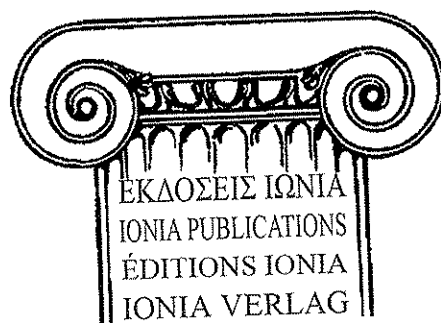


PHILOSOPHY POLITICS AND ECONOMICS

EDITED BY
MARIA ADAM & K. BOUDOURIS



ATHENS 2014

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ΕΚΔΟΣΕΙΣ ΙΩΝΙΑ
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PREFACE

The present volume contains studies and presentations which, for the most part, were presented at the 22nd, 23rd, and 24th International Conferences of Philosophy of the International Association of Greek Philosophy (IAGP) and the International Center of Greek Philosophy and Culture (ICGPC).

The papers subsequently were revised by the authors and are now being electronically published by *Ionia Publications*. The basic themes of these studies can be grouped under the general title of:

PHILOSOPHY, POLITICS AND ECONOMICS.

Due the economic crisis that continues to plague our country and due to its especially adverse effects on the funding of cultural and scientific projects, it was not possible to publish these papers separately in book form. And yet the value of these papers remains strong. In these papers one will find reflections on central problems of our times concerning philosophy, politics and economics from scholars around the globe representing different points of view and different cultural traditions. The publication of these papers, in a carefully prepared electronic format, contributes to the reduction of the economic costs of publication and helps solve a host of other issues associated with storage, mailing, distribution and circulation of ideas.

Our deep thanks go out to all who participated in these Conferences: We are especially grateful to the Speakers who, with their papers, shed light on these difficult subject matters, and to the Honorary Presidents of the IAGP, and to the volunteers, and to all who contributed in any manner to the scientific, educational, and philosophical activities of the International Association of Greek Philosophy and the International Center of Greek Philosophy and Culture.

MARIA ANTONIETTA SALAMONE

THE ARISTOTELIAN PARADIGM OF DISTRIBUTIVE JUSTICE: THE GOLDEN TRIANGLE

Abstract: The objective of this paper is to offer a mathematical and philosophical solution to the geometrical theorem that was put forward by Aristotle in the Fifth Book of the Nicomachean Ethics in relation with the search for the medium term of Distributive Justice. According to this interpretation, in fact, the just distribution of economical and political rights and duties among citizens must be a mean proportional (golden section) between the three distributive criteria: virtue (aristocracy), liberty (democracy), and wealth (oligarchy). As a matter of fact, in the application of the solution of the theorem (in the paradigm of the golden triangle) in Politics, it becomes scientifically apparent that for Aristotle the best political constitution is the Aristocratic Republic. Finally, in this paper not only is the metaphysical foundation of Aristotelian Ethics and Politics underlined (doctrine of the four causes and doctrine of the medium term), but also the mediating function of mathematical sciences in Aristotelian epistemology and ontology.

Key words: Aristotle, Ethics, Economics, Politics, Distributive Justice, Equality, Mean Proportional, Golden Proportion, Aristocratic Republic.

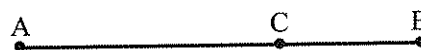
Among moral virtues Aristotle does not hesitate to point out justice or “δικαιοσύνη” as the most important one, to the analysis of which he dedicates the whole Book V of Nicomachean Ethics. The Stagirite establishes a link, even etymological, between justice, law and equality —so that it will be said that a law is politically just or right when it establishes a certain form of equality among citizens—, and distinguishes between two kinds of justice in view of the kind of equality that is to be carried out: on the one side, Distributive justice, on the other side, Corrective justice, in turn divided into Commutative and Restorative justice. Aristotle, in fact, recognizes two meanings in the word justice: 1) the just is the lawful or what he calls Political justice (whole justice); 2) the just is the equal or what he calls Distributive and Corrective justice (the parts of justice); thus, the unjust is the unlawful and the unequal. Both meanings of justice respectively define material justice and formal justice: Political justice or material justice is identified with the Law or Constitution¹ of each Republic, in other words, with the political regimes and the law that citizens put in effect with a view to promoting the common good;

1. Aristotle: *Politica*, Book III, 6. «A constitution is the arrangement of magistracies in a state, especially of the highest of all. The government is everywhere sovereign in the state, and the constitution is in fact the government. For example, in democracies the people are supreme, but in oligarchies, the few; and therefore, we say that these two forms of government also are different: and so in other cases».

while Distributive justice or formal justice refers principally to the distribution of political and economical rights and duties among citizens. Distributive justice, as it is conceived in this sense, would consist, as a consequence, in the right measure by which good things and bad things, benefits and costs, advantages and disadvantages, profits and the losses are divided among citizens. In this way, Distributive justice is a medium term between a more and a less, in other words, between the two extremes of injustice. The man who is unjust actually is the man who takes for himself more benefits and fewer costs than what corresponds to him; inequality, in fact, is a particular vice that has to be distinct from the others “being its motive the pleasure that arises from gain”, in other words from profit, and it is this vice the name “injustice” mostly applies to in particular. Furthermore, Distributive justice is differentiated from Corrective justice, which regulates in a normative way the private relations among citizens consequently punishing those who violate the laws. Corrective justice, in turn, has two dimensions: one that regulates the transactions that citizens establish among them voluntarily, such as the contracts of purchase, sale, loan for consumption, loan for use, deposit, letting, etc. (Commutative justice); and another that disciplines those relations that citizens establish or suffer involuntarily and that can be fraudulent or violent, such as theft, fraud, assassination, false witness, defamation, insult, etc. (Restorative justice). Aristotle tries to prove that, in each of these parts of justice, the best consists in the establishment of a certain equal proportion, either geometrical or arithmetical, according to what is said about Distributive or Corrective justice:

The ethic virtue of Justice

Political justice
(the Whole Justice: lawful)



Distributive and Corrective justice
(the Parts of Justice: equal)

Moreover, as regards Distributive justice, Aristotle considers that as in every kind of just or right distribution there is a more and a less, also there is what is equal; and if the unjust is unequal, the just is equal and, furthermore, a medium term between two extremes. Then, since justice is justice for people and distribution has to be applied as much to things that have to be distributed as to those to whom they are destined, it means that the medium term of Distributive justice would consist in a proportion which is formed by four terms. In order to clarify the case even more, the Stagirite argues:

«The just, therefore, involves at least four terms; for the persons for whom it is in fact just are two, and the things in which it is manifested, the objects distributed, are two. And the same equality will exist between the persons and between the things concerned; for as the letter –the things concerned– are related, so are the former; if they are not equal, they will not have what is equal, but this is the origin of quarrels and complaints –when either equals have and are awarded unequal shares, or unequals equal shares. Further, this is plain from the fact that awards should be according to merit; for all men agree that what is just in distribution must be according to merit in some sense, though they do not all specify the same sort of merit, but democrats identify it with the status of freeman, supporters of oligarchy with wealth (or with noble birth), and supporters of aristocracy with excellence. The just, then, is a species of the proportionate. Proportion is not a property of number one (μοναδικοῦ ἀριθμοῦ),² but of number in general. For proportion is equality of ratios³, and involves four terms at least. That discrete proportion involves four terms is plain, but so too does continuous proportion, for it uses one term as two and mentions it twice; e.g. as the line A is to the line B, so is the line B to the line C; the line B, then, has been mentioned twice, so that if the line B be assumed twice, the proportional terms will be four⁴. And the just, too, involves at least four terms,

2. According to Pythagoras, the number one (μοναδικοῦ ἀριθμοῦ) or the Pythagorean unit point is indivisible and this constitutes the first axiom of mathematical sciences (Euclid: *The Elements*, Book I, Definition 1, p. 1: “A point is that which hath no part, or which hath no magnitude”). What Aristotle really means here, in my opinion, is that no proportion can be constructed on the basis of a single term (liberty, wealth or virtue), because the number one or the unit point is indivisible. As we know, according to Euclid, in order to construct a proportion at least three terms are necessary (continuous proportion).
3. Euclid: *The Elements*, Book V, Definition 6, p.112: «Magnitudes which have the same ratio be called proportional ».
4. Iamblichus from Chalcis, that attended meetings of the Neoplatonic and Neopythagorean circles, kept the word “continua” for the proportion $A : B = B : C$, calling “discontinua” the one which has four different terms. Hence, Nicomachus from Gerasa observed that in order to establish a proportion, at least four terms are necessary: «Proportion consists in three terms at least” (Euclid: *The Elements*, Book V, Definition 8, p. 112). From the algebraic point of view, we can compose a continuous proportion just starting from the quantities A and B; their addition would be the third term, so that we would obtain the proportion most characteristic or continuous par excellence $(A+B) : A = A : B$. This equal proportion, applied to linear Geometry, corresponds to what Euclid called “division in mean and extreme ratio”, or Golden Proportion, that is the most logic and important asymmetric division because of its arithmetical, geometrical, architectonical, esthetical, ethical and ontological consequences (Euclid: *The Elements*, Book VI, Definition 3, p. 148: «A straight line is said to be cut in extreme and mean ratio, when the whole is to the greater segment, as the greater is to the less»). Sectioning a line AB in mean and extreme ratio means, actually, dividing it into two segments so that the greater is the mean proportional between the less and the whole. In other words, that the less is the third proportional between the whole and the greater. This actually means to make an “additive partition”: the segment AB divided in golden proportion will give the result that the whole is to the

and the ratio is the same because it joins the terms (οἷς τε καὶ ἅ) ⁵ in the same way. As the term A, then, is to B, so will C be to D, and therefore, alternando, as A is to C, B will be to D ⁶. Therefore also the whole is in the same ratio to the whole. If the division joins the terms in this way, then it joins rightly. In fact, the conjunction (σύνεσξις) ⁷ between the straight lines AC and BD is what is just in distribution, and this species of the just is a mean proportional (ἀνάλογον μέσον), and the unjust is what violates the proportion; in fact, this mean proportional is the just proportion. Mathematicians call this kind of proportion geometrical; for it is in geometrical proportion that it follows that the whole is to the whole as either part is to the corresponding part⁸. But this proportion is not continuous, for it is not divisible in only

greater segment as the greater is to the less: $(AC + CB) : AC = AC : CB = \Phi$, that is, $(1+0,618) : 1 = 1 : 0,618 = \text{number } \Phi 1,618$.

5. Unfortunately the relative pronouns οἷς τε καὶ ἅ have been translated and interpreted as if they were referring to “the people and the things” Aristotle refers to in the previous paragraph, when he introduces the general issue of the “discrete proportion” which is formed by four terms: $A : B = C : D$. Nothing is farther from truth: according to my interpretation the pronouns οἷς τε καὶ ἅ clearly refer to the terms of the “continuous proportion” which Aristotle has just explained: $A : B = B : C$. The Arabian version of Nicomachean Ethics translates this fragment exactly as I do (see Akasoy A.A. and Fidora A: *The Arabic version of the Nicomachean Ethics*, p. 302).
6. Euclid: *The Elements*, Book V, Proportion 16, p. 131: «If four magnitudes of the same kind be proportionals, they shall also be proportionals when taken alternately ».
7. In agreement with the great philologist W. D. Ross I also translate the term σύνεσξις as “conjunction” (or “point of section”), which clearly applies to a geometrical figure and not to the arithmetic sum of numeric quantities. Plato, with his poetic metaphor of the art of weaving spoke of an intersection between the yarns of a weft and a warp. Therefore it is evident that he referred esoterically to the same as Aristotle.
8. Gauthier and Jolif, as well as J. Tricot and the majority of moderns interpreters, have tried to identify the Aristotelian definition of the equal proportion with Proposition 18 of the Fifth Book of Euclidean Elements: «If magnitudes, taken jointly, be proportionals they shall also be proportionals when taken separately». This property is known as Componendo, and states that in a proportion “the sum of the antecedents is to the sum of the consequents, as each antecedent is to its own consequent”: If $A : B = C : D$, then $(A+B) : B = (C+D) : D$; for example, if $4 : 2 = 2 : 1$, then $(4+2) : 2 = (2+1) : 1$, that is to say $6 : 3 = 2 : 1$. In my opinion, this interpretation is explicitly erroneous given that, as I am going to demonstrate mathematically as well as philosophically, the Aristotelian «λόγος» refers very clearly to the Golden Section applied not to linear Geometry (longitudes), but to plane Geometry (polygons). That the geometrical concept of “the whole” doesn’t coincide with the arithmetical concept of “the sum”, or that the whole is more than the sum of its parts, is something that Aristotle already succeeded in clearing up effectively when he stated the general principle of holism: «In the case of all things which have several parts and in which totality is not, as it were, a mere heap, but the whole is something besides the parts, there is a cause» (Aristotle: *Metaphysica*, Book VII, 6). See also the definition of Euclid expressed in the Elements, Book 1, Axiom 9, p. 6: «The whole is greater than its part». Moreover, Aristotle applied the geometrical concept of the whole to his cosmos-ontology in order to explicate the greater principles of the Universe: equality and harmony: «Thus then a single harmony orders the composition of the whole –heaven and earth and the whole Universe– by the mingling of the most

one dimension *ad infinitum*⁹. This, then, is what the just is –the proportional; the unjust is what violates the proportion. Hence one term becomes too great, the other too small, as indeed happens in practice; for the man who acts unjustly has too much, and the man who is unjustly treated too little, of what is good. In the case of evil the reverse is true; for the lesser evil is reckoned a good in comparison with the greater evil, since the lesser evil is rather to be chosen than the greater, and what is worthy of choice is good, and what is worthier of choice a greater good. This, then, is one species of the just».¹⁰

As regards Distributive justice Aristotle manifests that, as it is difficult come to an agreement about the “criterion” that has to be adopted at the time of distributing economical and political rights and duties among citizens – but democrats put it

contrary principles. The dry mingling with the moist, the hot with the cold, the light with the heavy, the straight with the curved, all the earth, the sea, the ether, the sun, the moon, and the whole heaven are ordered by a single power extending through all, which has created the whole universe out of separate and different elements –air, earth, fire, and water– embracing them all on one spherical surface and forcing the most contrary natures to live in agreement with one another in the universe, and thus contriving the performance of the whole. The cause of this performance is the agreement of the elements, and the reason of this agreement is their equal proportion and the fact that no one of them is more powerful than any other, for the heavy is equally balanced with the light and the hot with the cold. Thus nature teaches us in the greater principles of the world that equality somehow tends to preserve harmony, whilst harmony preserves the universe which is the parent of all things and itself the fairest thing of all». Aristotle: *De mundo*, Chapter V.

9. I think it is quite impossible to solve this geometric problem if we don't take into consideration the geometric argument of the whole Universe –or physic three-dimensional space (longitude, altitude and latitude)– in which Aristotle explains not only that divisibility and continuity of magnitudes depend upon the number of dimensions, one sort being continuous in one dimension (longitude/linear geometry), another in two (longitude and altitude /plan geometry), and another in three or all dimensions (longitude, altitude and latitude/solid geometry), but also that the triad is the godly number of the whole Universe. The Universe, in fact, is completely perfect because it is a space divisible in all dimensions: «The science which has to do with nature clearly concerns itself for the most part with bodies and magnitudes and their properties and movements, but also with the principles of this sort of substance, as many as they may be. For of things constituted by nature some are bodies and magnitudes, some possess body and magnitude, and some are principles of things which possess these. Now a continuum is that which is divisible into parts always capable of subdivision, and a body is that which is every way divisible. A magnitude if divisible in one way is a line, if two ways a surface, and if three a body. Beyond these there is no other magnitude, because the three dimensions are all that there are, and that which is divisible in three directions is divisible in all. For, as the Pythagoreans say, the world and all that is in it is determined by the number three, since beginning and middle and end give the number of an 'all', and the number they give is the triad. And so, having taken these three from nature as (so to speak) laws of it, we make further use of the number three in the worship of the Gods. Further, we use the terms in practice in this way. Of two things, or men, we say 'both', but not 'all': three is the first number to which the term 'all' has been appropriated». Aristotle: *De Caelo*, Book I, 1.

10. Aristotle: *Nicomachean Ethics*, Book V, 3.

in liberty, oligarchs in wealth and aristocrats in virtue— and as it is impossible to construct a proportion on the basis of a single term, the medium term of Distributive justice has to be a mean proportional among the three types of criteria (in a way that no one of them is to be more powerful than any other); and the unjust is what violates this equal proportion. In fact, as Aristotle comments, in a democratic regime the criterion according to which Distributive justice is founded is the condition of the free citizen, in other words, “liberty” and, as a consequence, wealth and honors must be distributed in a proportional and equitable way among all free and equal citizens, without taking in consideration other added values; in an oligarchic regime the criterion of Distributive justice is “wealth”: in this case, the distribution of political and economical rights and duties among citizens is calculated in accordance with their level of income and property, in other words proportionally according to census; while in an aristocratic regime the criterion of Distributive justice is “virtue” and, consequently, the political and economical responsibilities are distributed proportionally to the level of goodness and education of its citizens. In addition, in order to discover the mean proportional of Distributive justice, we must find a figure that complies with the conditions which were indicated by Aristotle, as the great Philosopher asks us to solve the following geometrical theorem:

1. the mean proportional of Distributive justice is an equal proportion which is formed by four terms: $A : B = C : D$;
2. the four terms of this equal proportion have a continuous relation: $A : B = B : C$;
3. nonetheless this continuous proportion is not divisible in only one dimension, but in two or three; therefore it is not applied to Linear Geometry (longitudes), but to Plan Geometry (polygons) or to Solid Geometry (polyhedrons);
4. “the conjunction between the straight lines AC and BD is what is just in distribution, and this species of the just is a mean proportional, and the unjust what violates the proportion; in fact, this mean proportional is the just proportion”;
5. the $\lambda\acute{o}\gamma\omicron\varsigma$ that expresses the essence or the property of the equal proportion is the following: «Mathematicians call this kind of proportion geometrical; for it is in geometrical proportion that it follows that the whole is to the whole as either part is to the corresponding part».

Furthermore, taking into consideration that we have to find the mean proportional¹¹ between the three criteria of distribution (virtue, wealth and liberty), the geometrical figure will necessarily have to be a triangle which is, actually, divisible and continuous in two dimensions (longitude and altitude = polygon), and not in only one (longitude =

11. The “mean proportional” —or “geometric”— corresponds to each one of the means of a continuous geometric proportion, that is, to each one of the means that in a geometric proportion have the same value. Therefore, in the proportion $8:4=4:2$, the mean proportional is 4.

line). Therefore, the geometrical theorem could be reformulated in the following manner: "To divide a given triangle in extreme and mean ratio or golden proportion".¹² In fact, sectioning a triangle ABC (A) in mean and extreme ratio means, actually, dividing it into two triangles BDA (B) y CBD (Γ) so that the ratio of the greater triangle to the smaller is equal to the ratio of the longer side to the shorter. Thus, the geometrical theorem which was set by Aristotle can be solved, in my opinion, exclusively if we take into consideration Euclid's Elements¹³, and to be more precise the Proposition 10 of Book IV: «To describe an isosceles triangle, having each of the angles at the base double of the third angle»¹⁴. Actually, there is only one polygon with the unique and sublime ratio which is explained by Aristotle. It is the "Golden Triangle":¹⁵ in fact, a triangle is said to be cut in golden proportion when not only the area of the whole triangle is to the area of the greater triangle as the area of the greater triangle is to the area of the smaller triangle ["the whole is to the whole" (area) = $(B+\Gamma) : B = B : \Gamma$], but also the length of the whole segment is to the length of the longer segment as the length of the longer segment is to the length of the shorter segment ["as either part is to the corresponding part" (longitude) = $(AD+DC) : AD = AD : DC$].

Demonstration of the geometrical theorem:

Let ABC (A) be the given Golden Triangle with base angles of 72 degrees and a vertex angle of 36 degrees. Now divide the base angle ABC by a diagonal BD that intersects AC at D. Then consider the Smaller Triangle CBD (Γ): this triangle has the vertex angle CBD of 36 degrees and the angle BCD of 72 degrees; then the angle BDC is also of 72 degrees in a way that the triangle is also Golden and as a result, $BC=BD$. But as the Grater Triangle BDA (B) has the base angles ABD and BAD of 36 degrees and the remaining one of 108 degrees, then the triangle is also Golden and as a result, $BD=AD$. Thereby, the three sides BC BD and AD are equal in length. But as the Golden Triangles ABC (A) and CBD (Γ) are similar because

12. In the *Metaphysica* Aristotle affirms that the demonstrations of the geometric theorems are realized by dividing the figures with a diagonal. "It is by an activity also that geometrical constructions are discovered; for we find them by dividing. If the figures had been already divided, the constructions would have been obvious; but as it is they are present only potentially". Aristotle: *Metaphysica*, Book VIII, 9.

13. See also: Euclid: *The Elements*, Book II, Proposition 11, p. 54: "To divide a given straight line into two parts, so that the rectangle contained by the whole, and one of the parts, shall be equal to the square of the other part"; Book IV, Proposition 11, p. 108: "To inscribe an equilateral and equiangular pentagon in a given circle"; Book VI, Definition 3, p. 148: "A straight line is said to be cut in extreme and mean ratio, when the whole is to the greater segment, as the greater is to the less"; Book VI, Proposition 30, p. 180: "To cut a given straight line in extreme and mean ratio".

14. Euclid: *The Elements*, Book IV, Proposition 10, p. 102.

15. Any isosceles triangle with angles equal to 72, 72, 36 degrees and 36, 36, 108 degrees is said to be a Golden Triangle.

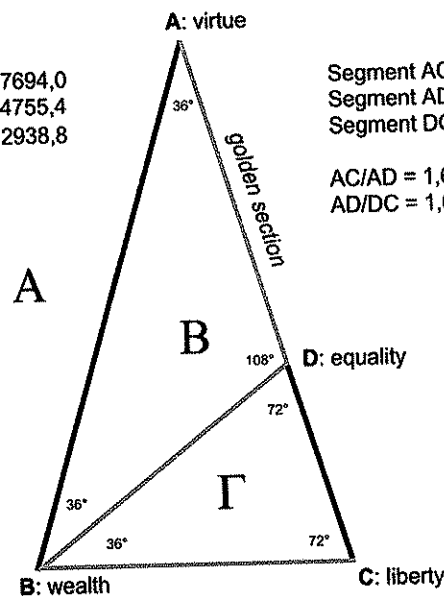
all their corresponding angles are equal, then all their sides are also proportional $AC:BC = BD:DC$. Therefore the ratio of a long side to the short side of these two triangles is the same. But since we have the hypothesis that $BC=BD=AD$, substituting the terms we have the Golden or Divine Proportion $AC:AD = AD:DC$. Consequently, "the conjunction between the straight lines AC and BD is what is just in distribution, and this species of the just is a mean proportional, and the unjust is what violates the proportion; in fact, this mean proportional is the just proportion". Actually, the diagonal BD divides the segment AC in golden proportion, with AD being the mean proportional (golden section) between the whole segment and the less. In this way, Aristotle manages to complete in a definite way the formulation of the geometrical theorem with the following definition of the ratio of the Golden Triangle: "Mathematicians call this kind of proportion geometrical; for it is in geometrical proportion that it follows that the whole is to the whole as either part is to the corresponding part". And, as a matter of fact, the property which is most extraordinary in the Triangle divided in Golden Section is that the ratio of the greater triangle to the smaller is equal to the ratio of the longer side to the shorter; and this Proportion has as a result an irrational mathematical constant: the number Φ 1,618. In fact, in a Golden Triangle, not only the area of the whole triangle is to the area of the greater triangle as the area of the greater triangle is to the area of the smaller triangle ($A : B = B : \Gamma$), but also the length of the whole segment is to the length of the longer segment as the length of the longer segment is to the length of the shorter segment ($AC : AD = AD : DC$). In such a way it is finally demonstrated that the Golden Section is the mean proportional between the three different criteria, in a way that no one of them is to be more powerful than any other.

Area ABC (A) = 7694,0
 Area BDA (B) = 4755,4
 Area CBD (Γ) = 2938,8

$A/B = 1,618$
 $B/\Gamma = 1,618$

Segment AC = 161,8
 Segment AD = 100,0
 Segment DC = 61,8

$AC/AD = 1,618$
 $AD/DC = 1,618$



Mean proportional = golden section

A triangle is said to have been divided in extreme and mean ratio (golden proportion) when not only the area of the whole triangle is to the area of the greater triangle as the area of the greater triangle is to the area of the smaller triangle (“the whole is to the whole”), but also the length of the whole segment is to the length of the longer segment as the length of the longer segment is to the length of the shorter segment (“either part is to the corresponding part”).

$$A: B = B: \Gamma^{16}$$

$$7694, 0: 4755, 4 = 4755, 4: 2938, 8 = 1,618 \text{ number } \Phi$$

$$AC: AD = AD: DC$$

$$161, 8: 100 = 100: 61, 8 = 1,618 \text{ number } \Phi$$

1. Once discovered the mean proportional of Distributive justice, that is also the formal cause of the Political justice or Constitution, we can also clarify the other causes:
2. Liberty consists in the “efficient cause” or the primary source of the change or coming to rest, which determines that the beginning of the Political justice or Constitution is found in the taking of decisions among the free and equal citizens got together in the Popular Assembly;
3. Virtue of Distributive justice is the “final cause” or that for the sake of which a thing is done, which explains that the aim of the Political justice or Constitution is the sake of a perfect and self-sufficing life: the just distribution of economical and political rights and duties among citizens or the common good;
4. Equality, as I have demonstrated, consists in the “formal cause” or the archetype which provides the essence of Distributive justice that implies the same ratio between persons (the citizens) and between things (the economical and political rights and duties). It refers to the geometrical paradigm (the golden proportion) provided by the mean proportional (the golden section) between the three criteria of distribution: virtue, wealth and liberty;
5. Wealth is the “material cause” or that out of which a thing comes to be and persists. It refers to the economical rights and duties that have to be equally shared out among free and equal citizens.

In *Politics* Aristotle, after facing these matters, actually attempts a classification of Constitutions on the basis of both the final and the formal cause of the Political justice:

- a) The final cause of the Political justice or Constitution: Distributive justice.

16. Area ABC = $100 \times 153,88/2 = 7694,0$; Area BDA = $161,8 \times 58,78/2 = 4755,4$;
Area CBD = $61,8 \times 95,11/2 = 2938,8$.

It has to be determined, at first, which the aim of a political constitution is and how many forms of government exist. It is evident that all the political constitutions that aim to the common good or to distributive justice are correct, and those which just take care of the interests of those who govern are defective and stray off straight regimes. Furthermore, Aristotle¹⁷ affirms that the sovereign power rests on the government which can be held by one or by a few or by many who can exercise it either according to Distributive justice (regarding what is best for the citizens or for the common good) or according to injustice (regarding one's own interest or the interest of those who govern). In the first case we would have the three perfect Constitutions: Monarchy, Aristocracy and Republic; while in the second case we would have the perversion of Constitutions: Tyranny, Oligarchy and Democracy. Nevertheless, at the end Aristotle considers only four Constitutions as principal, due to the fact that they are the most common: that is to say, Aristocracy, Oligarchy, Republic and Democracy (from the geometrical calculation Monarchy and its corruption, Tyranny, are excluded), of which only two are perfect.

b) The formal cause of the Political justice or Constitution:
Equality.

Once assured that Distributive justice is the goal of the Political justice or Constitution, we must also consider its formal cause, that is, Equality. And as I have explained, Aristotle proves that the most equal criterion of distribution of the sovereign power has to be obtained by determining the mean proportional among the three most common criteria: virtue, wealth and liberty. Aristotle actually explains the exigencies of justice and equity as follows: «All these considerations appear to show that none of the principles on which men claim to rule and hold all other men in subjection to them are strictly right. To those who claim to be masters of the government on the ground of their virtue or their wealth, the many might fairly answer that they themselves are often better and richer than the few—I do not say individually, but collectively. And another ingenious objection which is sometimes put forward may be met in a similar manner. Some persons doubt whether the legislator who desires to make the justest laws ought to legislate with a view to the good of the higher classes or of the many, when the case which we have mentioned occurs. Now what is just or right is to be interpreted in the sense of “what is equal;” and that which is right in the sense of being equal is to be considered with reference to the advantage of the state, and the common good of the citizens. And a citizen is one who shares in governing and being governed. He differs under different forms of government, but in the best state he is one who is able and willing to be governed

17. Aristotle: *Politica*, Book III, 7.

and to govern with a view to the life of virtue».¹⁸ To conclude, what is equally and politically right for Aristotle is arranged according to the united interests of the whole political community - including the richest (oligarchy), the best (aristocracy), and the poorest (democracy). It is not arranged just for the benefit of a single part or political faction. Oligarchic justice, as well as democratic justice, are both incomplete. Neither succeed in obtaining common good and global justice. «Let us begin by considering the common definitions of oligarchy and democracy, and what is justice oligarchical and democratical. For all men cling to justice of some kind, but their conceptions are imperfect and they do not express the whole idea. For example, justice is thought by them to be, and is, equality, not, however, for all, but only for equals. And inequality is thought to be, and is, justice; neither is this for all, but only for unequals. When the persons are omitted, then men judge erroneously. The reason is that they are passing judgment on themselves, and most people are bad judges in their own case. And whereas justice implies a relation to persons as well as to things, and a just distribution, as I have already said in the *Ethics*, implies the same ratio between the persons and between the things, they agree about the equality of the things, but dispute about the equality of the persons, chiefly for the reason which I have just given,—because they are bad judges in their own affairs; and secondly, because both the parties to the argument are speaking of a limited and partial justice, but imagine themselves to be speaking of absolute justice. For the one party, if they are unequal in one respect, for example wealth, consider themselves to be unequal in all; and the other party, if they are equal in one respect, for example free birth, consider themselves to be equal in all. But they leave out the capital point. For if men met and associated out of regard to wealth only, their share in the state would be proportioned to their property, and the oligarchic doctrine would then seem to carry the day. It would not be just that he who paid one mina should have the same share of a hundred minae, whether of the principal or of the profits, as he who paid the remaining ninety-nine. But a state exists for the sake of a good life, and not for the sake of life only: if life only were the object, slaves and brute animals might form a state, but they cannot, for they have no share in happiness or in a life of free choice. (...).Whereas, those who care for good government take into consideration virtue and vice in states. Whence it may be further inferred that virtue must be the care of a state, which is truly so called, and not merely enjoys the name: for without this end the community becomes a mere alliance which differs only in place from alliances of which the members live apart; and law is only a convention, a surety to one another of justice, as the sophist Lycophron says, and has no real power to make the citizens good and just. (...) It is clear then that a state is not a mere society, having a common place, established for

18. Aristotle: *Politica*, Book III, 13.

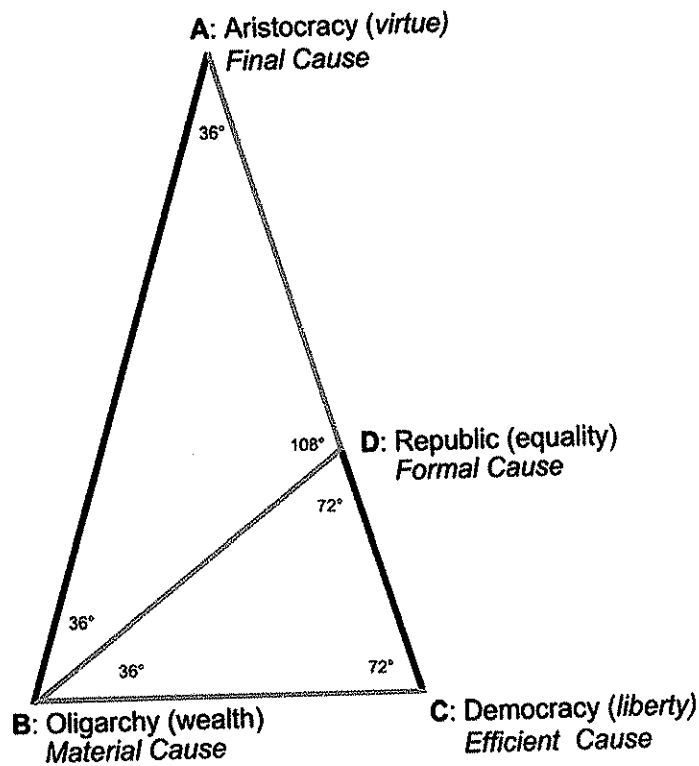
the prevention of mutual crime and for the sake of exchange. These are conditions without which a state cannot exist; but all of them together do not constitute a state, which is a community of families and aggregations of families in well-being, for the sake of a perfect and self-sufficing life. (...) Our conclusion, then, is that political society exists for the sake of noble actions, and not of mere companionship. Hence they who contribute most to such a society have a greater share in it than those who have the same or a greater freedom or nobility of birth but are inferior to them in political virtue; or than those who exceed them in wealth but are surpassed by them in virtue. From what has been said it will be clearly seen that all the partisans of different forms of government speak of a part of justice only». ¹⁹ In fact, when the time comes to define which the best political regime is, the Stagirite takes it for demonstrated in Nicomachean Ethics that the criterion that must be taken into consideration at the time of distributing political and economical rights and duties among citizens is not Virtue (Aristocracy), or Wealth (Oligarchy) or Liberty (Democracy) alone, but an equal proportion among the three criteria, or in other words, an equitable mixture "beautiful, proportionate and true" which finally has a mathematical name and surname: the Golden Proportion. What must be done now is to give it also a political name and surname, in other words: "Aristocratic Republic", provided that the aim of the Political justice is not only the prevention of mutual crime (Restorative justice) or the sake of exchange (Commutative justice), but above all the sake of a perfect and self-sufficing life (Distributive justice) and, as a consequence, the first criterion which must be taken into consideration has necessarily to be political virtue (that's why I put virtue on top of the triangle). As it is clear, the final cause (Distributive justice) and the formal cause (Equality) are finally identified for Aristotle. The Stagirite actually upholds that apart from the four principal Constitutions- Aristocracy, Oligarchy, Republic and Democracy-, there is a fifth form of government which, at the same time, is the best: the Aristocratic Republic²⁰, whose most notable examples have been given by the cities of Sparta and Carthage: «The distribution of offices according to merit is a special characteristic of aristocracy, for the principle of an aristocracy is virtue, as wealth is of an oligarchy, and freedom of a democracy. In all of them there of course exists the right of the majority, and whatever seems good to the majority of those who share in the government has authority. Now in most states the form called republic (polity) exists, for the fusion goes no further than the attempt to unite the freedom of the poor and the wealth of the rich, who commonly take the place of the noble. But as there are three grounds on which men claim an equal share in the government, freedom, wealth, and virtue (for the fourth or good birth is the result of the two last,

19. Aristotle: *Politica*, Book III, 9.

20. Aristotle: *Politica*, Book IV, 7.

being only ancient wealth and virtue), it is clear that the admixture of the two elements, that is to say, of the rich and poor, is to be called a republic (polity) or constitutional government; and the union of the three is to be called aristocratic republic (aristocracy) or the government of the best, and more than any other form of government, except the true and ideal, has a right to this name»²¹. Actually, if we apply the Aristotelian paradigm of equality, or the formal cause of Distributive justice, to the correspondent political Constitutions -Aristocracy, Oligarchy and Democracy-, we should have the following Golden Triangle in which the diagonal BD divides the segment AC in golden proportion; in a way that the Aristotelian best constitution will be identified with the mean proportional among the three different constitutions: the Aristocratic Republic (the middle form of government or the mixed constitution²²), the one about which Aristotle speaks using the city of Sparta as an example:

The Aristocratic Republic of Sparta



21. Aristotle: *Politica*, Book IV, 8.

22. See also Plato's "Theory of the mixed Constitution" which is understood as a mean proportional between two extremes, and how it was applied to the city of Sparta (Plato: *Laws*, Book III, Book IV, and Book VI).

«For these reasons the middle form of government has rarely, if ever, existed, and among a very few only. One man alone of all who ever ruled in Hellas was induced to give this middle constitution to states. But it has now become a habit among the citizens of states, not even to care about equality; all men are seeking for dominion, or, if conquered, are willing to submit»²³. As a matter of fact, only Lycurgus managed to introduce it in the magnificent city of Sparta, where the citizens were also called “equals”, because they were enjoying the same political and economical rights and duties. History shows us, Aristotle says, that the middle form of government or the Aristocratic Republic of Sparta lasted much longer and did much better than its eternal rival, the dominant and belligerent Democracy of Athens.

Perhaps now we are able to understand why Plato²⁴ and Aristotle²⁵ were ontologically in agreement when they identified God's measure of all things with the Divine Law of Justice or, as I have demonstrated geometrically in this paper, with the Divine or Golden Proportion, which holds the beginning and the end and the middle of all things that exist. Therefore, the Golden Proportion (the formal principle of the Universe in Aristotle's and Plato's philosophy), founded not only their cosmos-ontology but also their ethical and political theories: «There is an old and true saying that ‘equality produces amity’, which is right well and fitly spoken; but what the equality is which is capable of doing this is a very troublesome question,

23. Aristotle: *Politica*, Book IV, 11.

24. Plato: *Laws*, Book VI, pp. 293-295: «ATH. Let us, then speak to them thus: -O men, that God who, as old tradition tells, holdeth the beginning, the end, and the centre of all things that exist, completeth his circuit by nature's ordinance in straight, unswerving course. With him followeth Justice always, as avenger of them that fall short of the divine law; and she, again, is followed by every man who would fain be happy, cleaving to her with lowly and orderly behaviour; but whoso is uplifted by vainglory, or prideth himself on his riches or his honours or his comeliness of body, and through this pride joined to youth and folly, is inflamed in soul with insolence, dreaming that he has no need of ruler or guide, but rather is competent to guide others, - such an one is abandoned and left behind by the God, and when left behind he taketh to him others of like nature, and by his mad prancings throweth all in confusion: to many, indeed, he seemeth to be some great one, but after no long time he payeth the penalty, not unmerited, to Justice, when he bringeth to total ruin himself, his house, and his country. Looking at these things, thus ordained, what ought the prudent man to do, or to devise, or to refrain from doing? CLIN. The answer is plain: Every man ought so to devise as to be of the number of those who follow in the steps of the God. ATH. What conduct, then, is dear to God and his steps? One kind of conduct, expressed in one ancient phrase, namely, that ‘like is dear to like’ when it is moderate, whereas immoderate things are dear neither to one another nor to things moderate. In our eyes God will be ‘the measure of all things’ in the highest degree - a degree much higher than is any ‘man’ they talk of».

25. Aristotle: *De mundo*, Chapter 7: «God, then, as the old story has it, holding the beginning and the end and the middle of all things that exist, proceeding by a straight line in the course of nature brings them to accomplishment; and with him ever follows Justice, the avenger of all that falls short of the Divine Law-Justice, in whom may he that is to be happy, be from the very first a blessed and happy partaker!».

since it is very far from being clear. For there are two kinds of equality which, though identical in name, are often almost opposites in their practical results. The one of these any State or lawgiver is competent to apply in the assignment of honours –namely, the equality determined by measure, weight and number, - by simply employing the lot to give even results in the distributions; but the truest and best form of equality is not an easy thing for everyone to discern. It is the judgment of Zeus, and men it never assists save in small measure, but in so far as it does assist either States or individuals, it produces all things good; for it dispenses more to the greater and less to the smaller, giving due measure to each according to nature; and with regard to honours also, by granting the greater to those that are greater in goodness, and the less to those of the opposite character in respect of goodness and education, it assigns in proportion what is fitting to each. Indeed, it is precisely this which constitutes for us ‘political justice’, which is the object we must strive for, Clinias; this equality is what we must aim at, now that we are settling the State that is being planted». ²⁶

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26. Plato: *Laws*, Book VI, pp. 413-415.