same cognitive perspective.

This multidisciplinary perspective is made even more explicit by yet another commentator, the Anonymous Commentator of the tenth century, who explains about the *kyklos*:<sup>32</sup>

εἴρηται δὲ κύκλος, ἀπὸ μεταφορᾶς τῶν ἐπιπέδων κυκλικῶν σχημάτων ἐκεῖνα γὰρ ἄδηλον ἔχουσιν τὴν ἀρχήν, διὰ τὸ ἐν πᾶσιν ὅμοιον καὶ ταῦτα διὰ τὸ ταὐτὸν καὶ ἀπαράλλακτον τῆς ἀρχῆς καὶ τέλους τῆς αὐτῆς τυγχάνουσι κλήσεως.

The *kyklos* is named after the metaphor of the circular planar figures; for those have a beginning that is indistinct because they are the same in every respect, and these (figures) acquire the same name for the same reason and for the invariable beginning and end.

It is the use of the metaphor that makes possible the association of subjects apparently so different; the metaphor could stand because the underlying learning processes are already shared: common words point to the same way of thinking and of approaching learning.

As a further example, consider the way in which the essential elements of any subject are referred to: τὰ στοιχεῖα. Hermogenes, especially in *On forms*, sometimes refers to the essential elements of rhetoric in this way, and Euclid, the author who offered the basics of geometry in *Elements* (τὰ στοιχεῖα), is called ὁ Στοιχειωτής par excellence. But ὁ στοιχειωτής could also refer to a teacher of grammar, as does, again, the tenth-century Anonymous in com-

menting on Hermogenes' *On forms*. The relevance and the cognitive importance of the basic rhetorical elements are exactly the same as conveyed by Euclid. Whereas the subject changes, the cognitive process is shared. In this sense, the comparison between Euclid and ps.-Hermogenes is not strained at all: they are two authors both working with  $\sigma \tau oux \epsilon i\alpha$ ; this connection, this common language is the expression of an educational setting with boundaries as fluid as the cognitive models are shared.

Nonetheless, it is difficult to outline the exact situation in which this multidisciplinary connection might have happened: we still know too little about the teaching of mathematical knowledge in particular. Specifically in our case, moreover, it is difficult to assess whether the author of the diagram—and possibly of the scholion, we may safely assume a teacher of rhetoric—was also skilled in geometry and likely taught that subject as well, or whether the teacher asked his students to recall something which he felt that every student should know. Teachers able to master and teach both subjects did indeed exist; suffice it to mention here Michael Psellos, the eleventh-century rhetor and philosopher, whose literary production ranged over a wide variety of subjects, from philosophy to medicine, from theology to geometry—he is indicated as author of a few scholia

<sup>&</sup>lt;sup>33</sup> Walz, Rhetores Graeci, VII.2 903.5.

<sup>&</sup>lt;sup>34</sup> On the *Corpus* of Hermogenes as the "organon of rhetoric" and the connections between philosophy and rhetoric see B. MacDougall, "The *Organon* of Rhetoric: An Anonymous Byzantine Discussion on Porphyry's *Isagoge*, the Corpus of Hermogenes, and the Rhetorical Curriculum," in *Reading the Corpus Hermogenianum*. On the conceptualization of rhetoric with philosophical language see also B. MacDougall, "John of Sardis' Commentary on Aphthonius' *Progymnasmata*: Logic in Ninth-Century Byzantium," *GRBS* 57 (2017) 721–744.

<sup>&</sup>lt;sup>35</sup> For an overview on scientific education in Byzantium see I. Pérez Martín and D. Manolova, "Science Teaching and Learning Methods in Byzantium," in S. Lazaris (ed.), *A Companion to Byzantine Science* (Leiden 2019) 53–104; A. Tihon, "Enseignement scientifique à Byzance," *Organon* 24 (1988) 89–108.

to Euclid's *Elements* as well;<sup>36</sup> and George Pachymeres, who in the early Palaeologan period taught rhetoric and composed the well-known *Quadrivium*.<sup>37</sup> Generally, however, scientific learning is thought to have been pursued at a secondary or higher level of specialized education. Yet it should be stressed that this picture is not static, and things changed over the Byzantine millennium (especially from the ninth to fifteenth century): the impression is that the traditional view does not fit perfectly all the contexts.<sup>38</sup> In some contexts, it may be more appropriate to think of nuanced boundaries between different subjects in the curriculum, as is the case with the diagram in the *Laurentianus*. The geometrical quotation and the geometrical diagram seem to be the visible element of a broader and more inclusive approach to what we perceive as distinct subjects.

What is more, the use of this Euclidean diagram and of the expressions referring to science participates in the process of reconceptualization and redefinition undergone by rhetoric in the middle Byzantine period: as highlighted by Valiavitcharska, in the ninth century the broad abstract-dialectical approach to rhetoric turned into a more practical-argumentative one, which may have further stressed the already existing underlying principles shared by rhetoric and scientific subjects. <sup>39</sup> Our diagram not only suggests the same process of conceptualization, but it also makes it visible: it epitomizes the application and the process of application of the figure of *kyklos*, conceptually reinforced by Euclid's geometric proposition.

The function of the diagram, moreover, seems to be not

<sup>&</sup>lt;sup>36</sup> On the multifaceted figure of Psellos see at least S. Papaioannou, *Michael Psellos: Rhetoric and Authorship in Byzantium* (Cambridge 2013) 29–39.

<sup>&</sup>lt;sup>37</sup> On Pachymeres' scientific production see P. Golitsis, "Georges Pachymère comme didascale. Essai pour une reconstitution de sa carrière et de son enseignement philosophique," *7ÖB* 58 (2008) 53–68.

<sup>&</sup>lt;sup>38</sup> See Pérez Martín and Manolova, in *A Companion to Byzantine Science* 59–74.

<sup>&</sup>lt;sup>39</sup> Valiavitcharska, *JÖB* 70 (2020) 487–508.

distant from the one attached to geometrical diagrams in ancient Greek mathematical thought. As shown by Netz, 40 in that context not only did diagrams participate in the rationale, they were also one of the means by which necessary starting points were set forth to lead to proofs: they were the building blocks of geometrical proofs, their necessary premises. In our diagram, the Euclidean paradigm seems to work in the same direction: the diagram is not deprived of its mathematical and geometrical connotation, rather its geometrical connotation is stressed, also in the text, and the insistent emphasis on this aspect strengthens and underpins the epistemic status of rhetoric by connecting it to geometry. Its use in the margins of the Corpus appeals to the readers' cognitive habits, suggesting the implicit and sheer necessity of rhetorical arguments. Rhetoric ends up appropriating and employing the same method to underpin proofs: through diagrams.

#### 4. Conclusion

Analysis of the diagram in the *Laurentianus* shows the relevance of diagrams in the study of rhetoric. As in the case studied here, diagrams—especially those added by later readers mainly in the margins—should be considered in their context, i.e. in dialogue with the main text. As such, they can provide a way of reading, interpreting, and conceiving of the main text: in our case, they offer an appraisal of the very figure of *kyklos*. From such a reading, moreover, as I have attempted to show, appraisals of the entire discipline of rhetoric could be inferred as well. On the whole, diagrams provide us with a dynamic way of reading the text which is not always confined to a mere summary, itinerary, or map of the text, but could allow us to see beyond it, via its implications and its undertones.

<sup>40</sup> Netz, *The Shaping of Deduction* 177–186. For an example see MS. Vienna, Österreichische Nationalbibliothek *Phil.gr.* 300, with both triangle and circle. On the use of triangular and circular figures also in other contexts see recently J. Willson, "On the Aesthetic of Diagrams in Byzantine Art," *Speculum* 98 (2023) 763–801.

In our case, the diagram makes visible what is no longer transparent by putting stress on the geometrical aspects that we tend to think of as wholly separate from rhetoric. On the contrary, to the reader who added the diagram—and who possibly added the scholion—the geometrical facet of the *kyklos* was so relevant that it should be stressed also via a visual representation that could help build the link to the foundation of geometrical education: Euclid.

The diagram works both as the result of the demonstration in Euclid and as the proof that visually sustains its validation and shows the process of creating the figure of the *kyklos*. Both the proof and the final proposition are encapsulated in this diagram: by analogy, as suggested above, they could be applied to rhetoric too by borrowing not only this very diagram but also the conceptual design that prompted it. The two disciplines end up sharing tools and their underlying concepts, proving once again how fluid and interconnected were—or at least could be—the alleged boundaries between *trivium* and *quadrivium*.<sup>41</sup>

# APPENDIX Edition and translation of the scholion in Florence, BML *Plut*. 60.15 fol. 87<sup>r-v</sup>

Τῶν σχημάτων τὰ μὲν ἐννοίας εἰσὶ σχήματα ὡς τὸ ἀποφαντικὸν καὶ τὸ ἀφηγηματικόν· ὡς ἔχει τὸ "θεὸς ἦν μὲν ἀεὶ καὶ ἔστιν καὶ ἔσται. τὰ δὲ ἑρμενείας ἤγουν φράσεως καὶ λόγου καὶ λέξεως. οἶά ἐστιν ἄλλα τέ τινα

<sup>41</sup> The research for this paper was made possible thanks to the support of the Gerda Henkel Foundation, under the Research Project AZ 08/F/22 "Necessity by Design: The Mathematics of Rhetoric in Middle Byzantine Culture." I warmly thank Prof. Aglae Pizzone and Prof. Vessela Valiavitcharska for their generous advice on previous drafts of the paper and the participants in the "Kick-off Workshop: A Rhetoric for the Empire," held at the University of Southern Denmark in June 2023, for their helpful comments on the diagram here discussed and in that context presented for the first time. I am deeply grateful to the insightful comments and suggestions of the anonymous reader, which helped me improve the final version of the paper. I remain solely responsible for any remaining mistakes.

καὶ τὰ πάρισα ὡς ἔχει τὸ "δοξάσατε, ἀπαντήσατε, ὑψώθητε."42

Διαφέρει δὲ τὰ τῆς ἐννοίας τῷ τῆς ἑρμενείας τῷ τὰ μὲν τῆς ἑρμενείας ἄμα τῷ τὴν λέξιν ἀμειφθῆναι ἀπόλλυσθαι· εἰ γὰρ ἀντὶ τοῦ "δοξάσατε" "δοξάσωμεν" εἰπών, οὐκ ἔτι μένει πάρισον τὸ σχῆμα. Τὰ δὲ τῆς διανοίας<sup>43</sup> καὶ τῆς λέξεως ἀμειφθείσης· οὐδὲν ἦττον μένειν. Αὐτίκα ἐπὶ τοῦ "θεὸς ἦν μὲν ἀεὶ καὶ ἔστιν καὶ ἔσται" ἀποφαντικοῦ [ὄντος] τοῦ σχήματος ὰν ἀμείψω τὴν λέξιν· καὶ ἀντὶ τοῦ εἰ πώποτε "ἦν" εἰπὼν "ὑπῆρχε" καὶ ἀντὶ τοῦ "ἀεὶ" "πάντοτε," μένει οὐδὲν ἦττον τὸ σχῆμα ἀποφαντικόν.

Διὰ τοῦτο καὶ ὁ τεχνικὸς ὁριζόμενος τὸν κύκλον καὶ εἰπὼν σχῆμα τὸ γένος αὐτοῦ προσέθηκε τὸ ἑρμηνείας διαφοράν. διϊστώσης ἀπὸ τῶν τῆς ἐννοίας σχημάτων ἑρμηνείας· ἔστιν ὁ κύκλος σχημα, οὐχὶ ἐνν[οίας] ὅθεν εἰ ἀμειφθῆ ἐν αὐτῷ ἡ τὸν κύκλον ποιοῦσα λέξις συναμείβεται καὶ ὅλον τὸ σχημα. εἰ γὰρ τὸ "ἦν ὅτε ταῦτα ἦν" [ἀ]μείψας εἰπὼν "ἦν ὅτε ταῦτα [ὑ]πῆρχε" συνήμειψα τῆ λέξει τὸ σχημα. Προστέθειτο τὸ αὐτό, διὰ τὴν παρήχησιν κἀ<κεί>νη γὰρ οὐκ ἐννοίας ἀλλ' ἑρμηνείας ἐστὶ σχημα· εἰ γὰρ ἀμειφθῆ καὶ ἐν αὐτῆ λέξις ἡ τὴν παρήχησιν ποιοῦσα συναμείβει καὶ τὸ σχημα. Ἐπεὶ δὲ καὶ ἡ παρήχησις σχημά ἐστιν ἑρμηνείας προσέθηκε τὸ "ἴδιόν τι κάλλος ἐμπεριέχον λόγου" διαστέλλον αὐτὸν, ἀπ' ἐκείνης ὅτι οὐχὶ τὸ αὐτὸ κάλλος ἐμποιοῦσι τῶ λόγω.

Κύκλος δὲ ἔχει ὁ ὁρισμός· κύκλος γάρ ἐστιν οὐ μόνον λόγος ἀλλὰ καὶ γραμμή. Όθεν ὁ Εὐκλείδης· "κύκλος ἐστίν, εἶπεν, σχῆμα ἐπίπεδον ὑπὸ μιᾶς γραμμῆς περιεχόμενον πρὸς ἣν ἀφ' ἑνὸς σημείου τῶν ἐντὸς τοῦ σχήματος κειμένων, πᾶσαι αἱ προσπίπτουσαι εὐθεῖαι ἴσαι ἀλλήλαις εἰσίν." Ὁ δὲ τοῦ Ἑρμογένους ἢ ἐλλείπει ἢ προσθήκην ἔχει· ἐλλείπει μὲν καθὸ (fol. 87ν) οὐ πᾶν σχῆμα κεκαλλωπισμένον κύκλος ἐστί, καὶ γὰρ καὶ ἡ παρήχησις καὶ ἡ περίοδος κεκαλλωπισμένον σχῆμά ἐστι· προσθήκην δὲ ἔχει, τὸ "γίνεται δὲ ὅτι ἀφ' οὖ ἄρξηταί τις." Τοῦτο δὲ οὐχ ὅρος ἀλλὰ λόγος ἐστὶ πεπλατυσμένος διδασκαλίας τάξιν ἐμπεριέχων· ὁ δὲ ὅρος λόγος ἐστὶ σύντομος δηλωτικὸς τῆς φύσεως τοῦ ὑποκειμένου πράγματος.

Οὕτως οὖν δεῖ λέγειν· κύκλος ἐστὶ σχῆμα λόγου ἑρμηνείας ἴδιον κάλλος ἐμπεριέχον ἐκ τῆς λέξεως ἦς ἄρχεται εἰς αὐτὴν καταλῆγον κατὰ πάντα ἀπαράλλακτον· ώσπερ γὰρ ἐκείνων διὰ τὸ ἐξ ἴσου περιφερὲς ἄδηλος ἡ ἀρχή, οὕτω δὴ καὶ ἔστιν ἀλλότριος ὑπάρχον τούτων.

"Έκ τῆς ὁμοιότητος τῶν ὀνομάτων·" καὶ πόθεν, ϙησὶ, κἀν τῷ κυκλικῷ λόγῳ ἡ ἀρχὴ ἄδηλος, ἐκ τοῦ ὅμοια εἶναι τὰ αὐτὰ ποιοῦντα ὀνόματα: Κύκλος ἐστὶ τὸ "ἀφ' ὧν ἄρξηταί τις ὀνομάτων ἢ ἡημάτων εἰς τὰ αὐτὰ καταλήγειν δύνασθαι πάλιν"· καὶ οὖτος ἐλλιπὴς ἔχει ὁ ὁρισμὸς ἤτοι τὸν τὰ οὕτω δὴ καὶ τοῦτον λέγει· κύκλος ἐστὶ σχῆμα λόγου ἴδιον κάλλος ἔχει τὸ ἀφ' ὧν ἄρξηταί τις εἰς τὰ αὐτὰ καταλήγειν ἀπαραλλάκτως· Καθὸ ὀνομάτων ἢ καὶ ἡημάτων ἐμνημόνευσεν οὐχ ὡς κατ' αὐτὰ μόνα γενομέ-

<sup>42</sup> Greg. Naz. Or. 38.1.

<sup>&</sup>lt;sup>43</sup> The author here uses the term *dianoia* instead of the previously used *ennoia* to indicate the figures of thought.

νου τοῦ κύκλου, ἀλλὰ διὰ τούτων τὰ μέρη τοῦ λόγου ἐδήλωσεν· ὀνόματα γὰρ οὐ μόνον τὰ κυρίως καλούμενα λέγεται, ἀλλὰ καὶ πᾶσα λέξις.

Οὕτω γὰρ καὶ τὸν Πλάτωνα λέγομεν καλοῖς ὀνόμασι χρήσασθαι. ἀντὶ ταῖς καλαῖς λέξεσιν. ἀλλὰ καὶ ἐν τῷ τῆς παρηχήσεως ὁρισμῷ τῷ λέγοντι τὴν παρήχησιν κάλλος ὁμοίων ὀνομάτων ἐν διαφόρῳ γνώσει ταὐτὸν ἠχούντων. τὸ ὀνομάτων ἀντὶ τῆς λέξεως ἐκεἰτο. Ἐπεὶ μὴ κατὰ μόνα τὰ κυρίως καλούμενα ὀνόματα, ἀλλὰ καὶ κατὰ τὰ ῥήματα ἡ παρήχησις γίνεται.

Among the figures, there are the figures of thought, on the one hand, like the declarative and the narrative ones. For instance, "God always was, always is, and always will be." On the other hand, there are the figures of speech, i.e., of expression and language and diction. Such, among others, are the *parisa*,<sup>44</sup> for instance "you shall glorify, encounter, elevate."

The figures of thought differ from those of speech in that the latter dissolve when the diction changes; for if instead of "you shall glorify" you say "we shall glorify," you do not have a *parison* any longer; on the contrary, the figures of thought, even when the diction changes, nonetheless remain. Say I change the diction in the declarative figure "God always was, always is, and always will be" and I utter "existed" instead of "was" and "at all times" instead of "always," the declarative figure nonetheless remains.

For this reason, the technician too, in defining the *kyklos* and classifying its genre as a figure, added "of speech" as qualification, given that speech is different from the figures of thought. The *kyklos* is not a figure of thought, and for this reason, if the language forming the *kyklos* changes, the entire figure changes along with it. For if I change this sentence "there were times when these things were ( $\eta \nu$  őτε ταῦτα  $\eta \nu$ )" by saying "there were times when these things happened ( $\eta \nu$  ὅτε ταῦτα [ $\upsilon$ ]π $\eta$ ρχε)," I changed the figure together with the diction. The same thing has been applied through the *parechesis* (alliteration), for this too is not a figure of thought, but of speech. For if the language creating the *parechesis* changes also in it, so does the figure. Since the *parechesis* too is a figure of speech, (he) added "having a certain proper beauty of discourse", thus differentiating this (*kyklos*) from that (*parechesis*) because they do not create the same verbal beauty.

<sup>44</sup> The figure of *parison* (Hermog. *On Method of Forceful Speaking* 16), i.e. "whenever the same word acquired different meanings by compounding with different syllables" (transl. Kennedy, *Invention and Method* 231), is problematic in Hermogenes too. See for instance A. Bistaffa, "In the Footsteps of John Geometres: A Comparative Study of Four Byzantine Commentaries on Pseudo-Hermogenes' *On the Method of Forceful Speaking*," in *Reading the Corpus Hermogenianum*, analyzing also this figure and the problems it creates in the commentary of John Geometres.

Yet here stands the definition of *kyklos*. For a *kyklos* is not only verbal but also linear, and for this reason Euclid says "the *kyklos* is a plane figure contained by one line such that all the straight lines falling upon it from one point among those lying within the figure equal one another." Hermogenes' definition instead is either wanting or has something additional; it is lacking inasmuch as not every beautiful figure is a *kyklos*; for both *parechesis* and *periodos* are a beautiful figure; but it has also something additional, that is "it comes to be the point from which one begins." This is not a definition, but an expansion relevant to the mode of teaching. The definition (ὅρος) instead is concise and indicates clearly the nature of the relevant subject. As a consequence, we shall rather say:

The *kyklos* is a figure of speech with its own special beauty of expression, invariable in every aspect from the word it begins with to the word it ends with; for just as the beginning of those (the circles) is indistinct due to their being equidistant and circular, so it happens to be different from these.

"From the similarity of nouns (ὀνομάτων)": and therefore, he says, even if the beginning is invisible in the circle of words, from being similar, the nouns end up becoming the very same. We have the *kyklos* when "one can end again with the very same noun or verb one began with." And as such this definition is wanting, so he adds also the following: the *kyklos* is a figure of speech, it has its special beauty, that is to end invariably with the same term it began with. So much so that he mentioned nouns and verbs not because the *kyklos* might be in connection to these alone, but because he wanted to refer through these to the different parts of the discourse: for he calls nouns (ὀνόματα) not only those which are properly called so, but any term.

In the same way we say about Plato that he used beautiful nouns instead of saying beautiful words; another case: the definition of *parechesis*, which refers to the *parechesis* as beauty arising from nouns that sound similar although they convey a different meaning. Nouns  $(\mathring{o}v\acute{o}\mu\alpha\tau\alpha)$  are there in lieu of words  $(\mathring{\lambda}\acute{\epsilon}\xi\epsilon\omega\varsigma)$ . Since it still is a *parechesis* when built around verbs  $(\mathring{p}\acute{\eta}\mu\alpha\tau\alpha)$  and not only around what we properly call nouns.

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