

ANALYSIS OF
THE PANTHEON

History and Theory Studies

Term 2 Essay

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The City and the Pantheon

Built between 118 and 128 A.D. under the ruling of Hadrian, the Pantheon was constructed as a temple for all the Gods. As the Romans were still pagans and honoured the seven *planetary divinities*, related to the 7 planets Romans knew were in the universe.¹ According to a myth, the structure has been built on the spot where, it is said, Romolo ascended into the sky during a ceremony which was taking place in campus Martius which had been interrupted due to a severely violent rain.² Hadrain wanted a place where the mortal and divine world could meet.

The Pantheon is situated in what was called at that time the *Campus Martius*, an part of ancient Rome which covered about 250 hectares of land, 10 to 15 metres above sea level. The area gets its name from Mars as it was to the God of the planet.³ The building was placed in axial and right-angled relationships to pre-existing monuments in the central part of the Campus Martius, following the Roman linear technique of disposing building. Surrounding the Pantheon, towards south, we may find the public baths built by Agrippa, and west the baths of Nero. It is possible to say that another structure with a similar religious *aurea* is the temple built by Hadrian for his mother-in-law Matilda.⁴

In 609 A.D. the Pantheon was consecrated to *Santa Maria ad Màrtyres* by Bonifacio IV,⁵ and it was thanks to this reason that the structure survived almost two-thousands years nearly intact.

The Pantheon as the one we see today, is actually the third reconstruction of the original building. The previous got heavily damaged by a lightning, and the one before that had to be demolished after a big fire. The fourth version has been built by Apollodoro, a militar architect and engineer with Syrian origins.⁶ After the completion of the construction, in its lifetime, there have been several changes which altered its look, for example: the chromatic sequence of the columns has been changed when Alexander VII and Pope Urbano VIII had to substitute the columns, getting both of them from the Neronian baths. Together with the structure, the surrounding buildings and piazzas have changes through time, morphing the distribution of space and adapting to the needs — from a less *building-dense* ancient Rome, a developing city in the 1700s, to a modern Rome nowadays. An example of the small changes the Pantheon had to go through could be about the writing ‘M•AGRIPPA•L•F•COS•TERTIVM•FECIT’ on the front of the building, which was originally in bronze, had to be replaced with a copy made in XIX century as the original one had been taken during one of the many riots which took place in Rome.

¹ Gomez, P. 2016.

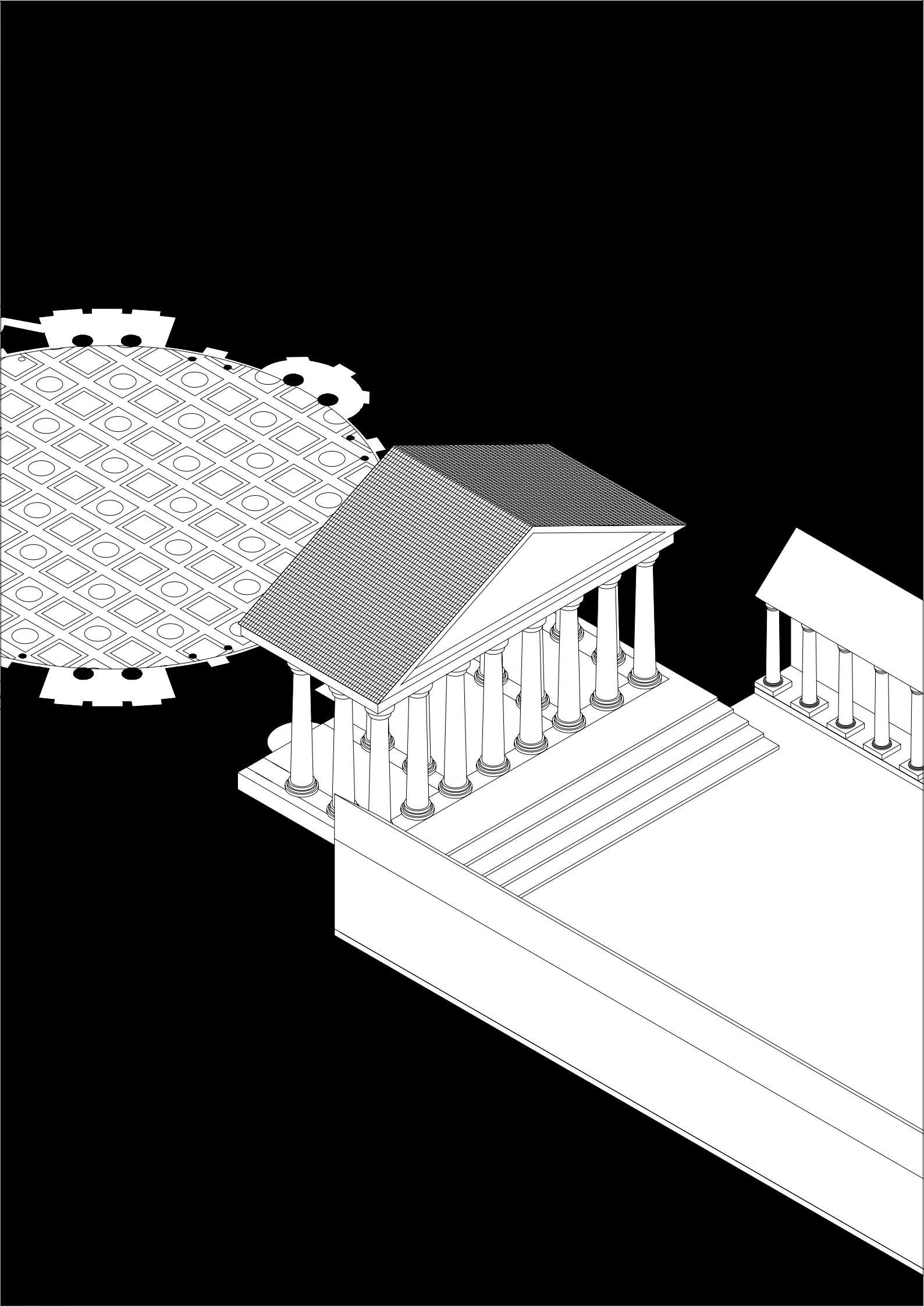
² Roma Online. 2012

³ Platner, S. B. 2002.

⁴ MacDonald, W. 2002.

⁵ De Carolis, M. 2007.

⁶ La Rocca, A. 2010.



The Mediator

“The visitor, as he enter the space, is subject to two realities represented by the two axes: the horizontal axis, connecting the entrance to the temple’s cell/hall/space, and the vertical axis, the axis mundi, driven by the oculus at the top of the dome, which created a dimension where the human meets with the divine.”⁷

It is possible to divide the Pantheon into three main shapes, each defying a specific section of the structure: the pronao, the rotunda and the dome. Each one of these plays an essential role in the effect the building has over whoever enters its space. It took a great knowledge of architecture and engineering to construct something of this complexity which is still there after thousands of years. Key components such as the dome have been intelligently built with avant-garde techniques in order to obtain the desired spherical shape inside the structure. The reason why the dome, which weighs about 5000 tons, does not collapse is because the Romans ingeniously used different materials throughout the vertical development of the dome. Using heavier materials such as roman concrete with fragments of bricks and a thicker cross-section (of about six metres) at the bottom and, going up, replacing the bricks with tuff or even pumice and other volcanic materials which are very light, reducing the thickness to approximately 1.5 m.⁸

The pronao of the building is formed by 16 columns, the eight of the front which are made out of grey granite, and the other eight of pink granite originally from a quarry in Egypt. The monumental bronze door is the oldest roman door still in use, 4.45m wide and 7.53m tall, functions as threshold connecting the two spaces of the pronao and the rotunda together.⁹

The portico in this case is given the role of *mediator*, one of its main functions is therefore to divide and filter the space outside the Pantheon to the one inside, separating these two areas and making the contrast between the public and the private, as well as mortal and divine worlds, even stronger.

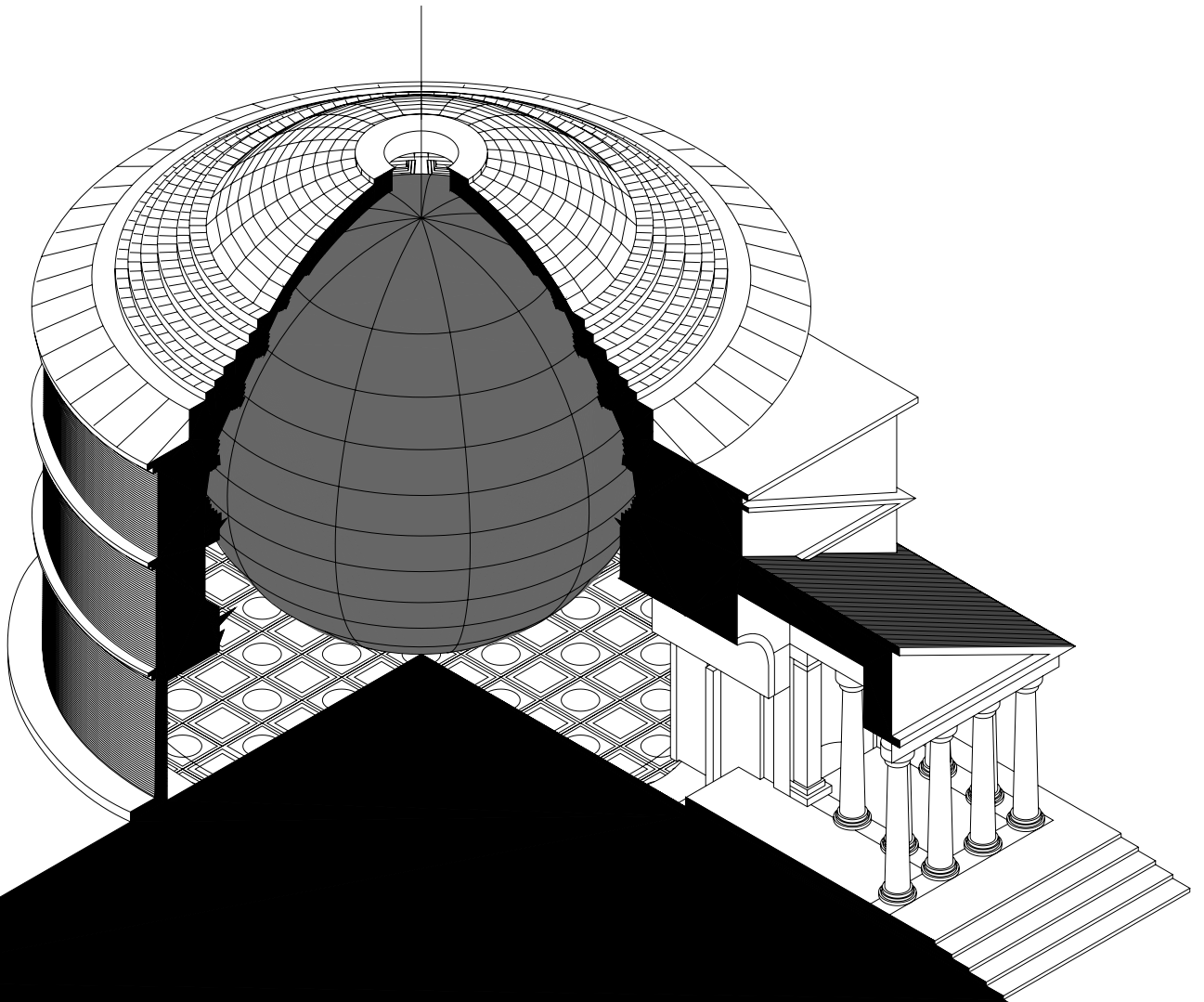
Originally, in front of the Pantheon the Romans had built a forecourt which was as wide as the rotunda and about two times long.¹⁰ This formed a visual frame with the Pantheon at its centre which when someone entered the space it saw the building at the far end of the forecourt, surrounded by the columns. This passage invited the people inside the structure, and guided them to do so.

⁷ Pulvirenti, E. 2014.

⁸ Gomez, P. 2016.

⁹ Gomez, P. 2016.

¹⁰ MacDonald, W. 2002.



Light + Geometry

The two main shapes that can be identified and are the most obvious when looking at the Pantheon are the sphere of the rotunda and the cuboid of the pronaos. Its geometry is mainly driven by the huge spherical space inside the rotunda which measures 43.44m in diameter, the dome on the upper part sits on the cylindrical walls enclosing the space of the Pantheon.¹¹ The measurement for the diameter of the structure is not random, it actually corresponds to 150 roman feet; Romans often used round numbers for measurements such as 50, 100, and 150 feet, giving a sense of geometric order to their architecture.

The oculus can be found at the top of the Pantheon's dome, with its aperture of approximately 8.2 metres, it is the only opening of the structure and the only source of light used to illuminate the internal space of the Pantheon. It is possible to say that the oculus is probably one of the most famous and key aspects of the temple: behind what looks like a simple circular opening in the dome of the Pantheon, there is a lot of complex reasoning and scientific calculations which were needed in order to make the structure function as a colossal sundial.

The light tunnel formed by the oculus moves according to the position of the sun: just like a sundial, because of its orientation and angle, depending on the time of the day and the period of the year, the light entering the building through the oculus will illuminate a specific part of the interiors, pointing the various sides at different times of the day. This creates a game composed of both light and darkness, therefore not only highlighting but also generating a great contrast between a small fraction of the space being clearly visible while the rest is left in the dark.

The height of the dome is exactly equivalent to the diameter of the rotunda (the cylindrical body on which it sits on.) The reason behind its particular and rare geometry is because of the iconology of the sphere: as a matter of fact, it is said that this particular geometrical shape alludes to excellence, as also in Greek philosophy it was considered as the perfect geometric solid, symbol of the celestial universe and work of the Creator, recalling the shape of planet Earth.¹²

This 'perfect' geometry is then framed by the detailed decorations on both the exterior of the structure as well as on the inside, with its coloured geometrical pattern in marble on the floor.

The magic of the oculus could be especially admired on specific days of the year in which the position of the sun would play a vital role in the city's rituals and ceremonies, for example: on April 21st, day in which the Romans celebrated the foundation of the city, at 12:00 PM exactly, the sunlight would shine on the bronze door where, in that moment, the emperor would come in the temple being illuminated by this divine-like light.

¹¹ Pulvirenti, E. 2014.

¹² Ibid.

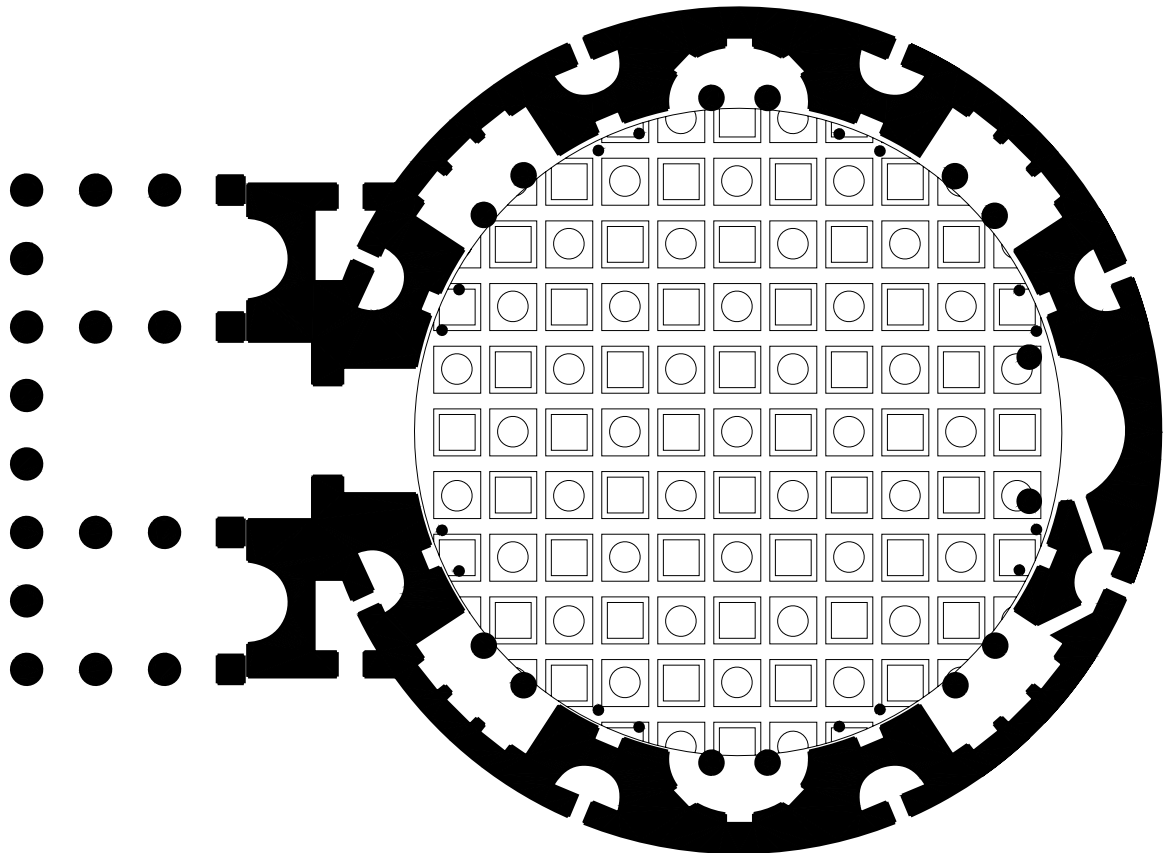
BIBLIOGRAPHY

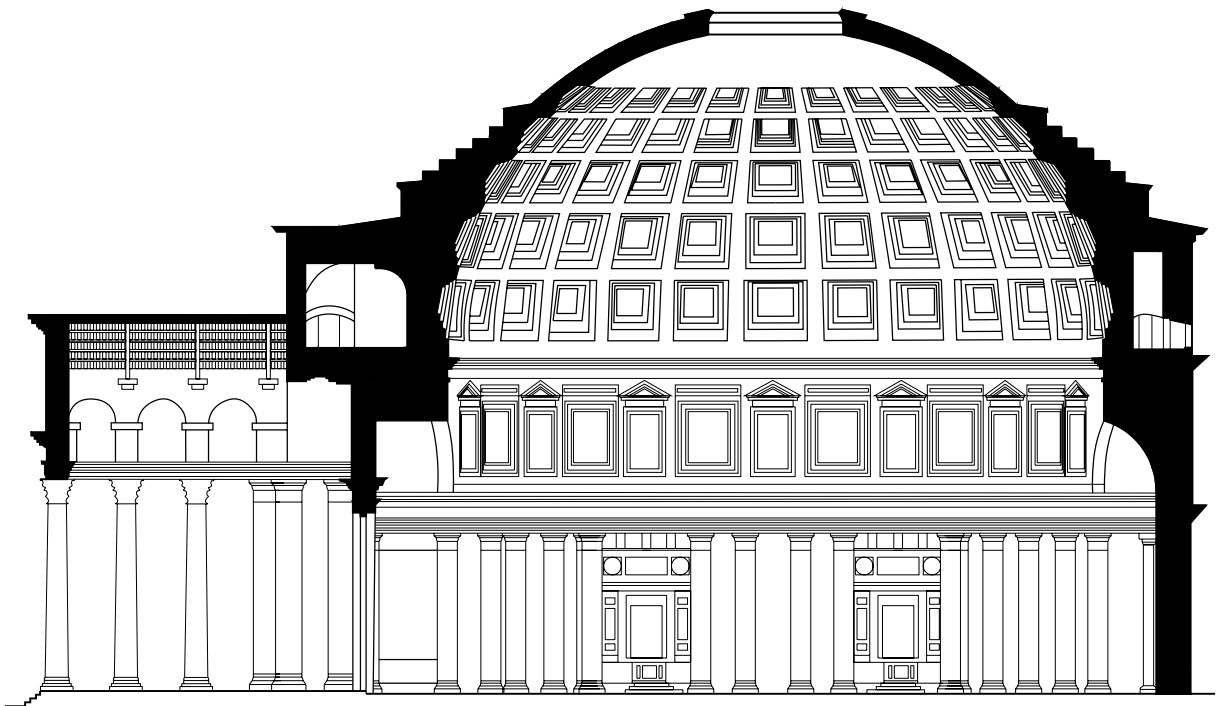
Books

- De Carolis, Marco. *Pantheon: storia e futuro*. Roma: Gangemi, 2007.
- MacDonald, William L. *The Pantheon: Design, Meaning, and Progeny*. Cambridge, MA: Harvard University Press, 2002.
- Platner, Samuel Ball, and Thomas Ashby. *A Topographical Dictionary of Ancient Rome*. Oxford: Oxford University Press, 2002.

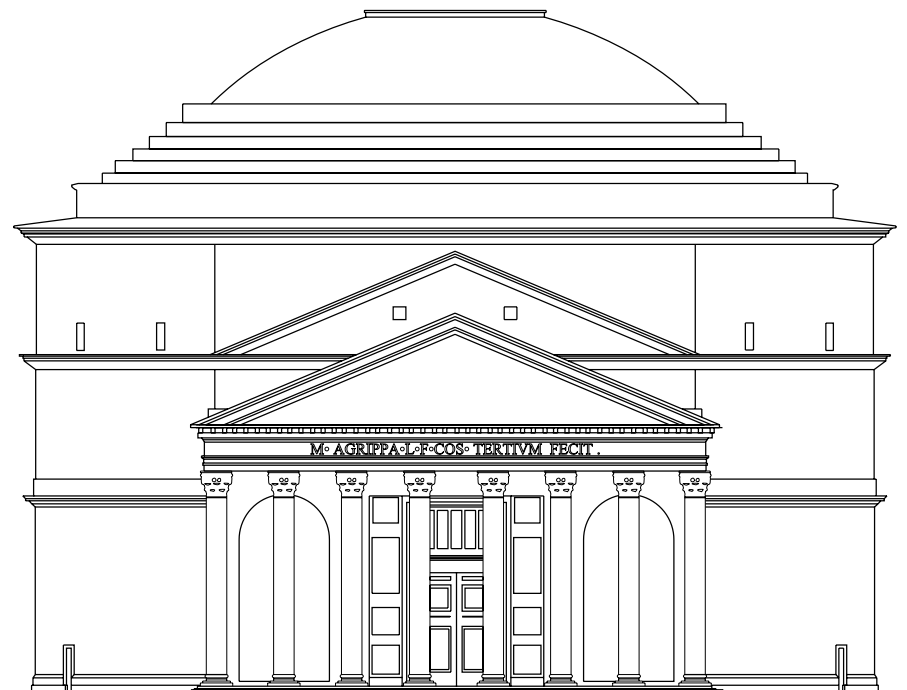
Online Articles

- Gomez, Paolo. *Il Pantheon: La storia, la struttura e la magia della luce*. I due sarchiaponi. December 5 2016. Accessed February 25, 2017. <http://www.iduesarchiaponi.com/il-pantheon-la-storia-la-struttura-e-la-magia-della-luce/>.
- La Rocca, Alessandro. *Pantheon*. 2016. Accessed February 27, 2017. <http://www.laboratorioroma.it/ALR/Pantheon/Pantheon.htm>.
- Pulvirenti, Emanuela. *Vi racconto il Pantheon*. Didatticarte. February 16, 2014. Accessed February 25, 2017. <http://www.didatticarte.it/Blog/?p=2169>.
- Roma Online. *Storia del Pantheon*. Roma Online. 2012. Accessed February 27, 2017. <http://www.romaonline.net/la-guida-turistica-di-rol/itinerari/zona-trevi/storia-del-pantheon/>.





Section
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Elevation
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