THE EUCLIDEAN PHILOSOPHY OF UNIVERSE (NATURE)

Universe Originated NOT with BIG BANG

This article describes the Physical reality in terms of Impulse and Space, *matter*, (not as with Big Bang). It is shown what is matter and how is connected across the universe. Euclidean Geometry is proved to be the Model of Nature. A way also to the concept-ability of Euclid Geometry.

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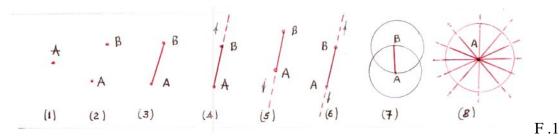
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F.2

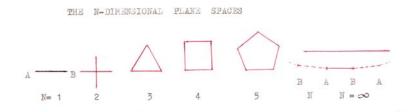
It is not Accidental the fact that the Perception and Order of Elements of the Euclidean Geometry are with so much conceptual importance to the harmonic order of Universe. This will appear clearly with the analysis which follows.

FUNDAMENTAL PRINCIPLES.

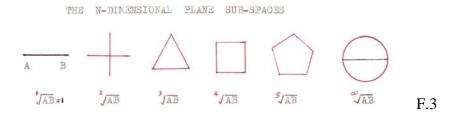
1. The Elements of Euclidean geometry are, Points, straight Lines, circle.etc,



2. The Space Layers (Regular Solids) with sides equal to $AB = 0 \rightarrow \infty$ The Increasing Plane Spaces by Reputation of the same Unit AB. [9]



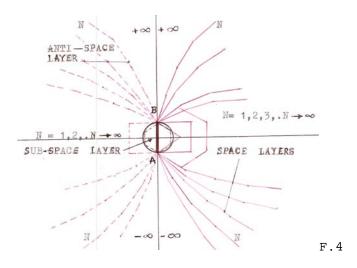
3. The Sub-Space Layers (Regular Solids on AB) as Roots of AB = $0 \rightarrow \infty$ The Decreasing Plane Spaces by Reputation of the same Unit AB. [9]



Since $\sqrt[2]{1} = \pm 1$ or $[-1 \leftrightarrow +1]$, therefore **xx** coordinate system represents Spaces and Anti-Spaces.

Since $\sqrt[3]{1} = [1, -\frac{1}{2} + (\sqrt{3}.i)/2, -\frac{1}{2} - (\sqrt{3}.i)/2]$ therefore **xx-y** coordinate system represents Spaces Anti – Spaces and + Complex numbers . + i Since $\sqrt[4]{1} = \sqrt[2]{1} = \sqrt[2]{1} = [+1, -1], [\sqrt[2]{1} = +i, -i]$ or $-1 \leftrightarrow +1, \uparrow$ therefore coordinate systems **xx-yy** represents all these Spaces . -i (Real and Complex numbers)

4. The Superposition of Plane Space, Anti-Space Layers and Sub-Space Layers: The simultaneously co-existence of Spaces, Anti-Spaces and Sub-Spaces of any Unit $AB = 0 \rightarrow \infty$, i.e., Euclidean, Elliptic, Spherical, Parabolic, Hyperbolic, Geodesics, Metric and Non-metric geometries, exists in Euclidean Model as an Sub case within .The Interconnection of Homogeneous and Heterogeneous Spaces Anti-Spaces and Subspaces of the Universe. The Unity of Opposites . [9]



1. Any single **point A**, constitutes a Unit which has neither Position (direction) nor Dimension (magnitude). It is non-dimensional = The Empty Space, (F.1,1)

Any single **point B not coinciding with A**, constitutes another Unit which has also dimension zero. Only **one straight line** (ie. The Whole is equal to the Parts, or the equation CA + CB = AB) passes through points A and B which consists another non-dimensional Unit, since it is consisted of infinite points. (F.1,2,6)

A line Segment AB between points A and B, (either points A and B are near zero or are extended to the infinite), *consists the first Unit with one dimensional*, the length AB, beginning from Unit A and a regression ending in Unit B, (F1-3) Adding a third **point C not on the straight line AB**, i.e. CA + CB > AB, then is constituted a new Unit (the Plane) without any Position or dimension, since is also consisted of infinite points without any Position (direction) or Dimension, magnitude. Quantities involving both *Direction and Magnitude*, are called *Vector quantities* and those involving only Magnitude are called *Scalar quantities*. F1-7,8.

- 2. One dimensional Unit AB is the geometrical Shape that has as Position the (direction $\hat{A}B$, $B\hat{A}$) and as Magnitude (the length $AB = 0 \rightarrow N \rightarrow \infty$).(F1-3) ds = An Infinitely small increment of length AB in the direction AB ∞ = An Infinitely great magnitude AB in the direction AB, BA.
- 3. **Spaces of Unit AB** are (in Plane) the Infinite Regular Polygons inscribed in the circle *with AB as Side*, (repetition of Unit AB) the Nth Space, the Nth Unit Tensor of the N variables (N finite Elements) and the ∞ Spaces, line AB. (F.1,4 F.2)
- 4. **Anti-Spaces of Unit AB** are (in the three dimentional space) the Symmetrically Infinite Regular Solids inscribed in the Sphere *with AB* as side of the Solid, (Harmonic Repetition of Unit BA, symmetrical to AB), the Nth Anti-Space, the Nth Unit Tensor of the N Anti-variables (the N finite Elements) and the ∞ Spaces, line BA. (F1-5), (F2)
- 5. **Sub-Spaces of Unit AB** are (in Plane) the Infinite Regular Polygons inscribed in the circle *with AB as diameter*, (Harmonic Repetition of the Roots in Unit AB) and in Nth Sub-Space, the Nth Unit Tensor of the N variables (N finite Roots and in case of ∞ Elements are the points on the circle). (F1-6), (F.3) The Superposition of Spaces, Anti-Spaces and Sub-Space Layers of Unit AB is shown in F4.

ANALYSIS OF SPACES

Unit AB creates Spaces with two basic Elements , the Position (which are the three directions $AB \to$, $BA \leftarrow$, $AB \leftrightarrow$) and the Dimension (which is the Magnitude N $N = 0 \to AB \to \infty$)

The Position AB is shown in (F.1) 3,4,5,6,7,8 – (F4), and magnitude N is as,

 $\begin{array}{lll} A = B & = & \textit{Principle of the Equality} \,. \\ A \neq B & = & \textit{Principle of the Inequality} \,. \\ A \rightarrow \longleftrightarrow & B = \infty & \textit{Principle of Virtual Displacements} \,. \, \mathbf{W} = \int P.ds = 0 \,, \,\, \mathbf{ds} = \partial W \, / \, \partial P \\ P_A + P_B & = 0 & \textit{Principle of Stability} \end{array}$

a. N = 0, Point B coincides with point A. [Principle of the Equality A = B]

The Zero Spaces, Anti - Spaces and Sub-Spaces coincide at point A which point may be anywhere, (*presupposition is the existence of Space*) and this happens only with the infinite straight lines in all directions passing through point A, which has no Position.

Empty Space, are the infinite Points on straight lines through point A which coincide with this point A .(F1.,8)

b. N = AB, Point B is such that, $0 < N < \infty$, [Principle of the Inequality $A \neq B$]

The Spaces, Anti-Spaces and Sub-Spaces are created from Unit AB with the Fix Position AB \leftrightarrow , and are the Vertices of the Regular Polygons and Anti-Polygons (inscribed in the circle with AB as side, and also inscribed in the circle with AB as diameter), and the Nth Space, the Nth Unit Tensor of the N unit variables (or N finite Elements). (F4)

Empty Space, are the Infinite Points of Spaces, Anti-Spaces and Sub-Spaces of Unit AB with Position AB \leftrightarrow , and Dimension N = AB. (F4)

c. $N = \infty$, Point B is in Infinity, $N \rightarrow \longleftrightarrow \leftarrow$, [Principle of Virtual Displacements]

The ∞ Spaces, Anti-Spaces and Sub-Spaces are created from ∞ Points only, without Position and Dimension, and are within these infinite enclosed points.

Since Spaces, Anti – Spaces and Sub-Spaces are created from Unit AB, and are Property of this Unit only, therefore these are a Restrained System (S)

Presupposition for Unit AB = ds (displacement ds), is Point A to move at the New position B (A=B), which means an IMPULSE (P) removes point A to B. Since in each Restrained System (S) the Work done (W) by Impulse (P) on a

Virtual displacements (ds > 0) is zero, or
$$W = \int P.ds = 0$$

Therefore, Each Unit AB = ds > 0 exists, by this Inner Impulse (P). i.e. The Position and Dimension of all Points which are connected across Universe and that of Spaces exists, because of this Static Inner Impulse, on the contrary should be one point only $(Primary\ Point = Black\ Hole \rightarrow ds = 0)$. Impulse is ∞ and may be Vacuum, Momentum or Potential or Induced Potential.

Since the Primary Point may be, *in either one or in many Points*, (Position) and as this is the only Opposition in this Point, therefore, this Primary Point is the first Restrained System (S) and so, this System creates **ds** following the three Principles of Equality, Inequality and Stability (Virtual displacements).

In case Primary Point is the only Point in one Point, then all points that consist the Primary Space are within this Point, interconnected with Finite and Infinite \mathbf{ds} and in Infinite Positions, where $0 < \mathbf{ds} < \infty$ and $0 < \mathbf{N} < \infty$ which coincide.

In case *Primary Point* is the only Point in Many Positions, then all Many Positions are these Points of Primary Space, and the Infinite Units $0 < AB < \infty$ create each one the Infinite Spaces, Anti-Spaces, Sub-Spaces of these Units. All Points of Universe which consist a Space, are these of Primary Space which exist in the only Point, and are connected across Universe by this Inner Impulse (P). (The Uniting of Opposites).

Empty Space, are the Infinite Points, either these coincide or not, created from a Primary Point, that creates Units (**ds**) and from them all Spaces, with all above Properties, and by the Interconnection of all Spaces all New Units with all New Spaces and so on (*The Uniting of all Opposites*). (F1, 1-8), (F4)

Since Virtual Work (*Stability of Opposites*) is related only on Impulse (P) and displacements (ds), Time or other variables are not Properties of Primary Space. The correlation of Spaces created by units AB with the $0 = N = \infty$ Unit variables (the N finite Elements = N Degrees Of Freedom) are contained Properties.

The Two Independed Variables in Universe are, Impulse ($P = 0 \rightarrow \hat{A}B \rightarrow \infty$) P = Vacuum, Momentum, Potential (Zero or Induced), Temperature or Dynamic Energy and else) and Displacement ($ds = 0 \rightarrow AB \rightarrow \infty$), Where ds in all directions is Translation and Rotation. All other Variables are Depended.

d. Since the FIRST POINT (A), may have or not --Position and Magnitude-- and as this is the only Opposition in this Point, then this Point is the first Restrained System which creates ds itself, by following the Principle of the Equality the Principle of the Inequality, and Principle of Virtual Displacements, and then creates with all the other correlated points (B) of Primary Space, Units AB, with the ∞ Altering Spaces Anti-Spaces and Sub-Spaces of these Units AB.

The Interconnection of all above is what EXISTS and what IS DONE. Each Point and Unit AB exists, by an INNER IMPULSE (P), so Space maybe defined via this fundamental quantity P, at points A,B of AB.

Conclusions 1

- a. Identifying Principles of Equality (A = B) and Inequality $(A \neq B)$, then is crated for Stability the Restrained System of Virtual Work [$\Sigma Pi. \Delta s = 0$]. Applying these Principles on Primary Point A to exist the same as it is in many Points B, Impulse $(P = 0 \to \hat{A}B \to \infty)$ and Displacement $(ds = 0 \to AB \to \infty)$ where $W = \int P.ds = 0$, create all infinite Static Primary, Spaces and Anti-Spaces.
- b. The Stability (Equilibrium) of theses Primary Spaces exists with the Negative(-∞) Anti-Spaces, based on the same identified Principle of Equality and Inequality and that of points A, A', by the equal and opposite Impulse (P, -P).

 Primary Space and Anti-Space form an Equilibrium Parent System, which is a deficite (difference) of opposite Impulse (↔ = PA + PB = 0).
- c. The infinite combinations of these two In-depended variables (P, $ds \rightarrow \Delta s$) contain in itself all infinite Static Primary Spaces. On point B exist infinite common Impulses ($P = 0 \rightarrow \hat{A}B \rightarrow \infty$), due to the Stability of the Primary Spaces and Anti-Spaces [W = P. $\Delta s = 0$, and $P_{AB} = (\Sigma Li.Pi)/\Delta s$) $i=1 \rightarrow \infty$, where Δs , Li, is any dimensional unit distance], and connects the many points within infinity.

Applying Principle of Virtual Work on any point B with P = 0, then Arises at this point B Impulse P from infinite points of Primary Space ($\Delta s = \partial W / \partial P$).

Any Unit $AB = 0 \rightarrow AB \rightarrow \infty$ of the Primary Space create infinite Spaces Anti-Spaces and Subspaces which are < a bounded State for each Space >. The beginning of the Change (Impulse P) is enclosed (bounded) in Position B and is continual in each ds, and it is the Essence and Cause of Impulse P. i.e. exists an influence flow (perpetual flux = change = activity) \leftrightarrow or

d. The Unique Case where P=0 and $\Delta s>0=AB\to\infty$ is the Primary Neutral Space [PNS]. The Spherical connection of the same points in PNS, is related on the influence ($P=0\to \hat{A}B\to\infty$) of the infinite (∞) Equilibrium Primary Spaces and Anti-Spaces. \leftrightarrow i.e. ($\Delta s=\partial W/\partial P$), or

Every point **M** of Primary Neutral Space [PNS] exists in this Space with a **deficite of Impulse** $Pm = 0 \rightarrow \infty$, due to the influence of the other Equilibrium Primary Spaces. **This Property of points in Neutral Space** is the cause of their Continuously Survive. At this point M there are all Impulses of all other Spaces. **All Points of PNS** are **Homogenous** (or all points of PNS are Equivalent) and **Isotropic** (or all directions of AB are Equivalent). Fig. 5, 6

So, influence flow \leftrightarrow of Impulse P on any Unit AB, is the communication with the Bounded Impulses, PA, PB, through this Bounded Primary Neutral Space-Anti-Space of AB, [B.P.S] or

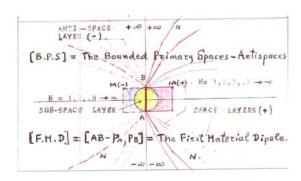
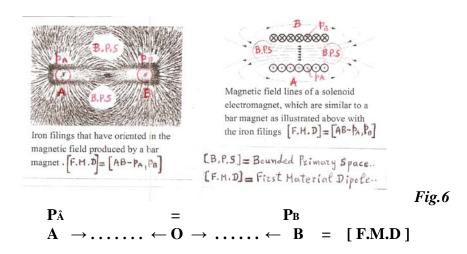


Fig. 5

Since points A, B of AB carry the bounded Impulses P_A , P_B which achieve Stable State, this allows other Primary Spaces to exist differently in the same Space. (Charges P_A , $P_B \rightarrow Electric field \rightarrow Magnetic field \rightarrow P_A$, P_B).



e. Since the Identification of Principles of Equality and Inequality create under Stability the Restrained System of Virtual Work [$\Sigma Pi. \Delta s = 0$], this new System consisted of Impulse and Displacement is a NEW UNIT. (Néa Mováda). i.e. All these New Units in all directions of , ds , (linear, Plane, three dimentional, degrees of freedom) are the Infinite Points of Primary Space and Anti-Space.

Conclusions 2

a. Any two Points A, B on Primary Space or Anti-Space, consist the first Dimentional Unit AB, so itself, using the same Principles of Equality (AB = BA) Inequality and Stability, creates all Spaces, Anti-Spaces and Sub-Spaces of Unit AB and Since are Property of this Unit only, therefore each of these bounded Spaces is a Restrained System of Unit AB. Fig 5

Since Impulse PA, PB at points A, B is Property of these points only and since also Spaces, Anti-Spaces and Sub-Spaces of Unit AB is a Restrained System of this Unit AB, therefore, Impulses PA, PB at points A, B, and the Spaces, Anti-Spaces and Sub-Spaces of Unit AB is a New Restrained System. A New Unit with a quite different Quality. THE FIRST MATERIAL UNIT [FMU]. H Πρώτη Υλική Μονάδα

i.e. The [FMD] is a DIPOLE \rightarrow the First Material Dipole [FMD = AB – PA , P B]. Δηλαδή : < Η Πρώτη Υλική Μονάδα τού Σύμπαντος είναι το Δίπολο AB > Fig. 7

This Dipole AB may be created, by the opposite displacement ds of one central point O, or by the Rotation of Dipole AB through this point O. Central point O may be the *Prime Point* or all infinite points of Spaces. The position of points A, B in Spaces and Anti-Spaces fixes the type of Dipole. [FMD] can be created and consist a Monad and a part of the whole AB. Impulses PA, PB cannot be created because are the essence of Impulse P.

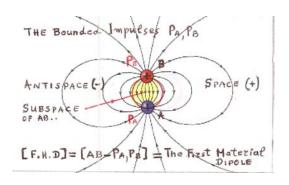


Fig. 7

Points A, B on Primary Space is the Positive Dipole which creates **matter**. **Points** A, B on Primary Anti-Space is the Negative Dipole which creates the Opposite of matter, or **Anti-matter** (the negative matter). **Points** A, B either be on one Space and Anti-Space alternatively, then is created

Points A, B either be on one Space and Anti-Space alternatively, then is created the Neutral matter and Neutral Anti-matter.

Bounded Primary Spaces-Anti-Spaces can be created, so Dipole AB on Spaces are the Units of matter, and Impulse $P \leftrightarrow [FMD = AB - PA, PB] \rightarrow PA, PB$ i.e. [Dipole AB = Matter] is the communicator of Impulse [P], with the Bounded Impulses (PA, PB) or [P] \leftrightarrow [FMD = AB - PA, PB] \rightarrow PA, PB. Fig. 7-8

Every material Dipole is consisted of AB = [ds > 0] and as, AB is the first dimentional Unit which create Spaces, Anti-Spaces (F2) and Sub-Spaces (F3) then Impulses PA, PB. exist on their superposition (F4) i.e.

Impulse into the bounded Spaces of AB, exist as a deficite of Impulse at points A and B. For AB=0 then Impulse exists in every point as Angular Momentum and For $AB=\infty$ Impulse exist in all Spaces of AB.

Bounded Impulses PA, PB cannot be created because exist as the Dipole of Spaces. Since Neutral matter is consisted of these two opposite elements (+,-), therefore all derivatives in this bounded Neutral Space can alternatively exist itself, as comprise both elements. (According to Dr. Florentine Smarandache the Unmatter)

Since Matter is made up of *Electrons*, *Protons and Neutrons* i.e. $[(-)(+)(\pm = 0)]$ and Anti-Matter is made up of *Anti-Electrons*, *Anti-Protons and Anti-Neutrons* i.e. $-[(-)(+)(\pm = 0)] = [(+)(-)(\mp = 0)]$, therefore any *Combination per two* for Matter and Anti-Matter is equal to 15 and for Neutral Matter $C_2^4 = 6$. F.8 The Combinations of the Infinite < Dipole Points > create all qualities of matter.

Considering mass as the Inertial property of matter and since matter is any Dipole AB with its properties, then what is measured is the material Dipole in a different Space. (Electricity, Magnetism, Light, Temperature, etc.), while Bounded Impulses (PA, PB) are not.

The interconnection of Spaces exists by Primary or external Impulse on them.

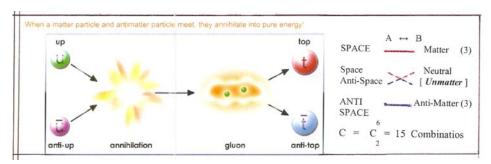


Fig 8

b. Between points A, B of [PNS] and Anti-Space, i.e. [FMD = AB – PA, PB], and on line AB exist infinite points Ai, Bi with Impulses PiA, PiB that attract each other, and so forming the first Motion of the bounded Impulses PiA, PiB. Between points A, B of [PNS] and Anti-Space, i.e. [FMD = AB – PA, PB], and on line AB exist infinite points Ai, Bi which form ∞ [FMDi = AiBi – PiA, PiB] that collide each other, and so forming the first motion of Dipole [AiBi]. All move in the first Unit AB $\leftrightarrow \infty$, with PA = PB = ∞ . [FMD = ∞ – ∞ , ∞]. Fig. 10

Motion occurs into these bounded States of [PNS] and Anti-Space, and because of the different Impulses P_A , P_B of points A, B and that of Impulses P_i , P_i , P_i , either on straight lines P_i or on tracks of Spaces, P_i and P_i so P_i bounded Space P_i is always P_i and P_i and P_i and P_i bounded Impulse P_i bounded P_i bounde

Points Ai Bi with PiA, PiB (of Spaces, Anti-Spaces, Subspaces of AB) move in Spaces of AB (Primary Space is not moving) and in case of ∞ Space, circular motion.

The Infinite Impulse $(P = \infty)$ on Neutral [B.N.S] moves these Bounded Spaces with Infinite velocity $(v = \infty \text{ m/s})$ and zero frequency f = 0. \rightarrow [M.ray]

Question. How Dipole [FMD] apply Impulse on [FMDi] ?

then

Answer . By colliding PA, PB of [FMD], on PiA, PiB of [FMDi]

Question. From where the Impulse that is used to make this happen, comes from?

Answer . From \rightarrow [M.ray], by Vibration, Rotation and Translation.

The Finite Impulse $(P = \hat{A}B)$ on Neutral [B.N.S] moves these Bounded Spaces with finite velocity $(v = c \, m/s)$ and frequency f. [All rays]

A Dipole [FMDi] can't come to be in motion unless an Impulse is applied, and an Impulse can't be applied unless there is [M.ray] available to apply the Impulse.

Since Neutral Bounded Spaces comprise derivatives of both spaces (Space, Anti-Space) and can alternatively exist itself, then motion of Dipole may occur to both Spaces with opposite Qualities (like the dual nature of Light (Photon = AB – PA, PB) as Electricity and Magnetism $PA, PB \rightarrow$). Fig 9, 10

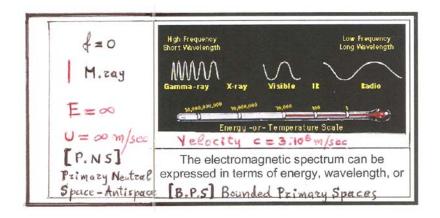


Fig . 9

MOTION IN PRIMARY SPACE and motion of DIPOLE SPACES

Motion of [B.N.S] occurs in [PNS] therefore Time exists in [PNS] and so Time cannot be substance of the Neutral Spaces. [The only one Substance is Impulse $(P = 0 \rightarrow \hat{A}B \rightarrow \infty)$ which is connected with all bounded Impulses PiA, PiB, of Displacement $(ds = 0 \rightarrow AB \rightarrow \infty)$ of Unit AB]. Time is not existing, because becomes from the motion of matter (Dipole AB). Since [M.ray] is the result of the Infinite Impulse $(P = \infty)$ on Neutral [B.N.S] which moves this Bounded Spaces with Infinite velocity $(v = \infty m/s)$ and zero frequency f = 0, therefore \rightarrow [M.ray], is a Quality Material with zero Inertia, while all others belonging to different Space Layer, are Material with finite Inertia.

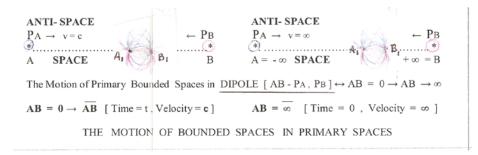


Fig. 10

Motion of Spaces ($ds \neq 0$) occurs in Primary Neutral Space ($ds = \infty$) where then exists a Stable State, and this because of Primary Space and Anti-Space.

Since this Neutral Space is the interval between , Impulse P which P is the Principle of movement , and Spaces which Spaces are the medium of movement , $(ds\neq 0)$, therefore, Motion can alternatively occur itself as that of Dipole = matter (which is particle) and as that of Impulses PA, PB (which is wave) in the Neutral matter and Neutral Anti-matter. (the one thing as Particle and as Wave Structure). or Cause on \rightarrow Communicator \rightarrow the Obvious,

and generally, the reproduction Principle for the infinite different (Monads) is \leftrightarrow Obvious through \rightarrow [Communicator = DNA] \rightarrow Obvious. i.e. the Principle Monad can reproduce itself through its bounded Communicator, (DNA).

Conclusions 3. THE AXIAL - CENTRIFUGAL MOTION OF SPACES

- a. $B' \leftarrow A \rightarrow B$ c One degree of Freedom (linear). AB = AB'b. c (b') a + (b) Two degrees (Plane) $ab = ab^r = ac = ac^r$, $ab \perp ac$, $ab^r \perp ac^r$ c. $a \downarrow B$ c^r Three degree (Globe) $a \mid B = a \mid C = a \mid B \mid A \mid B$
- 1. Since Primary point O may be at point A and in all directions (all degrees of freedom), only when exists another one point A' such that OA + OA' = 0 and $O\hat{A} + O\hat{A}' = 0$ (or OA = -OA' and $O\hat{A} = -O\hat{A}' = -O\hat{A}$), then this process is equivalent, in the two dimentional space, to the two equal and perpendicular First dimentional Units $OA \perp OB$ and OA' = -OA, OB' = -OB. (b). This is the dual nature of Dipole $AB = [matter] \perp [matter]$
- 2. It has been proved [8] that the two equal and perpendicular Units AB, AB', (in plane B'AB) construct the Isosceles rightangled triangle BAB' and the three circles on the sides as diameters. From any point D on the first circle is conscructed the square ADEH with vertices on the three circles. This Geometrical Formation is a mooving Machine and is called < Plane Formation of Constructing Squares >

The Plane System of triangle ABB' with the three circles on the sides as diameters consists the Steady Formulation, and square ADEH is the moving Changeable Formulation of this twin, System - Image (The Plane System of the Squares – Antisquares). On this System of these three circles (The Plane Procedure which is a Constant System) is created a continues and also a not continues Symmetrical Formation. The changeable System of the Regular Polygons and the Image (The Changeable System of the Regular anti-Polygons), as this is in Space and also this in Time it is proved that, in this Constant System, the Rectilinear motion ($C \leftrightarrow C$) of the Changeable Formation is Transformed into a twin Symmetrically axial-centrifugal rotation (A, AO) (the motion of Spaces) on this Constant System.

3. The conservation of the Total Impulse and Angular Momentum , as well as the conservation of the Total Energy in this Constant System with all properties included exist in this moving Spaces and Anti-Spaces (the Images) of the one-dimensional point units A, A'- B, B', as well as , in Primary ∞ Constant System .

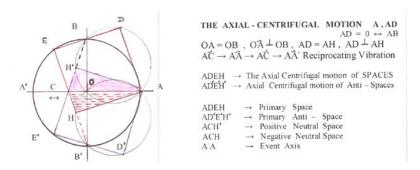


Fig ,11

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