GENERATIVE LINE
Topic: Art
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Then the heart will open to the joy, without using words, and the extraordinary greatness of the joy will not know the limits of the syllables. You sing to Him with art in the exultation
St. Agostino, The song of life (Sal 32,3)

Abstract

One of main human character is to perform ***a sense of continuity*** in each event of our creative processes when we gain a new control by a clear deep experience. This is an evolutionary process, able to connect past time to future. We can call **generative line** the structure able to preserve its *codeness* identity inside a complex adaptive process, following time evolution. After more than twenty years of experience, also in teaching and at XIX GA conference, this paper tries to investigate possible origins of the generative process as still to-day alive references of their original philosophical approach. This investigation rediscovers *Plato line* as one of the main first philosophical references of the generative approach:

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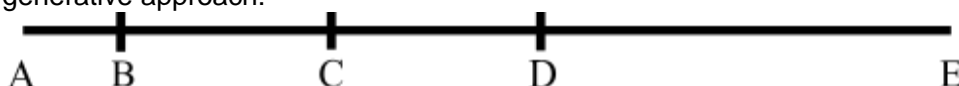
This line performs unstable relations (segments are disequal) between the real vision of the world and its shadows on one side and on the other side of the intelligible world and ideas/codes.

Words represent the 4 segments: *Shadows, Vision; Ideas, Intelligible worlds.*

Aims, tools, poetics, concepts, procedures.

This paper presents artworks **exempla** of Generative Line from many centuries, as alive structure:

1. *The dual in the Greek language.* Syllables of words impressed as on the dance: The song of Love. - 2. *Greek tragedy chorus metric - The chorus circular theater* - 3. *Su ballu tundu.* - 4. *Syrtaki* (συρτάκι), a recent Greek Dance evolution, as a mixture of the slow and fast versions of the *Hasapiko* (χασάπικο) dance of the Middle Ages. - 5. *The Copper Scroll,* this is in ancient time the incision of the text of the document on thin sheets of copper, which a connection later joined. – 6. *Alternatim,* a term employed in the medieval music to designate the alternation between voice and organ in the Psalms song. – 7. *The Annunciation by Leonardo*, a visionary point of view. – 8. *The Brunelleschi dome:* the double dome, as in a tale. "Art belongs to the past": *Hegel versus Plato*: the broken line: quantity versus quality – The death of art. H.G. Gadamer. A collective art grid for a new generative line: THE SONG OF LIFE - *Futurism – Surrealism – Dadaism. Matisse. Serge Poliakoff. Blues, Koko Tayler. GA in digital civilization* for a global world.

1. Broken Cup with 4 figures dancing in a line, taking themselves by hands performing a circle, (Museo Sanna, Sassari, room of altar in Accoddi mountain, 3200-2700 a. C.) - 2. Syrtaki Greek Dance in Zorbas Greek movie – 3. The Copper Scroll - The Dead Sea Scrolls (3Q15)

Generative Line

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Then your heart will open to the joy, without using words, and the extraordinary greatness of the joy will not know the limits of the syllables. You sing to Him with art in the exultation.
St..Agostino, The song of life (Sal 32,3)

Aim:
To discover structures of past art processes as generative procedures, able to perform codes and new evolutionary tools for artworks in our digital times. Future scenarios from past time

1. .**Rediscovering processes,** *tools, poetics, concepts, procedures.*
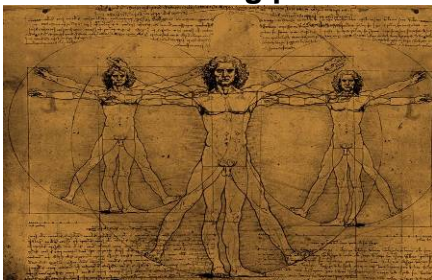
"To the stars thou look'st, mine Aster,
O would that I were Heaven,
With eyes so many thus to gaze on thee."
Diog. Laërt. III, 5,29.

After more than twenty years of experience also in teaching and at XIX conference of GA, this paper tries to investigate **possible origins of the generative process,** as still to-day *alive references* of this *original* philosophical approach.

One of main human character is to perform ***a sense of continuity*** in each event of our creative process, especially when art gains a new visionary control through a clear deep experience. This becomes an   evolutionary process, able to connect past time to future.

This investigation rediscovers ***Plato divided line*** as one of the main first philosophical references of the generative approach. The development of philosophy as science begins with Plato and Aristotle completed. At VI of the *Republic, Plato* describes the visible world of perceived physical objects and the images, that we made from them firstly in our minds and then in our artworks. This division between *visible* and *intelligible. in the Socrates and Glaucon dialog says*:

 "*Socrates: "You have to imagine, then, that there are two ruling powers, and that one of them is set over **the**

intellectual world, the other over **the visible**. …..Now take a line which has been cut **into two unequal parts** and divide each of them again in the same proportion, and suppose the two main divisions to answer, **one to the visible** and the other **to the intelligible**, ..and you will find that the first section in the sphere of the visible consists of **images**. And by images I mean, in the first place, **shadows,** Imagine, now, the other section of which this is . **everything that grows or is made"…** There are two subdivisions, in the lower of which the soul uses **the figures** given by the former division as **images**; the enquiry can only be **hypothetical,** and instead of going upwards to a principle descends to the other end; in the higher of the two, the soul passes out of hypotheses, and goes up to a principle which is above hypotheses, making no use of images as in the former case, but proceeding only in*

*and through **the ideas** themselves. ….And of this kind I spoke **as the intelligible,** although in the search after it the soul is compelled to use **hypotheses**; not ascending to a first principle, because she is unable to rise above the region of hypothesis, but employing the objects of which the shadows below are resemblances in their turn as images, they having in relation to the shadows and reflections of them a greater distinctness, and therefore **a higher value".*** [1]

This division between *the Material and the Ideal* performs the foundation of most dualism.
For many centuries, philosophers, poets, artists, architects, musicians, mathematicians and so on, discussed around this simple line, divided into 4 unequal parts.

2, ***Definitions – Investigations keys:***

We can call **generative line** the structure able to preserve its *codeness* identity inside a complex adaptive process, following time evolution.
Interpretative keys: SIMILARITY IN DIFFERENCE - Codeness
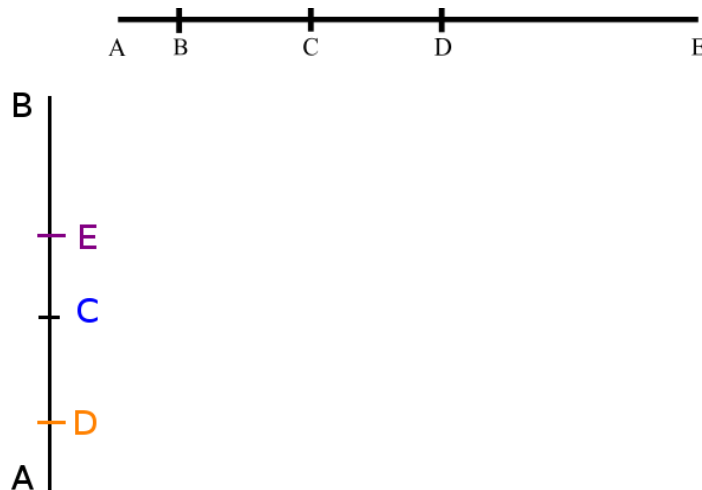
 This line performs *unstable* relations (segments are *unequal*) between the real vision of the world and its shadows, on one side, and on the other side of the intelligible world and ideas/codes. Words represent the two parts in the 4 fixed segments: ***Shadows, Vision; Ideas, Intelligible.***
Plato may have coined the word "*idea*" *(ἰδέα),* using it somewhat interchangeably with the Greek word for shape or *form (εἶδος).* The word *idea* derives from the Greek for "to have seen."
For Plato, each philosophical process grows from a hidden underground word: ***enthusiasm***.
This is like an illumination in every process of discovering from the darkness.
For long times, many researchers discussed the figuration of the Plato divided line if this is to represent **the horizontal geometric site or the vertical one**, with opposite visions.
This rises from the confusion in reading the Plato line only as a geometrical expression. It is firstly a schematic structure, where elements are connecting in dynamic procedures, It works strongly following a ***code structure***, able in its configuration to generate endless unique and unrepeatable results. This process reminds to my past investigation *about the code of tale* l[2] and *the shadow code* [3]. This code is able to identify a line that connects from a point of view the whole site, by performing ***a direction*** of the geometrical vision, connecting each element to the others.
Sometimes artists over class questions with their artworks and give clear answers to this

philosophical *querelle*, that often walks toward a street without exit.
Caravaggio made two incredible versions of the Christo Flagellation, one vertical and the second horizontal. In each of them are strongly recognizable *directions and Plato lines*.

1. Caravaggio, *Flagellation*, 134X175,5- Musée des Beaux-Arts, Rouen, 1607 – 1608
2. Caravaggio, *Flagellation*, 286X213 - Museo Capodimonte, Napoli, 1607 – 1608

In these two versions, the directions are very clear in the fragments of the column. Caravaggio performed a repositioning of the center of the opera in the second variation, putting a hidden figure under the Christo's shoulders, by performing an enlargement of the canvas of 17 cm on the right site, recapturing the over border textile. This was discovered by RX analysis during the restoring (1983-1999). This dynamic structure seems clear to follow the four elements of Plato line in a central horizontal axis, expressed by the relationship between **light and shadows**, instead of the direction is vertical. The Caravaggio need in enlarging the horizontal dimension of the painting is a demonstration of the Plato philosophical approach, as *open orientation* for a new meta-structure.
So doing, the center of the design structure has performed *a skid* in comparison to the vertical axle constituted in origin by the column in front of that the Christ is represented. The main character gained in these 2 variations is the recognizable *Flagellation codeness* expressed **in their similarity in diversity**.

3 Poetic logic: *vision – memory – imagination*

Artworks **exempla** from many centuries, as *alive structure*s of Generative Line:
1. *The dual in the Greek language.* Syllables of words impressed as on the dance: The song of Love. - 2. Uniqueness in *Greek tragedy chorus metric - The chorus circular theater* - 3. *Su ballu tundu.* - 4. *Syrtaki* (συρτάκι), a recent Greek Dance evolution, as a mixture of the slow and fast versions of the *Hasapiko* (χασάπικο) dance of the Middle Ages. - 5. *The Copper Scroll,* in ancient time an incision of **the still now not deciphered text** on thin sheets of copper, which *then* a connection joined. – 6. *Alternatim,* a term employed in the medieval music to designate the alternation between voice and organ in the Psalms song. – 7. *The Annunciation by Leonardo*, a visionary point of view. – 8. *The Brunelleschi dome:* the double dome, as in a tale.
"Art belongs to the past": *Hegel versus Plato*: the broken line: quantity versus quality – The death of art. H.G. Gadamer. A collective art grid for a new generative line: THE SONG OF LIFE - *Futurism – Surrealism – Dadaism. Matisse. Serge Poliakoff. Blues, Koko Tayler.* Duality between nature and artificium
GA in digital civilization for a global world, C.Soddu. The lines of God: *a handmade pasta*

3. Fururing Past

Culture is constituted by hidden seeds in our hearts. It is artist's task to disclose and to perform them visibly, recognizing in the tradition the certain and true roots of our creative innovating. Sometimes innovation goes behind memory, but it is in any case connected to it in innovating. We recognize **new** only in the light of our heritage that new is able to transcend.

So we can define a performing **line** the visualization from past toward a possible future.

Generative is a line that working in fragmented elements is able to perform i*nstability* in evolution by defining a double dynamic structure in changing, able to gain also ***reversibility into the process***.

The generated sequences of connections work from the left toward right and vice-versa.
 Past generates future and future regenerates past.

 A Generative Line is performed as a chaotic dynamic system, divided first into two unequal parts, and in the second step in other more two for the result of four unequal segments in connection.

Not quantity, but quality in proportions between them , following Plato categories characters:
Shadows, Vision; Ideas, Intelligible.

> *And this was the cave of the mirror,*
> *that double woman who stares*
> *at herself, as if she were petrified*
> *in time — two ladies sitting in umber chairs.*
> *You kissed your grandmother*
> *and she cried.*
> *The Double Image by* Anne Saxton, [4]

4. Poetry

From the beginning, Literature task is to tell the sense of the life ending in all the possible tones and variations. Today in our digital era, poetry finds again an ancient and different space, adapted to a new fast mutable technological configuration.

What remains and it is still underlined is the adverb ***exaiphès*** (suddenly) that if once characterized the incipit of a poetic complex trial (metrics, kind, punctuation, sonority etc.) now exhausts in itself the whole result: *the fast poem*. Aphorism becomes for its disequilibrium as poetry in prose the simplified communication of each people, that use it on internet without any hesitation of knowledge and ability.

Maybe that exercise gives to them knowledge too!

In his recension about *The Imaginary cities* by Calvino, Pasolini says that **the poetic invention** consists in **an anomalous moment** between the world of ideas and the real world.

In this diachronic site,   the word ***enthusiasm*** (*ἐνθουσιασμός*) *will be given **the quality dimension*** *of the poet or of a philosopher.*

This enthusiasm condition was described firstly by Plato, then by A.A.C.Shaftesbury (*A letter concerning enthusiasm*, 1708), finishing by Illuminists, E, Kant, K. Jaspers and so on.

For gaining quality in our artworks, we need enthusiasm!

5. METRICS GREEK CHORUS: **UNICUM AD CONTINUUM**

Characters of *similarity in difference are*:
1. The connection between male and female dancers performed a line, able of generating a circle. 2. The dancers' bodies are postured as an *hourglass*.
3. The Strong relationship between music and dancer by metrics.

The origin of chorus metrics arises from the Greek word ***στροφή (verse)***. This term originally points out the circular run that the choir completes ***dancing*** around the orchestra of the theater or in an area employed to the executions of ***the choral song***. For extension, we get this word used, when we speak about Greek choral lyric, to point out ***the poetic text of the song*** that the chorus performs while it is completing, with its dance, the turn around the orchestra. The dance turn unicity is too in chorus metric: each verse performs **a unique and unrepeatable *metric structure***, following **a generative line** between words and music. The connection between poetry and music and dance is very old! For this destination, the orchestra of the Greek theater was of circular form.
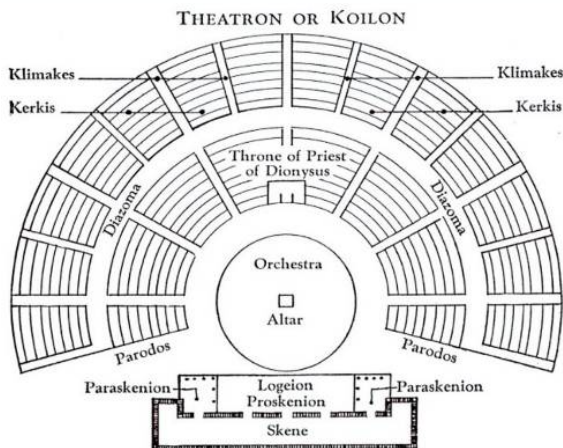
1. Ἐπίδαυρος (Epidaurus) theater plan 2. Vision at high up - The orchestra site is to perfectly circular.

Following his passion for Circus, **Fellini** directed **the ending of *8 ½*** as a revocation of the generative chorus line *by performing an ending circular dance made by all actors.*


Two Images from the end of 81/2

6. Su Ballu Tundu, an *ancient* dance still *alive*

In Sardinia, Su Ballu Tundu is a very ancient dance*,* that accompanies all ritual human events*.*

There are very ancient traces of this incredible fantastic ability. In Sassari, at the *Museum Sanna,* **a careened fragmented bowl** is exposed in the room devoted to the altar of *Accoddi* Mountain, in a showcase regarding the villages present in the area of the sanctuary in the period of the culture of Ozieri (3200 - 2700 a.C.). This is decorated with a scene of dance, where some stylized as *hourglass* figures (individualized 4) take themselves for hands **to form a sort of circle**, following an imaginary line, generating *ad continuum* **by very short steps**. Another exemplum we find at *Zuri,* actual fraction of *Ghilarza,* where is the Romanesque *St. Pietro* church, (dated 1293, opera of *Maestro Anselmo* from Como). Outside, on the right side, there is a shelf, decorated with a scene of dance, with people that dance taking by hand "*Su ballu tundu.*"
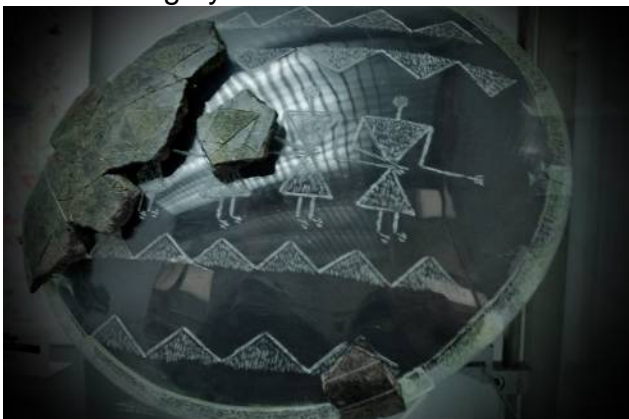
*Broken Cup*, Museo Sanna, Sassari, - 2. *St. Pietro* church, *Zuri, (Ghilarza).*

The dance belonged to the collective and always everybody can participate. It did not exist a public, that observed dancers, but all participate and all are protagonists, outside from the technical quality of their choral execution. A deep bond existed between music performers and dancers. There is a lot of literature about this ancient dance. **Valery wrote:** *"...To Pirri I went for seeing to dance the famous circular dance, **the national dance**. This is voluptuous for the way of getting together and above all **of shaking her hand**, because the dama places her arm on the right arm of the rider, holding herself to him.. with her female short feet ...,(* as said *George Sand* visiting Sardinia…) *At the bright circular dance of Pirri, participated dancers of all the ages, children too. The dance and the song always seem **the first needs** of the Sardinian people always excited. **The round dance,** where start and sometimes end the projects of marriage, is at the same time a very healthy exercise, approved by doctors and entirely proper for the climate…..."*

Performing a scheme, the distinctive lines of the *Ballu Tundu* dance are:

1. Basic choreographic structure: ***predominance of the circular dance***
2. Spatial directional vector: ***rotation in solar sense of the circle***;

3. Obligatory **connection with taking by hand** among the *balladores*;

4. Dominant posture: **erect body** with scarce mobility of the part superior and **extreme vivacity** of the inferior limbs, as the shape of a hourglass;

5. **The relationship between music-dance**: tight correspondence between the chorus dancers metric and musical metrics (**every motive of chorus dancers** corresponds to the musical **pikkiada (***musical micro-phrase***)**.

7. Syrtaki/*Hasapiko* - Greek dance
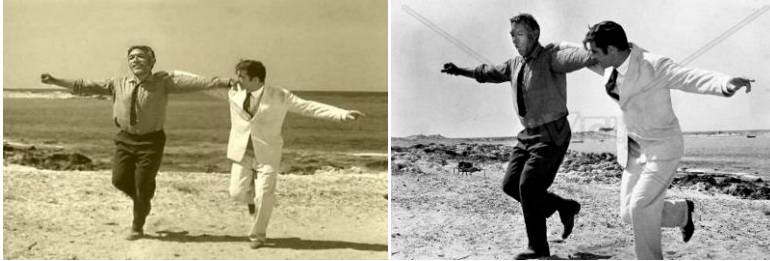
 2 Movie photograms

In Zorbas Greek movie, we discover *Syrtaki* (συρτάκι), a recent Greek Dance evolution, as a mixture of the **slow** and **fast** versions of the *Hasapiko* (χασάπικο) dance of the Middle Ages. Following different music structures and dance steps, this dance is strongly similar to *Su ballu tundu*, for the generative linearity of dancers that traces a circle by dancing.

8. The Copper Scroll (3Q15), *a mystery not yet discovered*

 The Copper Scroll - (3Q15)

This incredible discovery talks about an ancient culture, rediscovered after 2.000 years. Through its words on text, we can imagine the actions described as belonged to our similar times. *The text of the Copper Scroll (3Q15) describes vast amounts of buried treasure. "In the fortress which is in the Vale of Achor, forty cubits under the steps entering to the east: a money chest and it [sic] contents, of a weight of seventeen talents." So begins* **the first column of the Copper Scroll**, *one of the most intriguing scrolls to be found among the collection known as* **the Dead Sea Scrolls**.[5]

2 Copper Scroll visions, horizontal and vertical

It was found in 1952 in Cave 3 at Khirbet Qumran on the shores of the Dead Sea. Most of what are called the "Dead Sea Scrolls" were found by Bedouin and sold through antiquities dealers, but this one was actually discovered by archaeologists. In ancient times, the text of the document had been incised on thin sheets of copper, which were then joined together. At the time it was found, however, the document was rolled into two separate scrolls of heavily oxidized copper, which was far too brittle to unroll. For five years, scholars and experts discussed ways of opening the scroll. Finally, they decided to cut the scroll into sections from the outside using a small saw. Working very carefully they cut the scroll into 23 strips, each one curved into a half-cylinder. Before it was cut, one scholar thought he saw words for silver and gold and suggested that the scroll was a list of buried treasure. Sure enough, when it was deciphered that scholar turned out to be right! We do not know what all the words in the text mean. Most of its vocabulary is simply not found in ancient texts in Hebrew in the Bible or anything else we have from ancient times. The vocabulary of the scroll is very technical too, some of the geographical locations are unknown after so many years. There are those who have suggested that the treasure never actually existed, that the Copper Scroll is simply a work of fiction. Whom the treasure belonged to, and what happened to it, we may never know.

All these different hypotheses represent our imaginative world, that is strongly connected to the real script in each plausible interpretations, but is missed until now exaiphes, what in Socrates was costumed to appear all at once, following an intuition as a flash of light.

9. ALTERNATIM

Alternatim is a term employed in the medieval music to designate the alternation between voice and organ in the Psalms song.[6]

The Purgatory Door (miniature XIVsec.)

Io mi rivolsi attento al primo uomo,
e"Te Deunm Laudamus" mi parea
udire in voce mista al dolce suono
Tale imagine a punto mi rendea
Ciò ch'io udiva,qual prender si sole
Quando a cantar con organi si stea;
ch'or si or no si intendon le parole
Dante, La Divina Commedia, Purgatorio 9, 139-45

10. The Annunciation by Leonardo, a dynamic point of view i**n a lightness with visionary shadows**

In this painting, Leonardo designed the light in a very innovative way, dusk or down, suffused *as a white cloud*, defined **impressionist**, [7], following a visionary code for shadows, especially for Archangel shadow. Four parts divide the whole scene, following *Plato line*:

1. *The Archangel,* with *one visionary tree* in the background as an exception.
2. *The central landscape* with a cave on the mountain.
3. *The table* with impressive decorations.
4. *Mary* SS. in exceptional prospective vision.

The light is that indicated by Leonardo in his "**Treatise on painting**", as preferred for landscape painting; *"….when the sun is covered by clouds and the trees are lit by the universal light of the sky and the universal shade of the earth."*

How is it possible to justify the shadow projected by the Archangel Gabriel so marked? It might be an application, sometimes rigid, of the relationship between *light and shade* established in his *Treatise:*

"Shadow is the privation of light and is only the opposition of dense bodies and light rays…..
Shadow is more powerful than light in as much as it entirely prohibits and deprives the bodies of the light."

*The discovering of so complex connection between shadows and lightness remind to Plato line connection between the representation of mental and real world **on a horizon connected by shadows and lightness.***
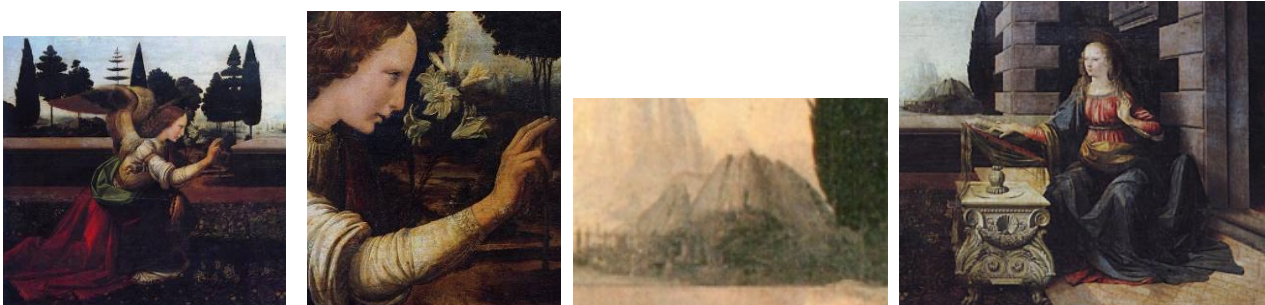
Four fragments of the Annunciation

The Archangel shadow

11. The Brunelleschi double dome: as in a tale.

For the wise man, on the contrary,
There is nothing invisible,
Alone what is not,
Alone pure absence.
Filippo Brunelleschi

There are a lot of very interesting works about the Brunelleschi dome in Florence, but no one is concerning about **why** he designed this incredible unique over the entire world double dome.

It is an invention, still to-day veiled of an unsolved mystery. We know that Brunelleschi was not an architect, but an inventor, a great inventor. About perspective, he made for first an engine able to design the relationship between measurable and infinite in perspective vision. He wrote also poems and burlesque novels, I quoted one of them in my first paper at GA'98, [8].

The mystery about S. Maria Novella dome is full of fascination for all people, especially for architects. Wright spent during his visit to Florence whole days fixing the dome, trying to solve the mystery that still is alive. By ending this excursus during centuries about Plato line, I try to perform an idea on the possible vision in Brunelleschi about *the dialects of real and imaginary* as possible indicators for the double dome vision. It might be, for the reason that one is external and so connected to the real world with its changing from light to shadows, the other one is inner, related to the sacred introspective world, where imaginative visions can rise from the sacred lightness. Over that when I suddenly had a vision of dome crossing a perpendicular street to the church, my personal impression was to walk in a tale, for the

reason that my vision was following a dimension proper of the natural world. Fantastic! The eternal beauty of resonance.

Words about the wandering structure of the double dome:

*"**Which man, whatever harsh or jealous, would not praise Filippo when seeing this enormous construction rise to the heavens, so vast that it could cover all the people of Tuscany with its shadow, and executed without the aid of beams or wooden struts."** Leon Battista Alberti (1404-1472), in the prolog of his treatise on perspective, "De Pictura"* (1435)

In the preparatory working meeting, and before being named "**capo maestro"** *(chief architect) of the building site, an antagonist to the project asked him to explain his methods and by what means he intended to execute his design for the titan's job. Fearing his project would be stolen from him, Brunelleschi simply presented an egg to the audience and said:* *"**The one who succeeds in making the egg stand up, will be worthy of getting the post."** After all tried to do so without success, Brunelleschi crushed the point of the egg on a marble table. All objected that, of course, they would have done the same* "**if they had known,"** *and Brunelleschi ironically replied that it would be the same with the dome if he revealed them* **the nature of his design.**

Today, if we examine all the creative solutions invented by the indefatigable Brunelleschi to overcome the scientific problems, in terms of physics, geometry, materials, and machinery, without forgetting the financial and political problems and those of training the manpower to apply revolutionary technologies, then one realizes **the decisive share of courage and determination without which genial ideas remain nothing but sweet idle dreams.[9]**

This is a *drawing of a statue at the entrance of Chartres cathedral in France. The donkey playing the harp, taken from* **Boethius**, *provokes the audience when Brunelleschi says:* **"The monument which you contemplate is like this beautiful harp ready to vibrate between your fingers. Will you be able to extract its secret harmony or will you be like me, a donkey with large hoofs, unable to play on it!"**

Intrigued by the challenge of vaulting the dome **since he was a child,** Brunelleschi applied solutions ripened over long years and thought-out long before. Because **he never committed his ideas to paper,** and when he did, only in cipher, *the exact way of building the dome will probably remain an eternal subject of speculation.* Nevertheless, **his unique writing is the dome itself.** However, what is known is that in Brunelleschi's time, one of his detractors, Giovanni di Gherardo da Prato, accused him of threatening the safety of the construction by his ignorance and for not having respected the *"quinto acuto"* outlined in the contract.

Da Prato, filled with utter jealousy, did not hesitate to lambaste Brunelleschi: *"Oh deep pit, dark of total ignorance, miserable animal and so laughable who wants to make the uncertain visible to all, thy absurd alchemy is without great power...."* Brunelleschi, amused, replied with his own poem:

"Since the heavens gave us high hopes, oh you, whose animal-like appearance is visible, every man can, at last, abandon the corruptible, and dispose of everything with great power. Who wrongly judges about this, looses all his assurance, since he doesn't confront anything terrible to him; for the wise man, on the contrary, there is nothing invisible, alone what is not, alone pure absence. The artist doesn't see the twaddle of the fool, but he sees if he doesn't have wrong judgments, what nature hides underneath its cloak...."

These poetic declarations by Brunelleschi are a clear reference to the Plato line as connecting art from the division between visionary tools and real constraints for generating unique unrepeatable artworks. This poem demonstrates Brunelleschi's great passion for discovering a universal *"invisible"* physical principle that he tries to unveil by reading the hidden *Mother Nature site*.

The *"Sphericam Angularem"*

This brought Brunelleschi to look for a special structure of physical geometry, a ***"self-supporting surface,"*** sufficiently light to support its own weight, but nevertheless sufficiently strong to support the lantern, while stable enough to escape the necessity of centering. Impressed by seeing the Pantheon in Rome, Brunelleschi's first approach seems to have been one of the angular sphere, the *"spericam angularem,"* meaning how we can transfer, nearly as perspective projection, the self-supporting properties and solidity in terms of geometrical coherence of the sphere onto the eight sections of the octagonal shells. The dome appears as *the product of three domes*, two visible ones and a third one invisible, the Sphericam Angularem" interconnecting the former.
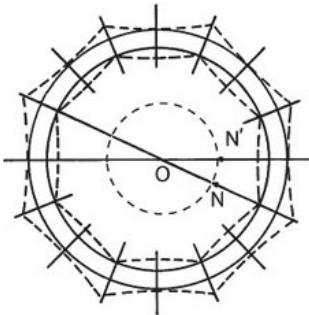
In that sense, one could say that the cupola is composed, not of two shells separated by a void, but of three shells, the third one being what one could call an "**imaginary (invisible) spherical shell**" This theory seems to be not correct, being the two domes autochthone. The imaginary dome exists ***the inner imaginative one in dialect with the external real one.*** In fact, **Alberti** wrote the following text several years after the year of completion of the dome, it gives a sense of the concepts involved: *"You can likewise turn (raise) the Angular Cupolas without a center, if you make a perfect (spherical) one in the thickness of the work. But here you will have particular occasion for ligatures to*

fasten the weaker parts of the outer one tightly to the stronger parts of that within" (The Ten Books of Architecture, Book III, Ch.XIV).

Rowland Mainstone, a structural engineer, confirms that the interior shell has been built ***"as if it were a circular dome ... but with parts cut away from both the inside and the outside to leave the octagonal cloister vault form."***

A great friend of Brunelleschi was **Toscanelli**, that worked with Piero della Francesca too, connecting them in ideas and researchers. Brunelleschi and his friends wanted also to rework the traditional use of symbols where circular motion was seen as the expression of divine perfection going at the encounter *of **rectilinear motion seen as a human imperfection.** **Nicolas of Cusa**, building on the geometrical and mathematical challenges posed by Archimedes, will develop this in his ***"Squaring of the Circle."***

After all, is not a church the house of God, a *"Domus Deus,"* and as such necessarily some kind of interface between man and God? The divine *"sphere"* *"wouldn't abandon us."*
Brunelleschi and his friends will *"climb on the shoulders"* of the best thinkers and architects of humanity to create solutions for a seemingly unsolvable problem.
When the wondering becomes able to discover new scenarios, by repeating always the same nature code, but by different points of view, by newly discovered engines, we gain expressions of art similar to a tale code.
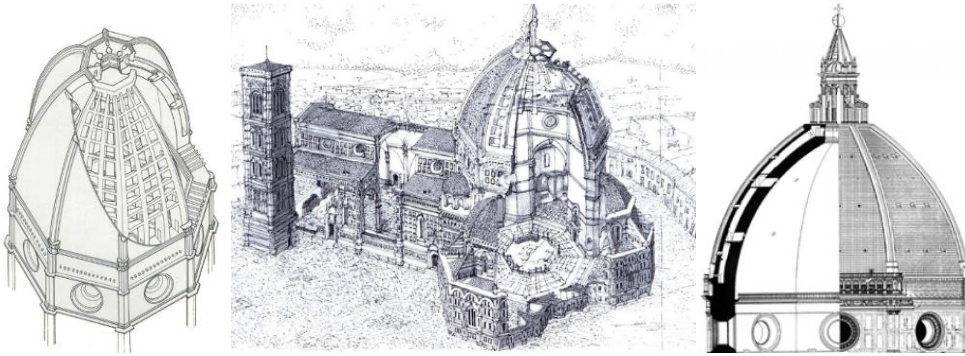
1- 3 Domes sections 2- A drawing by *Corazzi*

]

For the times they are a-schangin'.
The line it is drawn
……...The slow one now
Will later be fast
As the present now
Will later be past
Bob Dylan, The times they are a changin',1964

12. The death and the rebirth of Art

With **Hegelian** dialect philosophy, everything seems to change.
 "Art belongs to the past": Hegel declared a new time as the death of art H**. G. Gadamer** **[**10 **]** describes Hegel as a person that never answered to any questions in a positive way, but always saying: "Eh no?..." The Plato line of discovering process between the visionary world and real representation is broken with his philosophy. Idealist gets human vision into a divergent site: quantity versus quality – The end of the Plato line is the death of art. Instead, Gadamer traces a new line when says that *until will exist a philosopher performing a thinking about the reality of his/her time, there you can discover an artist too*. A new collective art enthusiasm rises for a new **generative line**: as a new song of life in Futurism – Surrealism – Dadaism. I choose between a lot of incredible artists over the death time art:
Matisse, as a generative exemplum of the eternal circular dance in the vision of his time

1. The Dance, 1910 – 2. Still Life and Dance, 1909 - The Hermitage Museum

Serge Poliakoff, a Russian painter belonged to "*La Nouvelle Ecole Francaise", that* worked with enthusiasm performing variations on a double structure as a hidden code.

Abstract Composition, 1959 – *Composition abstracte à dominante rouge*, 1959

Between other arts, Music over classed the strongly diffused and emphasized concept of Hegelian death of art. A particular new sound exploded: **the blues**, the sound of the black slaves, translated in another mother tongue.

This is their nostalgias sound in songs made in the same work acting but in another land. Inside many incredible singers, Koko Taylor gained a big success for her **rough, powerful vocals and traditional blues stylings.** Among many incredible successes, she recorded *"Wang Dang Doodle",* with several versions of the song over the years.

Blues is a generative structure in which are strongly identifiable a code as the basic rhythm and a test, but these are strongly adaptive to the singular performances, preserving in the same time all their identity, as blues rules.

13. Natural and artificial lines
Animal and stones, *dancers in line*

1. Elephants, following a light line flash.
2. Lizzatura, transportation of marble blocks from mountains caves on lizza lines

14. GA for digital civilization in a global world

Celestino Soddu made for this year of GA conference a new experiment about a possible dialog between different historical codes identity of architecture: medieval and Renaissance. These seem connected from a Plato line, for the reason that the first is built by codes as a visionary result performed by an interpretation from Simone Martini and Giotto paintings, the renaissance codes are generated by interpretations of *real* architectures.[11]
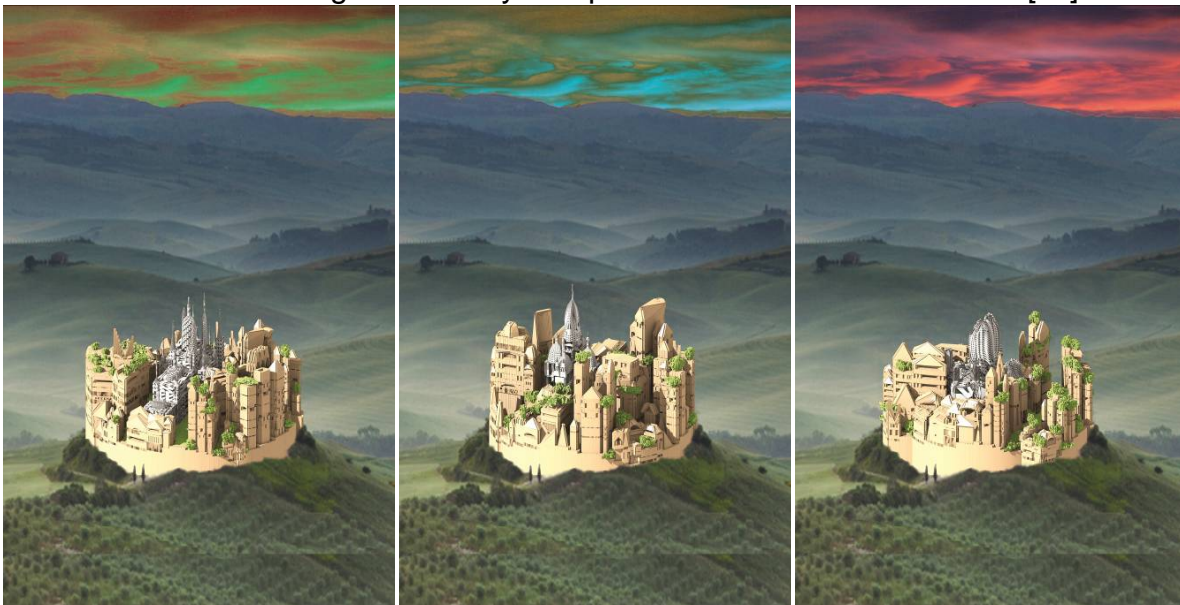
Duet, 3 variations by Celestino Soddu, 2016

15. The lines of God: *a handmade pasta*
In the town of Nuoro, Paola Abraini wakes up every day at 7 am to begin making "*Su filindeu*", "the threads of God", the rarest pasta in the world. In fact, there are only two other women on the planet who still know how to make it. For more than 300 years, the recipe and technique have only been passed down through the women in Abraini's family. "There are only three ingredients: semolina wheat, water and salt,"

Last year, a team of engineers from a pasta industry came to see if they could reproduce her technique with a machine. They couldn't. "Many people say that I have a secret I don't want to reveal," Abraini says, smiling. "But the secret is right in front of you. It's **in my hands**. But since everything is done by hand, the most important ingredient is elbow grease."" Su filindeu is made by **pulling and folding** semolina dough into **256** perfe*ctly even strands with the tips of your fingers* and then stretching the needle-thin wires *diagonally* across *a circular frame* in an intricate three-layer pattern. It's so difficult and time-consuming to prepare that for the past 200 years, **the sacred dish** has *only* been served to the faithful who complete a 33km pilgrimage on foot or horseback *from Nuoro to the village of Lula* for the biannual **Feast of San Francesco**.

3 images of Su filindeu made by Paola Abraini (in centre)

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