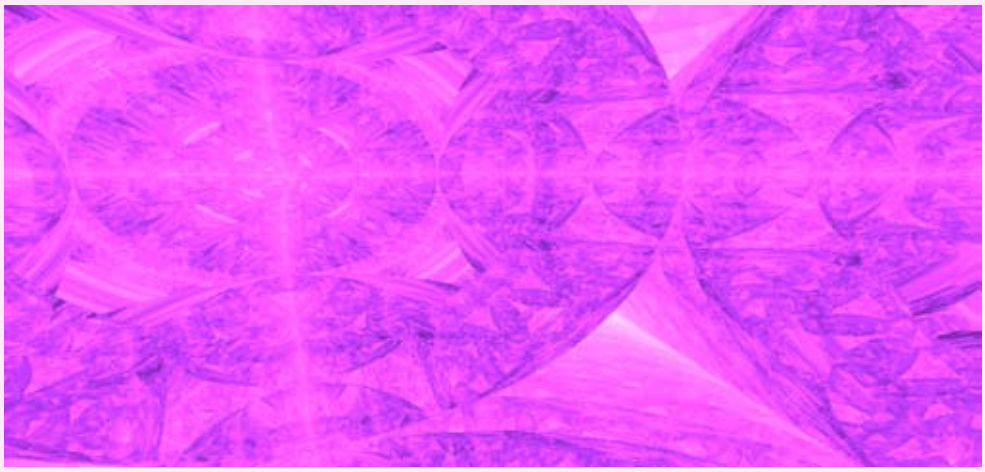
Journal of Capnotic and Catoptric Studies



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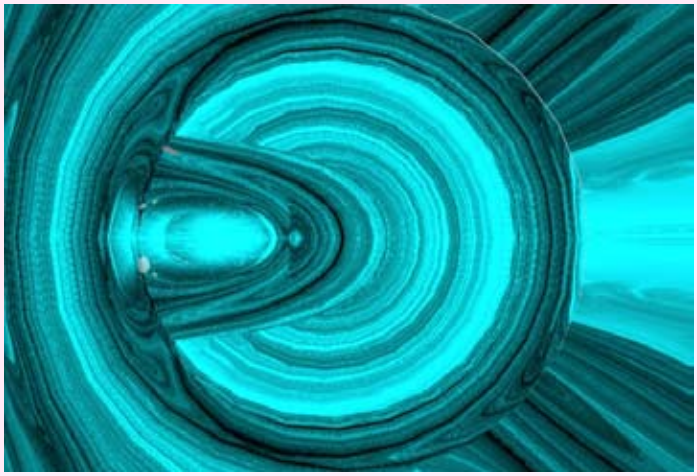

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History of the Hyperbolicube

by P. Pierre Le Carre, PhD

Background: The origins of the hyperbolicube can be found in the writings of the Greek philosopher and mathematician, τετραγανοσ In the ninth century BCE (-1000 AD by the preChristian calendar) τετραγανοσ lived in dysclidea and his son, πγατεια was captain of the dysclidean soccer team and needed to transport the team ball to Olympia for the ancient games. (Below)

International Football Museum, London

The ball exceeded the permitted size for carry on luggage, so τετραγανοσ came up with a novel way to pack a round ball into a square box, or, more correctly, a spherical ball into a cubic box. His idea was to partially deflate the ball and punch in six sides so that each side became a concave disk whose perimeters defined the six sides of a cube. This new object could then be packed into a cubic box. His son pointed out that the rules of ancient football forbid punching the ball with the hands, but this was easily solved by kicking the ball six times instead. (Below)

International Football Museum, London

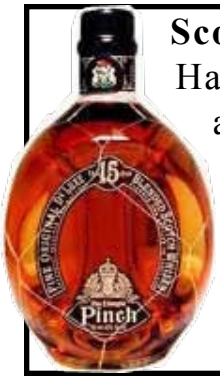
The Sphericube: The resulting surface was intriguing to τετραγανοσ, who realized that it had the same surface area as the original sphere but less volume. He dubbed this new shape the sphericube and spent the rest of his life in the futile search for a shape that had the same surface area as the sphere but more volume. Πγατεια's team won a bronze medal

Quadrato Museum, Rome

Roman and Italian Connections: The next mention of the sphericube is in book five of the *Four Books of Architecture* by the Roman architect, Quadrato, designer of the Mason Carre in Nimes, France. An avid soccer fan, Quadrato designed mosaics with a soccer motif. (Above) He saw pictures of the sphericube and new immediately that the spherical triangles connecting the disks were called "pendentives" which could be used to support a round dome on a square building. Quadrato's *Four Books of Architecture* were lost until the renaissance when the fifth book was rediscovered by the Venetian architect Piazzalle Piazzo, inventor of the Venetian blind, who thoroughly plagiarized it. Republished under Piazzo's name it reached number 3 on the Venetian Times best seller list for 1342.

Spain: In 1222 in Toledo, Spain the Chiparon monk, Miguel de Minorca, contacted the Moorish glass blower, al-forno, who he commissioned to create a sphericube in glass for the museum at the Chiparon monastery, where it remains to this day. (Below) Al-forno achieved the indentations on the sides by kicking a hot glass sphere like a soccer ball. Because he later used a similar technique to create an indentation on the bottom of a wine bottle, he called it a punt.

Museo de Monasterio Chiparones en Tinta

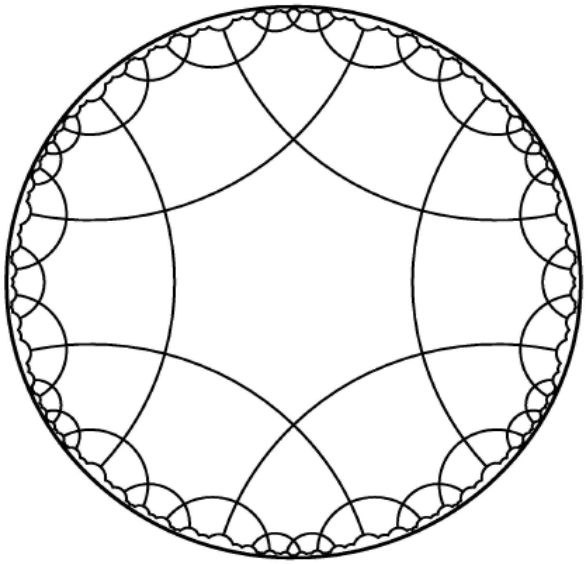


Scotch: When Alexander Haig visited the museum and saw the sphericube he decided to use a similar design for now famous the bottles of his Scotch whiskey.

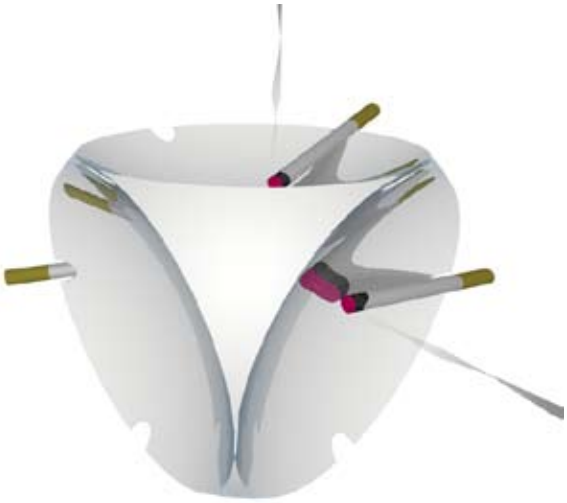
French Connections: In 1776 the French mathematician Jean Laplace, brother of the now more famous Pierre Simon Laplace, realized that a sphericube could be created with hyperbolic disks. This became the true hyperbolicube. Not prone to hyperbole, Jean Laplace did not hype his discovery, so it remains unknown to this day as does his hyperbolic soccer ball which packs well but cannot be used to play soccer. (Below)

Laplace Museum Paris

Their great nephew Jean Simon Laplace, a neobaroque city planner, drew the street plan for Quebec. The plan called for a round square which Jean Simon Laplace knew was an oxymoron, so he briefly considered using the shape of hyperbolisquare (a 2 dimensional section of the hyperbolicube), but rejected this in favor of changing the language of Quebec to French and eliminating the oxymoronic conflict. This change became known as the Laplace transform.

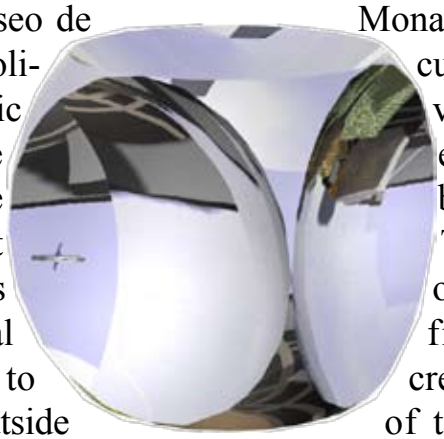


Modernism: It is widely presumed that French mathematician Henri Ponicare was inspired by the cubed soccer ball to create tessellations of the hyperbolic plane. (Above) In the 1920s the shape became extremely popular with modernist designers. It was incorporated into numerous industrial designs including the famous six sided ashtray. (Below)



Collection of the Author

Postmodernism: In 2003 American conceptual artist Michael Mahan, who would have been a direct descendent of Miguel de Minorca had the latter not been celibate, began using e-matter to create hyperobjects. Upon seeing his former potential ancestor's sphericube in El Museo de Monastario Chiparones en Tinta he realized that the hyperbolicube qualified as a hyperobject. He created a hyperbolic version in virtual glass and silvered the surface. He experimented with creating images of the hyperbolicube by placing a virtual camera inside the mirrored object This technique proved too primitave when reflections of the camera appeared in the images. (Below) Virtual fiber optics provided the solution and he was able to create pseudographs and animations of the inside and outside of the hyperbolicube. These images were combined with text in in a work of digital metafiction, *...of Smoke and Mirrors* (2004). This work includes the first known use of the word, "hyperbolicube". (The first unknown use of the word was in the works of Jean Laplace.)



All images courtesy of the artist.