

Domes in time and space.

Some brief anthropological comments in the margins of conference:

“Domes in the world”

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Originally, Vitruvius

My intention is to begin by Vitruvius, "if not a creator" of 'Architecture' "at least ... legislature of this science," as presented by, in its "Preliminary Information" at the *De Architectura*, Carlo Amati, the author, as commissioned by Napoleon, of the facade and sides of the Milan Cathedral. For Vitruvius, "Architecture is a science which is adorned with more doctrines, and various eruditions, with the feeling of which it considers all those works that were completed by the remaining arts. She (The Architecture) was born from experience no less than by reason. Experience is a continued reflection on the use, which is perfected by working on any kind of materials, and rightly needed the idea of drawing. The reasoning then is what is able to show things that can be manufactured, and prove to promptly, and with the reasons of proportion¹. ("Vitruvius, De architectura) Practical experience, then know-how, and theory, i.e. scientifically acquired knowledge and scientifically provable, so these two factors are creates this science that shares much with the art. These "doctrines" by which is adorned are many and are substantiated, inter alia, in the letters that make "the strongest memory"; in Geometry, which teaches "the use of row and sixth" Arithmetic, by which "we calculate the costs of the buildings, we demonstrate the reasons for the measures ... we dissolve the difficult problems of proportion"; philosophy, as well, which "provides the" Architect of great mind"; Music "to understand the rules of the harmonic scale and mathematical reasons; Medicine" to find out what the *declinamenti* (changes) of Heaven, which the Greeks call climates, are, and what kind of airs belonging to the places are healthy and unhealthy" such as Astrology, by which "you know the ' East, West, and south parts, the North and the disposition of the Sky, Equinox, Solstice, the course of the Stars²... "(Vitruvius, op. cit.).

I add another; the Anthropology and *antropologos*, which, for Aristotle, was the one who "is interested in the affairs of Man," was and is the architect "and the finest artists," according to the famous quote from H. James because, in the words of Guy de Maupassant, he practice an art that "... it is the most mysterious and most extensive of ideas."

¹ Amati C., L'architettura di Vitruvio nella versione di Carlo Amati (1829-1830), Firenze 2004, p.4

² Amati C., op. cit., pp. 7-11



Figure 1 *De Architectura*

Furthermore, this kind of art - or science? - Is called to express:

Firmitas, i.e. stability, result of technical knowledge through which the structure is able to withstand the insults of man and time, i.e. it is able to last;

Utilitas, i.e. utility, since it must serve to the specific needs of something or someone: for many modern architects architecture is only which that creates and organizes internal spaces usable by human inhabitants;

Venustas, i.e. beauty, then expression of the aesthetic sense of the manufacturer – but also of the client ... - capable of hitting, visually and in the deep, the hypothetical observer. Then we apply the canons of Vitruvius, in an anthropological point of view, at this conference. To find out how much experience and *raziocinio* (*reasoning*), the qualities of a good architect, have been used - and identified - in the domes of the world; the so many "doctrines" that have enriched and compounded the rules and, how and how much the above mentioned; *firmitas, utilitas venustas* have led the action of the manufacturers, from the most ancient to contemporary ... To go back, according to a personal anthropological perspective, the many contributions made by conference participants of "Domes in the world" has been decided to adopt the most natural, i.e. the historical. History in the etymological sense of the greek word *istoria*, i.e. research, *investigatio*; the same root of *istor*, i.e. one who has seen (*oida*) and then know ... To be precise, "a history of slow down time, almost to the point of immobility³...: the story of long, long term ..." (Fernand Braudel, "The long term"). The story that interests the sociologist, but also the anthropologist, is this, that lasts, that which concerns the effects of which are events that go well beyond the narrow confines of their occurrence. The multitude of domes built in a very long time, at the four latitudes of the world, confirming the assumption: i.e. how and how much that form continues to fulfill its mission to centuries, millennia away since it was designed and built.

³ F. Braudel, *Scritti sulla storia*, Milano 2003

Keywords and interpretations

This historical analysis will be possible through a variety of contributions chosen with reference to the ten keywords most used by the participants at this conference. What if I have not miscalculated, are, in succession: a) dome, b) mosque c) architecture; d) geometry; s) symbology f) dome vault g) systems and building models; i) method; l) m) inheritance and concreteness.

Synthesizing, and with specific reference to the choice of key-words, that the theme of the dome has been addressed by Congress in an interdisciplinary point of view which concerns:

A) the domes in their religious dimension, from paganism to Islam, through the Catholic faith and Orthodox (example, from this point of view, the story of Santa Sofia in Istanbul);

B) the domes in their political dimension, buildings at the same time be able to affirm the principles of freedom and democracy (as in the case of the U.S. Capitol), which values its regimes less respectful of the individual and his natural rights, such as Soviet (emblematic from this point of view, the Palace of Soviets never built);

C) the domes in their initiatory dimension, therefore, as components of complex pathways strongly internalized capable of expressing messages of spiritual uplift reserved for the few, enlightened chosen ones (interesting in this regard, the case of the garden of Stourhead);

D) domes in their landscape dimension, i.e. as a distinctive element of the identity of the human landscape, a landscape understood in the manner of Eugenio Turri, as a "sign, mark, write: traces or tales of what the story gradually produces and put aside, surely."

E) the domes in their scientific and technical dimension as an expression of the capacity building of Man, an admirable synthesis - and Faustian - of his genius and his aesthetic sense, as seen from Brunelleschi's Dome and by the discover of its many secrets

The first examples

In his speech, "Continuity and change: the idea of the dome from the graves of Kurgan till the Jewish temple of Florence", **Ori Z. Soltes** cites what may be an early example of a dome, the graves of Kurgan, burial mounds of a warrior culture coming from the steppes of Ponto-Baltic, located roughly between the Black Sea and Caspian Sea, called, in fact, kurgan: turkish-tartar word-designating the hills destined for funerary use. This culture would have been the primary cause of Indo-European peoples (4000-2000 BC.), Warrior people who, thanks to advanced technology –in fact they knew metallurgy which allowed to achieve the bronze ax and the chariot combat – this above mentioned culture would submitted the pre-Indo-European populations of farmers by imposing his own religious beliefs and his own organization of society, according to a patriarchal model that placed at the top Uranian male gods: then replacing, by this way, the ancient goddesses,

expression of the previous matriarchal model⁴ (The Kurgan wave (c.3400-3200 BC) into Europe and The following transformation of culture ", Journal of Indo-European Studies 8; The language of the goddess myth and cult of the Mother Goddess in Neolithic Europe, 1989). Soltes senses the symbolic value of these extraordinary buildings interpreting the structure both as a citation of the sky, and as the womb of the pregnant female and then (likely) evocation of life beyond death, the deceased insured through his return to the womb of the earth (the dome, in fact), i.e. the bosom of the Great Mother.



Figure 2 Kurgan mound

The relationship between the dome and the binomial-death life is then caught by **Salvatore Perrucci** in his "Dome and cave", where leads back the dome, referring to the most ancient human tradition, to the cave of life. In fact, since the very earliest expressions of Homo sapiens "caves become metaphors for the womb in which man is connected to his biological matrix ... the treasure of life forces that regenerate man ..." A true "universal Genitrix," as defined by M. Eliade imagined capable to generate by herself"⁵ (M. Eliade, *The sacred and the profane*, p.93), as well as, in the Theogony of Hesiod, Gaia by parthenogenesis generates Uranus, her husband, the starry sky. Perrucci regularly evokes then the tholos tomb of the Etruscan civilization that for the etruscologist G. Camporeale could represent the "monumentalization" of another form by the same symbolic meaning of the cave, the hut.

From the depths of the generating earth, of which the tholos is the symbolic representation, comes to the surface the small marigold (*Tagete*), a child that looks like an old man who appears to the farmer Tarconte while he's plowing the fields near Tarquinia. That child by senile appearance

⁴ M. Gimbutas, *Il linguaggio della Dea*, pp. XX-XXI

⁵ M. Eliade, *Il sacro e il profano*, Torino 1973, p. 93

would then preached to a huge crowd about the principles of the Etruscan discipline - *and then Haruspicina, Fulgurales*.

Rituales - the very foundations of wisdom, magic and religion, of the people Rasenna. Marigold (Tagete), in its very name betrays, in the opinion of the great linguist G. Semerano, a Mesopotamian origin. In fact in the remote Akkadian language *tahissu* designates the book, the reminder. Mother Earth has thus generated by her bosom a wise man, able to spread the profound beauty of his knowledge to his beloved sons.

The "magic" of the Etruscan dome is found, then tells us **Gennaro Tampone**, inside some extraordinary funerary monuments such as the Etruscan tomb at Chiusi Casuccini Bonci and the Hildebrand tomb of Sovana. Forms, confirming, consistent "with the universal language of architecture" how and how much "the dome still constitutes a special design, aesthetic and technical at the same time, of spatial nature, used ... to give distinction to the rooms of spectacular complex, so designated to perform special functions of great importance. In fact, they represent a "flight "from rigid areas dominated by horizontal and vertical lines and are the result of imaginative spatial processing that uses an evocative symbolic capacity. Spontaneously recall the words of a great traveler, fascinated by this sorceress civilization, D. H. Lawrence: "For an Etruscan all was animated, the whole universe was alive and the man's job was just to live himself with that life, drawing from the great life forces that roam in the universe. As one big creature that breathed and quivered all over, the cosmos was alive. "And, in fact, these" great life forces "were also the ones that came up" by fissures in the earth, by the place of eternal rest of the lords Rasenna because , Lawrence says , "There were flames inside the earth, as the heat of the hot bowels of purple liver of a victim." And the breath of life emanating from the "largest creature ... the earth, with his internal spirit of fire."⁶



Figure 3 Tomb Hildebrand

⁶ D. H. Lawrence, *Paesi etruschi*, Siena 1985, p. 81-82

To honor all the gods

The naturalistic origin of the dome, as an expression of the "Cave of Life", is the basis of this extraordinary transaction, "art and ultra-elevated technology" that was the Pantheon. Rightly, in his "arch, dome and time in the history of architecture", **Giorgio Croci** evokes the famous "octagonal room" of the Domus Aurea, an ancient form of dome, which will then inspire the builders of the Pantheon. The next step, says Croci, "will be given by Hagia Sophia (sixth century), but we need to wait until the early Renaissance to the important step forward made by the dome of St. Maria del Fiore before, and that of S. Peter then. After St. Peter's, the time of construction and seamless integration between structure and architecture seems to vanish. "To someone, perhaps, this judgement so drastical may seem ungenerous ...".

The octagonal room is a kind of *primum movens* for the architecture. The dome that covers the basic moves from basic octagon to the section of a sphere: all without recourse to the architectural plumes. At the top a unique eye that allows light of the sun to pass through but that, symbolically, seems to evoke the idea of a force, an energy of light ... Robert Grosseteste, a Franciscan master of theology and philosopher at Oxford, who lived between the twelfth and thirteenth century, in his treatise *De Luce* (about light), said: "I think the first corporeal form, which some call corporeal, is light. In fact, light is scattered everywhere by its own power, so that by a point of light is produced a very large ball of light, if the darkness do not resisting...". For, "the source of the creative act of the universe is in the bright spot which expands itself spherically, extending the shapeless matter and becoming, therefore, the first form, or "body" (Handbook of Medieval Philosophy UNISI). Light is the most essential form of the body and gives embodiment to the room wanted by the Emperor Nero. Curious: that room with an octagonal base firmly wanted and built by an emperor passed to history for the image of mad and cruel tyrant - heavily revised history - and for the persecution of Christians found guilty of the great fire of 64 AD is become a sort of model for the baptistery. i.e. for the building that, in Nova Religio, would be served at the beginner to practice on him the first of the seven sacraments, baptism. I.e. the ritual immersion that makes (symbolically) die the *profanus* to let him reborn, cleansed from original sin, the Christian. It 's probably that just the "pagan" octagonal room has served as a model to the Emperor Constantine to make what seems like the model of all subsequent baptisteries, i.e. The Lateran, believed constructed by adapting a building set on a previous thermal plant, perhaps the so-called *Domus Faustae* ...

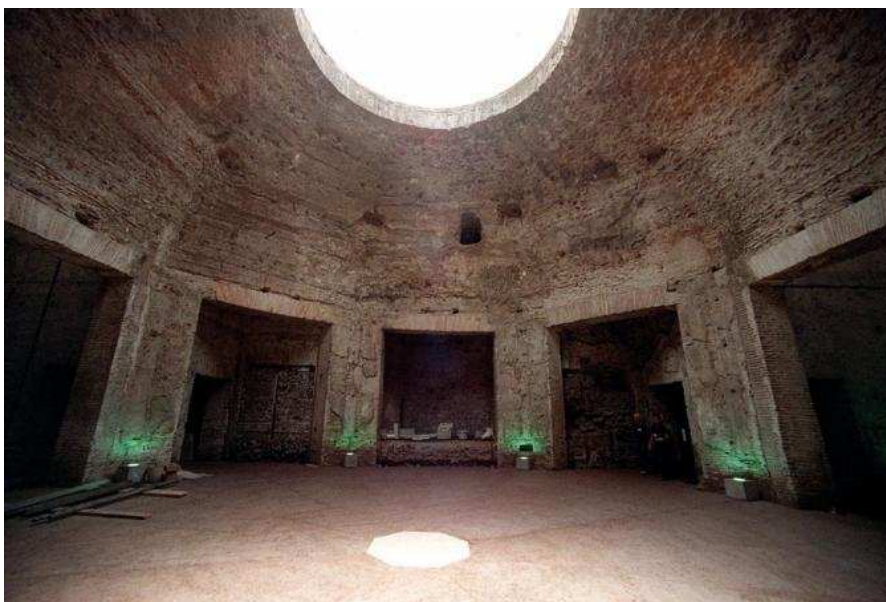


Figure 4 octagonal chamber of *Domus Aurea*

If then it is likely that the Lateran baptistery - the model for subsequent years - was born as a result of a "complete renovation" of previous buildings, it is certain that had an octagonal shape perfectly combined with Christian symbolism. This building, being reserved for the rite of entrance must necessarily, express messages of high and easy symbolic value. And so the magic number of eight: the Lord made the world in six days, the seventh he rested. The eighth day begins the *tempus* of Men, but also of their redemption as a result of the incarnation of Christ.

Even before the Lateran baptistery with the octagonal room of the house Nero was raised the Pantheon, built for the first time in 27 B.C. by Agrippa, on the place where Romulus, according to the legend, would ascend to heaven ... It was rebuilt by Apollodorus of Damascus for the disposal of the emperor-architect Hadrian between 118 and 128 AD, and belong to the same Apollodorus the pronaos with its sixteen columns, the expansion of the "round" and the concrete dome - the largest ever to be built in masonry -work built with the latest production technologies. By profane i cannot fail to notice the perfect symbiosis between the classic Greek founded on architectural orders, and the practical roman technology which is found in bold pieces of roofing material. And the extraordinary symbolic message, of a temple that can gather all the gods. And to think that Hadrian had Apollodorus exiled - who had given him incompetent - making it even murder ... "I wanted this sanctuary of all the gods representing the terrestrial globe and the celestial sphere, a globe within which are contained the seeds of eternal fire, all contained in the hollow sphere "does say M. Yourcenaur to "her" Adriano. It 's just the Pantheon, says Giorgio Croci, inspired by the Domus Aurea, with its diameter of over 40 meters the true starting point of large domes which are thereafter made in the Western world. Evoking then M. Eliade we can not detect the nature of "sacred space" sacred space as designated by God but not chosen by man, by a sign or a holy event. That, in this case is given by the heavenly rise of Romulus, the founder of the City. Precisely for this extraordinary event the Pantheon will stand in that place, the symbolic "Sacred Mountain", "center of the world," a place "crossed from 'Axis Mundi ... the union between Heaven, Earth, Hell"⁷. Inside, "the shape of space ... the shape of a perfect circle, as the basis of a perfect sphere, representing the circle of the horizon of the Roman Empire under the dome of its firmament. Space ... with clear and comprehensive limits and contained all that existed throughout the world hitherto known ... "(A. La Rocca, Architectural history of the Pantheon). *Imperium ...*" Possis nihil Urbe Roma visere majus ", would wrote Horace in his *Carmen saeculare ...* And then, on the infinite space of the Imperium, the sky opens and the eye of the gods with his eyes light blesses the glory of Rome. That extraordinary eye, the center of the dome, that is, the sky opens up to infinity, then marks the passage of generating light. The light of the *deus sol invictus*, that in what for us is December 25, begins to return to life and invincible to prevail with all his force, against the pressing darkness ...



Figure 5 The Pantheon in Rome around 1835. Drawing by W.L. Leitch, engraving by W.B. Cooke

⁷ M. Eliade, *Trattato di Storia delle Religioni*, Torino 1999, p. 386

Agia Sofia Ayasofya

The circular shape, expression of the order of the cosmos - *Kosmos*, i.e. decoration, ornament, so as to counteract the formlessness of *Xaos*, the primordial abyss - is found in the Basilica, Mosque and then museum, S. Sophia in Constantinople, then Istanbul. Alluding to the so called "Nika Revolt", a riot broke out against the Emperor Justinian in 532 who had destroyed the wooden dome of the "*megale ecclesia*" - the second piece commissioned by Theodosius II in 415 - "Procopius of Caesarea describes, in his "*De aedificis*" how was launched the great undertaking of S. Sofia. "Cause of the demeanor, they showed that they not only took up arms against the Emperor, but against none other than God himself, wicked they were!, dare ignite the Christian Church, that the people of Byzantium call "Sophia" an epithet that were more properly attributed to God, by which they call his temple, and God allowed them to do this impiety in providing this sanctuary as an object of beauty was to be transformed. "After it was possible to build the new church," a show of marvelous beauty, overwhelming to those who contemplate it, it feels incredible to those who only talk. In fact, it rises almost to touch the sky and almost swaying towers over other buildings overhanging the whole city ... Majesty and harmony of proportions adorning it and has nothing too much and too little of anything, because it is more magnificent than usual and more regular than that which is immoderate and extraordinarily flooded with light and the reflection of sunlight from the marble. You might think that the interior is illuminated from the outside, the sun, but the brightness come from the same Well, such is the richness of light that pours into this sanctuary. "Procopio is fascinated by this idea of a light inside the building, a self-irradiation that seems to express well the idea of Sophia ... through its vast spherical dome [*sphairoeides tholos*]. Perhaps it was the power of Sofia, the "whiteness of its light", started from that place, a real container of Knowledge which led, as pointed out by **Ayse Gulcin Kucukkaya and Sazuman Saza** in their work, Sultan Mehmet II, conqueror of Constantinople in that dramatic - for Christians - 1453 to maintain in that sacred place, but turned from the church into a mosque, its original name, thus moving from *Agia Sophia* to *Ayasofya*. Just the wonderful mosaics of the dome, light generators, must have struck the heart of the Sultan ... Another sensitivity, a "secular" sensitivity and not religious, expressed, in 1943, during World War II, the newly Westernized Turkish republic that , inspired by the thought of its great founder, "the young turkish" Mustafa Kemal Ataturk decreed the conversion of St. Sophia into a museum ... The cultural dimension (secular) prevailed by this way to the meaning, both political and religious, centuries before bestowed by Mohammed II ...



Figure 6 S. Sofia

The space of three books

A piece of land in the heart of old Jerusalem is, perhaps, the most sacred place in the world the size of the match - or clash? - Of the three religions "of the Book." And 'the so called level ground, artificially obtained on Mount Moriah (Har Ha-Moriah), the place where the wise Solomon built, in the ninth century BC, Beit HaMikdash, the home of Sanctification. For hundreds of years this place was the center of Jewish piety, except for the fiftieth anniversary of the "Babylonian Captivity", which ended precisely with the return to Jerusalem and the construction, in 536, of the so called Temple II, later enlarged by Herod at the time of Jesus, Temple that was finally destroyed in 70 AD by Emperor Titus. The site since then is forbidden to observant Jews because, after the overthrow of the Temple, is not possible anymore to make the rites of purification needed to enter the sacred space. The sacredness of the place is also recognized by Islam, that after Mecca and Medina, considers it as the third holy place of Muslims since the time of the conquest of Jerusalem by the Caliph Omar, in 638, which rechristened the Haram esh-Sheriff, Noble Sacred precinct. Here the Caliph had prayed on the rock of the sacrifice of Isaac (or Ishmael) and on the Al Aqsa, which is the furthest away, the farthest from Mecca, where Mohammed was transported in his famous night journey. "Glory be to Him who kidnapped His servant by night from the Holy Temple to the last Temple, with the blessed precincts, to show him of Our Signs." (Koran, Sura XVII, 1). Here was the Caliph built the Dome of the Rock ...



Figure 7 Dome of the Rock

So on, on the Temple Mount Judaism, Christianity and Islam find common roots. I would also add that the flight of Mohammed recalls other similar ascents of the pagan world, like that of Romulus from the place where would be built the Pantheon. Rightly then **Amir Salimi, Seyedmahmood Moeini, Mehdi Damaliamiri, Mehrdad Garousi** note the manifestation of a unique concept - that just combine Christianity and Islam - in the "volume and (in) the curved shape of the dome" possible allusion "to the movement from earth to heaven . "In confirmation of the assertions of T. Burckhardt, "the mausoleum covered with a dome," both common to Byzantine and to Asia, "symbolizes the union of heaven and earth; the rectangular base corresponds to the earth and the

dome to the sky ..." a true "spiritual center of the world."⁸ Perhaps specificity of the Muslim Dome - but not an exclusive if you think to the echo of the Baptistery of Pisa - is the "whisper" of the dome of the Imam Mosque in Esfahan - built in the seventeenth century - has been dealt by **Mehri Fadaei Haghi, Elham Hatami Golzari, Masoumeh Fadaei Haghi**. "In Islamic architecture space is not determined by objects, but defined by the vacuum. The Imam Mosque in Esfahan is registered the phenomenon of whispering gallery, which spreads the "whispering", transmitted through sound waves, in every part of the structure, thus highlighting the spatial dimension within which, in fact, the sound moves. "This is the sacred value of the sound, the fiat of the Eternal, which begins its creation with the words:" And God said, Let there be Light ... "Perhaps a" quotation "of the sacred syllable Om, Aum, echo of the primordial vibration of Hindu mantra. There, in that place and in that fateful year of our Lord 1099, arrived, as told by the chronicler William of Tyre, the Latins - later known as the Crusaders - that reconstruct the place of martyrdom and of the Holy Sepulchre of Christ - destroyed in the early eleventh century by Caliph "crazy" al-Hakim bi-Amr Allah - somehow respecting the earlier architectural forms, with the Anastasis (Resurrection) as an ideal center: "On the same mountain [referred to as Zion], [...] on the descent that facing east, is the church of the Holy Resurrection, with a round-form ... "(William of Tyre, *Historia rerum in partibus transmarinis gestarum*). Once again, the round shape and the light delimiting the sacredness of the place, outside the Temple Mount, at the end of the Via Dolorosa ...



Figure 7 Map of Jerusalem (Mosaic of Madaba, VI century)

Two Ghibelline cities

There is another sacred place where the uniqueness of Tradition proves, once again, in form, fascinating, of the dome, Pisa. Pisa, the Square of Miracles with its amazing Baptistery of San Giovanni, as designed by the magister Diotisalvi as conical dome, quote both of the dome of the Rock and the Anastasis. The work will be completed and partially modified by Nicola and Giovanni Pisano with the creation of a hemispherical dome (a lantern) that hides the pyramid. The applicant

⁸ T. Burckhardt, *L'arte sacra in Oriente e in Occidente*, Milano 2003, p.97

meeting contaminant of cultures is reflected in the acoustic monument, intentionally stripped inside if you exclude the pulpit, the baptismal font and a few furnishings. Note that the singer intones bounces between the walls of the Baptistery creating a unique and engaging sound, like a Gregorian chant or the call of the Muezzin ... The shape of the building evokes the idea of the breast, symbolizing the life-giving ...



Figure 8 Baptistery of Pisa

Ghibelline (in the soul) as Pisa, with whom it shared the genius of Nicola and Giovanni, Siena throws, in the twelfth century, the foundations of the cathedral. "The momentum that inspires gives it a significant turning point in the character of the Middle Ages, which is regarded as too easy to drive overall. Its weight is comparable to that of the Renaissance. is 'the cradle of the Gothic, the matrix of the mystical, the base of the scholastic". It is authentic "spiritual architecture", is spiritual vision "is" space time "and can" view "in the" paddock" "the whole history of Salvation", "the long march of the man towards the Divine, on the road to Mary, to whom the place is dedicated.⁹. At the end of that path, passing under the dome for the building that inspired Wagner for the "Grail's Palace" in his Parsifal, we reach the high altar, where an inscription now invisible reads: "There, I ask mercy," a sign of man who puts himself in the hands of the Eternal.

Of that building so remarkable for the Civitas Virginis - but just in the background of the fresco by Ambrogio in "the effects of good government in the city" - **Pietro Matracchi and Luca Giorgi** trace the history of the dome and its site especially between XII and XIV century. An "experimenter "architectural" that "has been condensed in a large building made of limestone, probably covered by a roof beam and a crypt that stretched from the apse of the transept." It was only later "made with aisles and white and green marble pillars covered with cross vaults. "... An evolutionary process that would lead, in 1260, the year of the glory of Montaperti, to deliver the contract of the pulpit to

⁹ F. Ohly, *La Cattedrale come spazio dei tempi. Il Duomo di Siena*, Siena 1970, pp. 9 and following

Nicola Pisano. This year lead also to the construction of "a Cathedral intermediate with the building of the dome ... "And with the possibility offered by the new baptistery," to expand apse and transept "so much to induce, during construction, to think the" New Cathedral which has to transform the old cathedral built so far in the transept of the new building". The great unfinished of Siena, first due to structural failure, which caused the ceasing of the works, on the outbreak of the plague of 1348, then ... In spite of hostile fate, the Sienese were still able, in the middle of the thirteenth century ,to maintain the dome of the Romanesque cathedral in transferring on the structures of the new Gothic cathedral. "... The six pillars were replaced and a large part of the octagon drum, which supported the oldest Romanesque dome, with many new and large pillars that made it compatible with the space of the new cathedral." This is the hypothesis of A. Brogi¹⁰ that suggests that the presence of Arnolfo di Cambio, surely alongside Nicola Pisano between 1266 and 1268, and could have used that experience later, for S. Maria del Fiore.



Figure 9 Dome of the Cathedral of Siena (internal)

The secret of Sir Filippo

From Siena to the usual rival Florence. Of which **Roberto Corazzi and Giuseppe Conti** reveal the secrets of the dome of Santa Maria del Fiore investigating "the inside parts ... that contain, behind layers of plaster and brick cladding, the true secrets of a resistant section that covers one of the largest space of antiquity and is very well maintained, not disrupted by the weather, for over five centuries. "a secret hard to understand, both for the construction technique - and about which

¹⁰ A. Brogi, *Sacro e Profano nell'architettura religiosa Toscana da Nicola Pisano a Filippo Brunelleschi*, in: M. Asceri, V. Serino (ed.), *Nei giardini di Toth*, Siena 2007, p.28

Messer Filippo Brunelleschi had left nothing in writing- both for the (considerable) size: the outer diameter is in fact equal to our 54 meters; the base, which is located 55 meters above the ground, reaches 91 meters and, with the lantern, reaching about 116 meters; the weight is about 29,000 tons ... Here, then revealed the secret, with the premise that the dome in fact, is formed by two domes: an internal one, i.e. the main structure with a thickness of about 2.2 meters, and an outer, thinner (about 0.9 meters). It 's the latter that protects the inner dome from the elements, making it "the most magnificent and expanded". So the secret lies in this inner dome and was discovered using precisely the technologies of our time, such as ground penetrating radar, tomography, endoscopy and metal detector: There are three layers that make up the internal structure and the intermediate is not only made of brick, as the other two, but also reveals the presence of a strategic ferrous material ... Flexibility and strength ... and rightly Corazzi and Conti occur, to explain the work of Brunelleschi, to the category of secrecy, and not the mystery ... In his famous *Iconologia*, whose first edition appeared in the late sixteenth century, Cesare Ripa, in recovering, as written by P. Buscaroli, "the whole paraphernalia of the Christian world culture" deposited "on the pile of ancient culture", represents the secrecy, which is the taciturnity, in the shape of a "woman in black dress, with her right ring placed over the mouth in place of imprint, and a Frog at her feet."¹¹ Black let does not pass other colors; the ring on the mouth means that the secret is kept in case of preservation of the silent, and the frog belongs to the dumb species which are located in parts of Africa and the Aegean.



Figure 9 Dome of Santa Maria del Fiore

To these principles were strictly adhered Sir Filippo in his time, even with strong disapproval of his contemporary colleagues ... And then another consideration: that beautiful, extraordinary Dome, was the work of a man, small and ugly but, in fact, having a boundless capacity , of which Giorgio Vasari describes the (not pleasant) features. Cause of his works returned with news the great lesson of Vitruvius: "Architecture is a science, which is adorned with manifold knowledge, and with which you can adjust all the work you do in every art." And then, another innovation, this time of operational methodology, carried out by Sir Filippo. A methodology that completely redesigned, as pointed by Corazzi and Conti, the organizational model of the building site with the resulting "affirmation" of a new professional, the architect, who were recognized talent, technique and

¹¹ C. Ripa, *Iconologia*, Milano 1992, pp. 400-401

practice of site-as well as specific theoretical and professional skills. " The architect, therefore, assumed, in this way, those features that assimilate him to the professional of our time: he plans, directs the work planning trends; controls during construction that the workers, now separated from him, respect directions and finally checks the goodness of supplies.

Peter is here

Mario Docci has taken a big task, a tusk that, running his scientific biography, presents itself as one of the milestones in his life as a scholar and researcher: to rebuild the complex history of the dome of St. Peter, that's perhaps the best known monument of Christianity , the same symbol of the papacy and the primacy which, in the name of the first of the Apostles, is exercised, from Rome, on the whole ecumene. Why there, indeed, is Peter, his earthly remains that the vast epigraphist Margherita Guarducci had identified after interpreting the seven Greek letters already engraved on the so called Red Wall, inside a tomb, *Pet eni*, i.e., in greek language *Petros enesti*, Peter is here. A tradition preserved if it is true that, after the demolition of the old Constantinian basilica, the current dome of Bernini smoothly covers the altar of the same Bernini, under which are still preserved the bones of the Fisher ...

"On April 18, 1506 Pope Julius II laid the first stone of one of the four large columns supporting the dome designed by Donato Bramante. Five hundred years have passed since then and St. Peter's has become the church we know today. During this long period of time several brilliant architects have worked on this unique, magnificent building admired by the whole world. De facto two basilicas were built over the tomb of Christ successor, the original church built by Constantine and the new basilica, which was finally completed when the construction of Bernini's portico was completed in 1657, some 165 years later." A simple reminder of anthropology: a unique project in which they worked - and continue to work again - crowds of architects for the Fabbrica of St. Peter, in confirming the manner of speaking about a job that never ends, is the building of St. Peter. Because time, *sub specie aeternitatis*, doesn't exist, is an endless present ...

The reconstruction of the different phases of the dome of St. Peter proposed by Docci is impressive, more for the quality of choices for the names participating in the company: Bramante, Raphael, Antonio da Sangallo the Younger and Michelangelo, Vignola, Giacomo Della Porta ... The best of the best. And certainly impresses the extraordinary ability of Michelangelo, but also the criticism of the project of Sangallo which created a virtual model showed in the two levels of archivolt arches at the base of the dome, citation of the Coliseum, while the lantern and the area between the lantern and the dome was enriched by numerous conical spiers crowned by small spheres, quoting the late-Gothic. Certainly Michelangelo was Michelangelo but ...



Figure 10 Dome of St. Peter's (internal)

Studium ac Sapienia

One of the most charming places in Rome is, of course, the sixteenth-century Palazzo della Sapienza started on a project by Guidetto Guidetti and Pirro Ligorio in 1562 and ended in the early seventeenth century. Here was set the headquarters of the Studium Urbis, founded in the early fourteenth century by Boniface VIII. Here Urban VIII decided to build the chapel of the Studium, dedicated to St. Ives, patron of lawyers, delegating the expensive but prestigious task to Francesco Borromini. Here was, in 1660, for the consecration of the building, Pope Alexander VII Chigi, who would then fitted this important institution of the famous Bibliotheca Alexandrina, in large part fueled with duplicates of the Chigi library. An area of knowledge, of devotion, of beauty ... And right here Francesco Borromini, Member, rightfully, of the ranks of the great geniuses of architecture - although the idea on him showed by his rival, Gian Lorenzo Bernini – he made one of his masterpieces. Rightly **Laura De Carlo and Emanuela Chiavoni** emphasize the originality of this tormented man - so depressed to commit suicide - yet extraordinarily brilliant, as, indeed, finds his work in Sant'Ivo alla Sapienza. Surely a singular church where, as he said Bruno Zevi, the dome, so the sky, does not fall on the ground. But, on the contrary, is the land that rises to heaven. "... Is the vertical plane, the homogeneous slope of a unitary space" that is mentioned here, and that goes up and ends with the spiral (admirable) of the lantern. Perhaps expression of the thrust to research, of the irresistible desire for knowledge which manifested itself in that place, La Sapienza of Rome? The spiral, imitating the plant kingdom calls the enveloping movement of the screw. But it is also typical of the animal world with the propeller of the nut that has the property of curl counterclockwise. And today, after the discovery of Watson, Crick and Wilkins, the DNA, the container of all the information that generates and organize the lives of all beings, appears in the characteristic shape of the double helix. The spiral, with the wrapping line, is therefore, quite right, a symbol of life, fertility and evolution. Borromini was then printed in that place, the house of knowledge, the symbol of a process of ascent able to express the titanic pride of Man's capacity. He, Francesco Borromini from Bissone on Lake Lugano belonged to that extraordinary coterie of master masons who, for centuries, have migrated from their valleys to the south, to transfer in the stones of the many factories of Lombardy, Tuscany, Rome, his wisdom of architects, sculptors and stonecutters. Perhaps descendants of the legendary Masters of Como ... Perhaps he acquired the symbol of the spiral, with its extraordinary capacity to evoke the "land that rises to the sky" when he came "in Rome, little more than a teenager, called by Maderno, his distant relative and from Ticino as him as an assistant to the building of St. Peter's Square and at Palazzo Barberini ... probably he breathed the Neoplatonists and Copernican moods that Giordano Bruno had created and circulated in the earnest minds of the seekers of truth, new or old as the world, but repudiated for centuries. "(O . Tufelli, travertine and Kabbalah)



Figure 11 Dome of St. Ivo alla Sapienza (internal)

"Other" cultures

This tendency toward "other cultures", dissonant, often not well tolerated, finds himself in a great English garden, in that of Stourhead in Wiltshire in southwest England, of which **Marion Mako** tells us about the restoration of the so called Temple of Apollo, edited to re-create, through the dome, the effect of a golden sun capable of radiating the light brought by the god. The Temple of Apollo is one of the elements, decorative but also symbolic, that compose the garden of Stourhead, owned by the wealthy banker Henry Hoare (1705/1785), in strong smell of Freemasonry. The complex is a real initiation garden with Roman bridge, Temple of Flora (Ceres), Pantheon, artificial lake sort of symbolic eye and, indeed, the Temple of Apollo. V. Cazzato, which has occupied much in "esoteric construction", consider it one of the most important initiation gardens of the period. "The garden is the place of memory, theater of an initiation journey punctuated by stational buildings. The walk around the lake offers once again the journey of Aeneas and his descent into hell. The scenes follow a sequence whereby each factory is a site connected with Virgil's poem and the story of the virgilian hero who, across the Mediterranean, reached the coasts of the Peninsula passing several tests."¹². A path, similar to others that are also found in Italy - such as the Peacock of Siena, built in first half of the nineteenth century by the mason architect Agostino Fantastici - and always with the same meaning: Life is a maze from which you can only go out if a generous Arianna has given her providential thread ...

¹² V. Cazzato, *Giardini esoterici*, in M: Fagiolo, *Architettura e Massoneria, l'esoterismo nelle costruzioni*, Roma 2006, p. 203



Figure 12 Temple of Apollo at Stourhead garden

The power of the symbol, and therefore the force of the meaning, are found in "The Capitol temple of democracy USA" by **David Asatiani**. Rightly it emphasized the symbolic power of the U.S. Capitol, built in compliance with a world view and life entirely consistent with the history of the American people. It was built, apparently, based on indications of one of the fathers of the American homeland, Thomas Jefferson, strongly influenced by the architectural organization and the symbolic message of the ancient Roman temples, and in particular from the Pantheon. The dome of the U.S. Capitol building, then, in analogy with the Pantheon, the sacred space dedicated to the worship of all the Roman gods, would be the temple of democracy, which embraces all the American people.

"People have not to be afraid of their governments, but governments should fear their people". This is one of the most famous phrases of Jefferson, who confirms his philosophy of the Enlightenment, and his unyielding secularism, and its unconditional support for the rights of man, his idea of a federal state. The Roman Capitol, seat of the Temple of Jupiter Optimus Maximus, to which ideally refers the American one, was the sacred site of the City where "every teenager who takes the toga of manhood ... comes to offer a sacrifice" and where "the consuls open their years of power ...". Here, "at the Kalends of January ... after drawing the auspices of the night before, the new leaders of Rome", covered the insignia of their dignity, goes to honor Zeus", accompanied by the Senate, magistrates, priests and by the people. They offer the sacrifice promised and formulate their own votes. The Senate then enters the temple, and chaired by the new consuls, held the first session ...".¹³ Symbols and rituals of the oldest republic in the world which, ideally, joined itself to the youngest republic in the world ...

¹³ G. Dumézil, *La religione romana arcaica*, Milano 1977, p. 258



Figure 13 USA Washington DC Capitol

There is another character, linked to these cultures, so to speak “alternatives”, which left a significant trace in the history of architecture, this time in our country. A brilliant and daring character, able to produce the most comprehensive synthesis "between mechanics and geometry, between the material and construction, science and technology ...". A character, Alessandro Antonelli, who, during his long life - he died in 1888, ninety - traces the historical, political, and before that, the socio-anthropological training of national unity and birth of a new state-industry - how the America of Jefferson - secular, with not few anticlerical veins, and where, for first time, you begin to enjoy a (slight) taste of freedom. About this man, by some of her contemporaries considered too extravagant, **Massimo Corradi** shows "The relationship between form and structure in the dome of the Basilica of St. Gaudenzo in Novara ", the most daring construction of the modern history of Italian architecture, high (reaches 121 meters), daughter of a great maitre in Pensee, capable of expressing the most intriguing characters of the architecture of the nineteenth century. There have been no few people, even then, which have grasped the "singularity" of Antonelli - "Singularity" easily obtainable by casual buildings as house Scaccabarozzi in Turin, named for its unique shape, "slice of polenta", or Mole Antonelliana with its high "antenna" - something that will disrupt - and strongly - the simple minds. That was also told, without much foundation trust, about a "devilish" Antonelli, linked to occultists movements certainly not unknown in that of Turin, and in some way which would leave trace of this alternative culture in its winged genius, that was placed on top of the mole, one year after his death. A statue certainly disturbing, not only because it represents precisely the fallen angel who appears to challenge the sky, but also because, in 1904, after a furious storm which hit the city, the statue fell by the mole but not ruined to the ground, since, despite its. Weighing in at about three tons, remained miraculously - or diabolically? - Poised on the terrace below.



Figure 14 Dome of St. Gaudenzio (internal)

Politic Domes

Equally luciferin must have been the design of another work, moreover, never realized, despite the fundamental function of primary political symbol which had to serve, the Palace of Soviets in Moscow, so cherished by "comrade" Stalin. Talk about that **Svitlana Smolenska** in his "Symbolism of the Dome of the Soviet architecture of 1920-30." Where reconstructs what the father of psychoanalysis, Sigmund Freud would probably have called "The Future of an Illusion." The illusion was precisely that of a Soviet avant-garde architecture "based on the rationality of the form" according to a "philosophy" which combines practical solutions and political significance, of course, consistent with the new "word communist." Strange but true the dome shape, that would facilitate the success and development of the nascent Soviet avant-garde architecture, back, soon to express the ancient religious symbo, for centuries present in Russian soul. And it was precisely so that, as early as the 30s, in the heyday of "purges" the democratic ambitions of the avant-garde - and therefore also the avant-garde architecture -that fade away. "There was definitely a need of symbols capable to expressing ... power" of the scheme, says **Svitlana Smolenska**. That happened according to plan with the clever use of the ancient religious symbology subservient the new Communist religion. The Palace of Soviets, moreover, was not, as was said, ever built, despite the complete destruction, with charges of dynamite, of the old Cathedral in Moscow on the site where, exactly, should arise, the new, grandiose building. Referred to a strange kind of "socialist irrealismo", were distributed throughout the image, as it were a work actually carried out by the regime of the city, that by virtue of the Marxist-Leninist "Imprimatur", was defined as the capital of the world. The style of this building was, on the other, hopelessly classicist, and the great unrealized dome under

which he would have to bring together the staff of the party, was too similar to that of the ancient Orthodox churches.

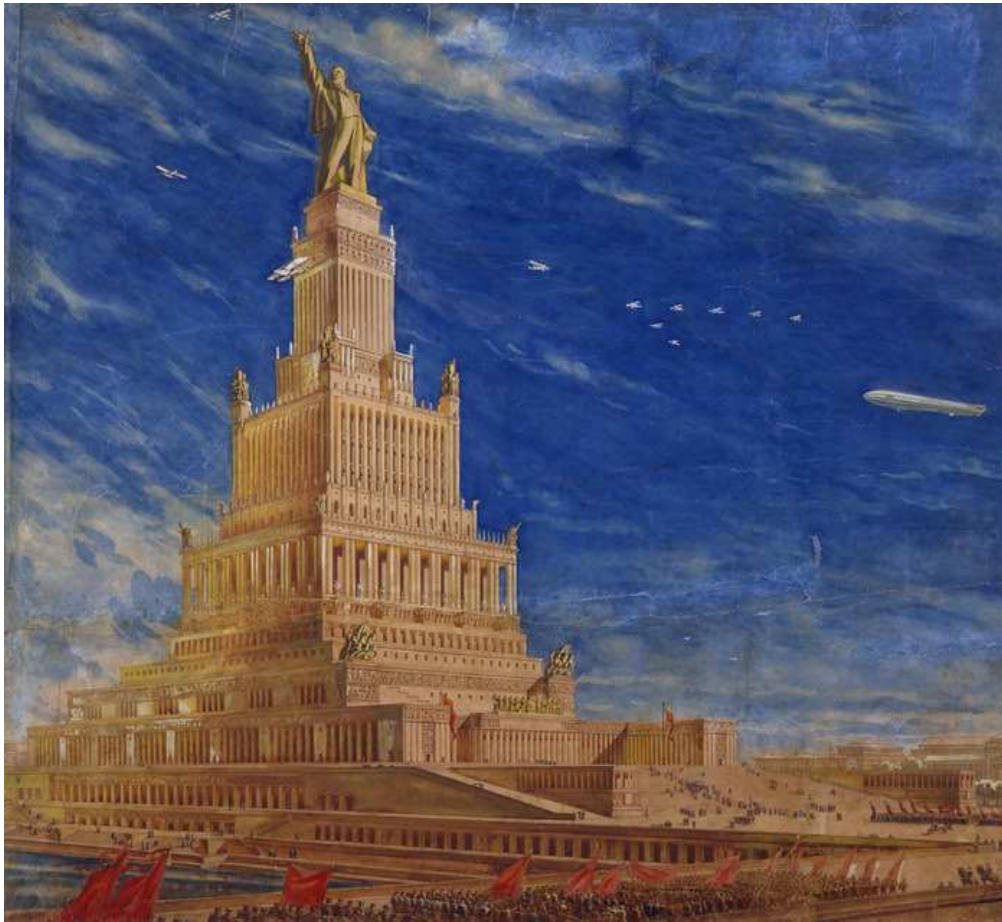


Figure 15 Palace of Soviets

Many other meanings have been assumed, after the complex process of recovery and transformation by the Reichstag in Berlin that, where the great glass dome very well expresses the meaning of a democratic and transparent institution, open to the contribution of all, whose spiral ramps allow to ordinary citizens to oversee the work of their political representatives. And then, at night, the dome becomes a beacon, the beacon of democratic civilization, quite different from what be wanted by Stalin with the Palace of Soviets, beacon of an impossible utopia. Maybet Maupassant was not right when he said: "The meaning of art, this scent so delicate, so subtle, so elusive, so unspeakable, is essentially a gift of intelligent aristocracy, not part of the democracies." (G. de Maupassant Essay on Gustave Flaubert).



Figure 16 Dome of the Reichstag

In conclusion

I conclude with a challenge, which leads to me the writing of my collaborator, **Mariano D'Anza**. The shape of the dome could be an astronomical quote of the stroke of the other stars around the unmoving - Polaris. These stars, the circumpolars, never set, and is due to the "light of the long day that" we are not allowed "to see them make their daily rounds because they are turned off when the sun rises." Yet, "continue the path during the day but remain invisibles. Solar eclipse would be enough to verify that they are there, faithful to the laws which the Creator has given them ...".¹⁴ In between, the Northern Star with its "privileged character: while the whole wheel, it only remains motionless, almost central to the firmament. The other stars are constantly referring to this one. The distance that separates them, or rather, the invisible bond that unites them is unchangeable characteristic of each.

The dome of Montesiipi in Siena, which stands where the knight Galgano Guidotti stuck in the year of Lord 1181, his sword in the stone, appears mute confirmation of this ancestral motion ...

¹⁴ G. de Champeaux, dom S. Sterckx, *I Simboli del Medioevo*, Milano 1981, p. 19



Figure 17 Cupola di Montesiepi (interno)

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