The Cydonia Institute: Field Journal    Vol. 24 No. 4   ◘ HiRISE D&M

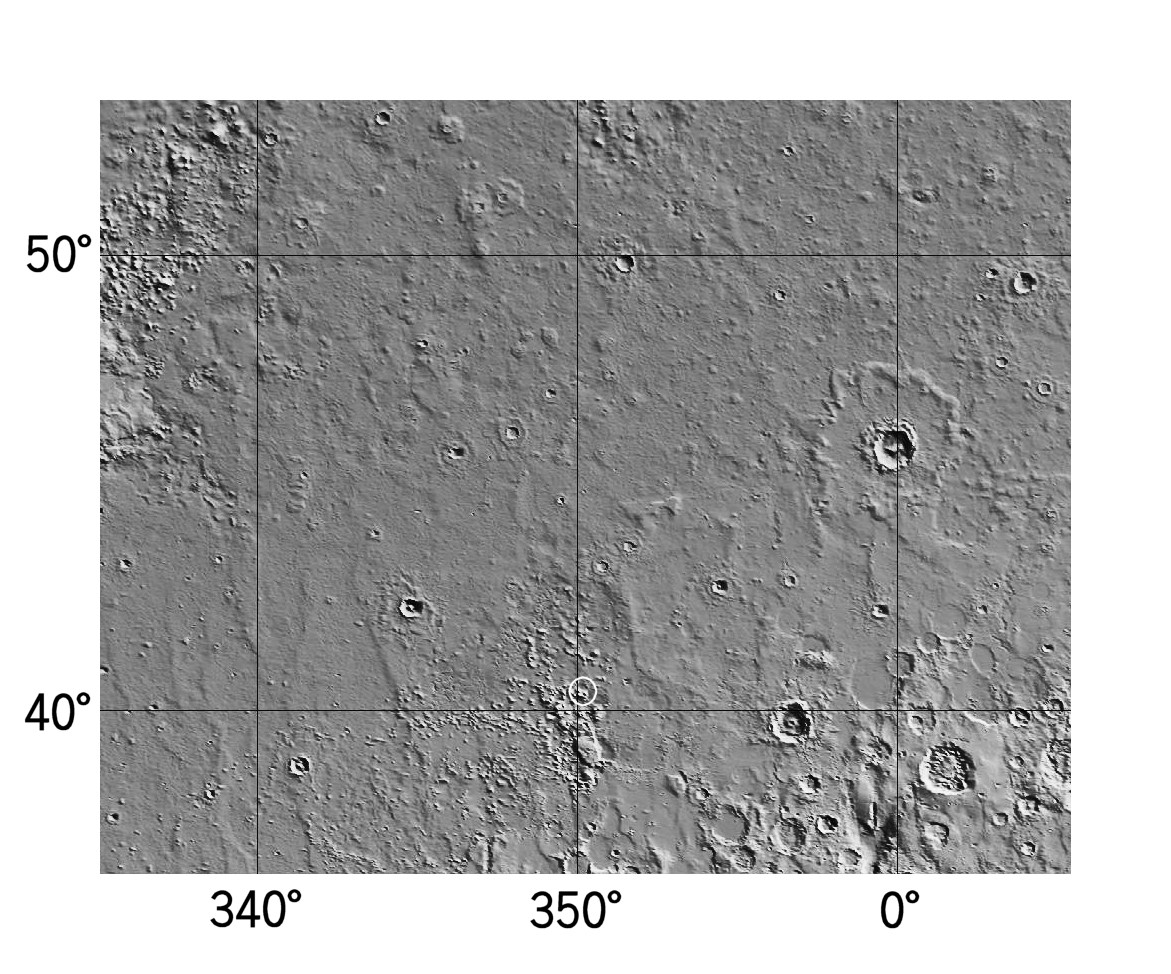
By George J. Haas

October 2021 (Revised April 2023)

**CYDONIA**

The Cydonia region of Mars is situated within the Valles Marineris hemisphere of the planet between 32°north and 42°north and 350° west (Figure 1). Its southern border lies above the heavily cratered region of Arabia Terra below it and stretches up into the smooth northern plains of Acidalia Planitia. The Cydonia area consists of a variety of smooth and fractured terrain that is scattered with an array of mesas and small hills or knobs.1 There is also growing evidence that the northern plains may have once been home to an ancient ocean and much of the Cydonia area may have been a coastal zone.2

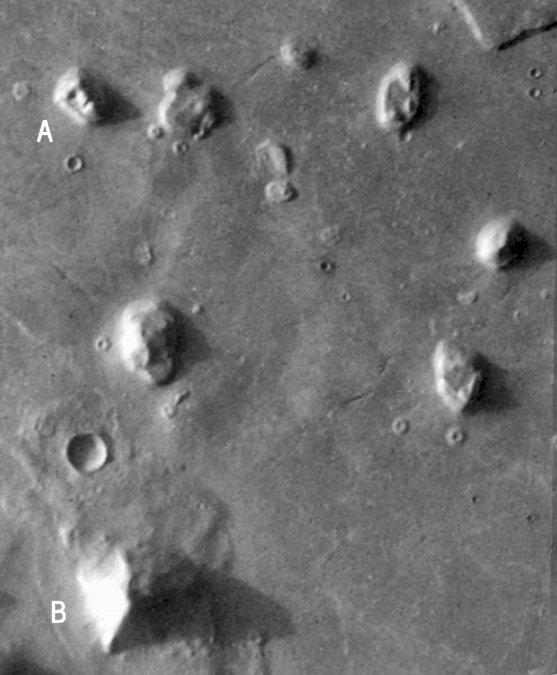
The Cydonia region was named by the International Astronomical Union (IAU), after a poetic term for Crete.3 Historically the root name for Cydonia comes to us through the ancient doctrine of Greek Mythology. It is there that we find that a little Minoan city on the north western coast of the Mediterranean island of Crete as named Kydonia.4



**Figure 1** Cydonia region of Mars, Mola map. Approximate location of the area of interest (circled).

**DIPIETRO AND MOLENAAR**

On July 25 1976 NASA released the infamous Viking image 35A72 that included the original Face on Mars (Labeled A in figure 2). The image was taken in the afternoon with a resolution of approximately 48 meters per pixel. 5



**Figure 2** The Cydonia area of Mars. Detail of Viking Obiter image 35A72 (1976).

A: The Face. B: Five-sided pyramid

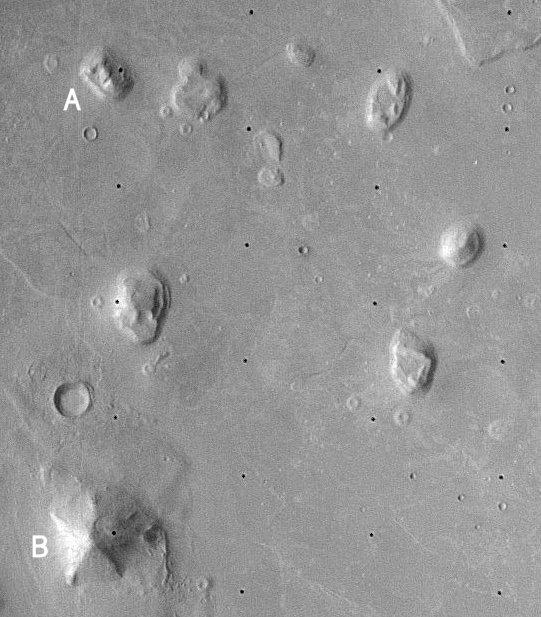
Soon after its release many researchers took notice and began studying the area which is filled with oddly-shaped mesas and buttes that surrounded the odd facial formation. A team of engineers at the Goddard Space Flight Center, Vincent DiPietro and Greg Molenaar investigated the Face noticed another very anomalous formation nearby (Labeled B in figure 2).

The pair of investigators noticed a unique five-sided pyramidal formation with a remarkable set of common surface and angles sitting, just below the Face. Looking at the Viking image, look at the sharp edge of the south western side and the long triangular shadow casting off towards the east. The team remarked that “of all the observations of pyramids on Mars, we find that this one is the most unusual.”6

During their investigation they located a second Viking Orbiter image (70A13) of the same area that was taken a month later in August. The image was acquired around high noon with a slightly higher resolution of 44 meters per pixel.7 The second image not only provided a higher quality view of the Face it gave more shape to the five-sided pyramidal formation and showed much more of its structural detail (Labeled B in figure 3).

Over whelmed with their discoveries the team presented their findings at a press conference on May 1, 1980 held at the Ramada Inn hotel in Lanham Maryland.8 As a result they were invited to present their work in June at the Annual Convention of the American Astronomical Society in College Park, Maryland.9 DiPietro and Molenaar also published their studies in a 1980 monograph titled *Unusual Martian Surface Features*.10

Despite their conclusions that the five-sided pyramid supported an artificial origin, both NASA and the mainstream scientific community remained silent and ignored their groundbreaking work.11 It was during this period that early researchers began referring to this five-sided pyramid as the D&M Pyramid, named after its discoverers DiPietro and Molenaar (Figure 3).



**Figure 3** The Cydonia area of Mars. Detail of Viking Orbiter image 70A13 (1976).

A: The Face. B: Five-sided pyramid

**THEMIS**

On April 7, 2001 NASA launched the new Mars Odyssey spacecraft on a Delta II rocket from Cape Canaveral Air Force Station in Florida. The following October it began orbiting the planet Mars. The spacecraft was equipped with an on-board camera called the Thermal Emission Imaging System Visible Camera (THEMIS-VIS) that was designed to provide systematic global coverage of Mars in both the visible and IR bands.12

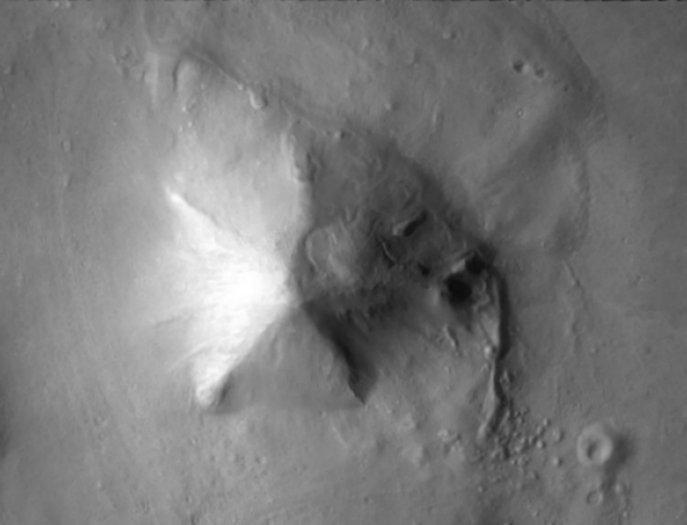
In addition to obtaining detailed coverage of potential landing sites for NASA's planned 2003 rover mission, the primary focus of the THEMIS investigation was to collect IR data and black-and-white images. Color images would be selective and controlled by the limitations in data rates and by NASA’s desire to focus on the IR data and obtaining global coverage in an effort to study what they call the planet's “remarkable geomorphology.”13

On April 13, 2002, over thirty five years after the original Viking image was acquired, the Mars Odyssey, THEMIS team released the Image PIA03768 (AKA 20020413) titled “The So-Called ‘Face on Mars.’” For the first time, this new NASA image included the complete D&M formation. The image has a resolution of approximately 18 meters per pixel14 (.Figure 4).

A second Mars Odyssey, THEMIS image was acquired eight years later. This second image V38438003 was released during August 2010 (Figure 5). It was taken in the morning hours with a resolution of approximately 18 meters per pixel.15



**Figure 4** D&M Pyramid. Detail: Mars Odyssey THEMIS PIA03768, AKA 20020413, 2002.

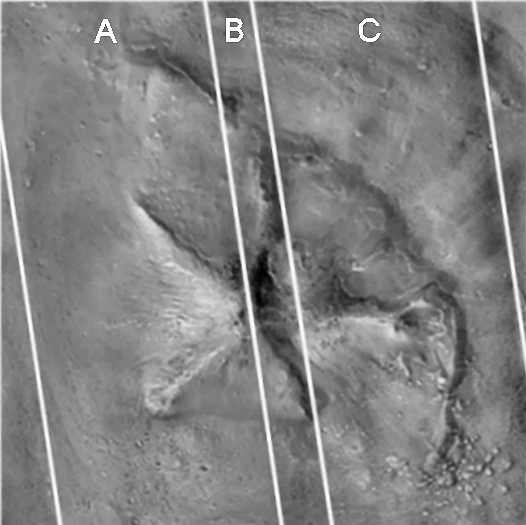


**Figure 5** D&M Pyramid. Detail: THEMIS V38438003 (2010)

**THE MOC COMPOSITE**

After two-decades of waiting for the Mars Global Surveyor camera to provide the public with a higher resolution image of the D&M Pyramid, they were only teased with little bits and pieces of the overall formation.

On September 15, 2003 the chief scientist in control of the Mars Global Surveyor camera, Dr. Malin released a new image titled “The Cydonia "D&M Pyramid" Land.” The composite image was created by stitching together two MGS images; R06-00469 (Labeled A in figure 6) and R07-00422 (Labeled C in figure 6) and a portion of a THEMIS image V0102400316 (Labeled B in figure 6).



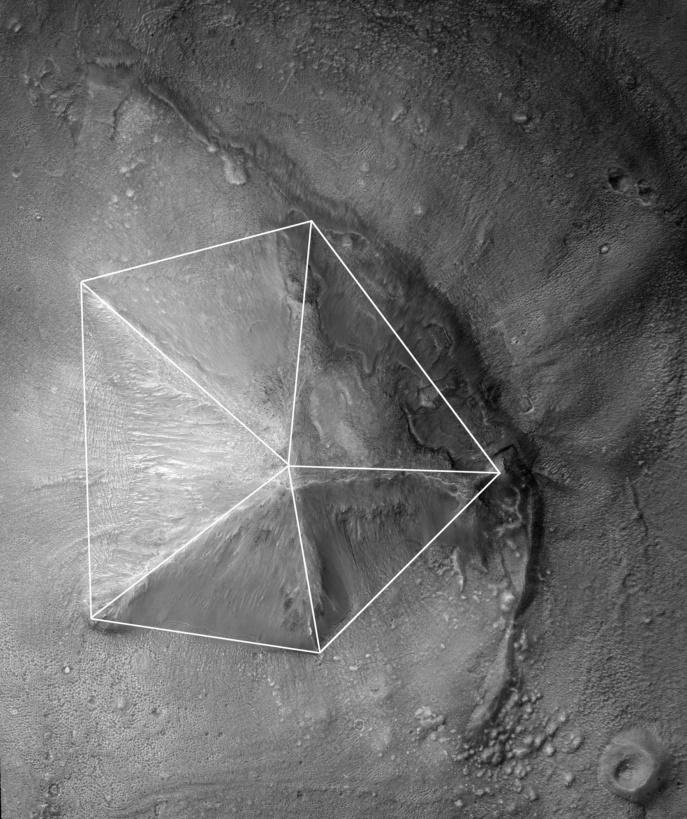
**Figure 6** D&M Pyramid composite (2003). NASA/JPL/MSSS/The Cydonia Institute (notated).

A: R06-00469, B: V01024003 and C: R07-00422

Although Malin’s composite appeared adequate to an uninformed public, it flattened out the D&M Pyramid, like a pancake. It was clear, NASA wanted to release this image of the D&M Pyramid in an effort convince the public (and themselves) that this formation was not a true pyramid and never was.17 One of the main problems was the central THEMIS strip utilized in the composite is of a much lower resolution than the MOC images and is too dark and blurry. The use of this narrow THEMIS image to fill-in the center of the D&M composite raised questions among many researchers as to why Dr. Malin would use such a low-resolution image when the MGS camera had already secured a much better image.18 Despite its shortfalls, Dr. Malin’s composite image still supports the D&M Pyramid’s symmetry and suggests its intentional design is not arbitrary but engineered.

**MRO HiRISE**

On August 28, 2015, thirteen years after the first full framed THEMIS image of the D&M Pyramid, NASA released a MRO HiRISE image (ESP\_042595\_2210) that captured the entire formation, displaying it in full detail (Figure 5). The MRO HiRISE image was acquired during the summer, in the early afternoon, with a resolution of 50 cm per pixel.19 Although the formation is slightly distorted by the camera angle, which is 31° off nadir, the new image confirms its five-sided pentagonal shape. Figure 5 also includes a pentagonal graphic highlighting its five triangular faces.

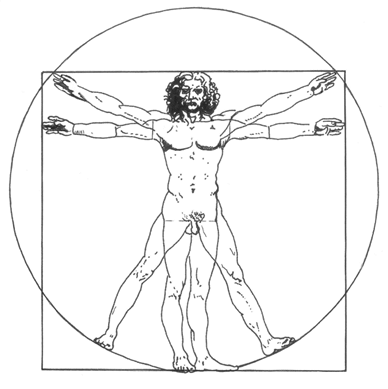
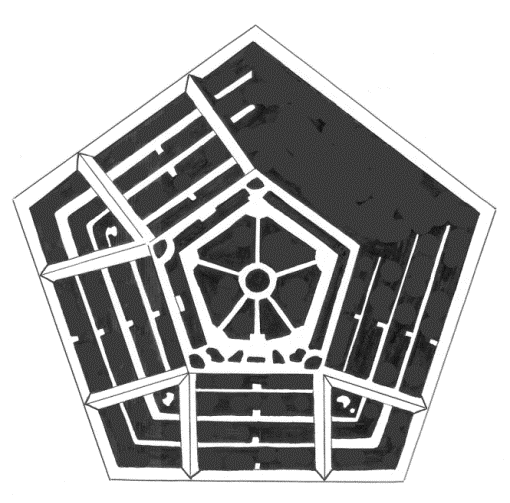
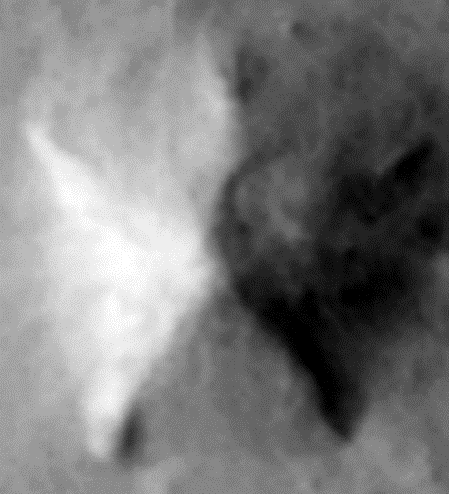
 

**Figure 5** D&M Pyramid. Left: MRO HiRISE image ESP\_042595\_2210 (2015).

Right: MRO HiRISE image ESP\_042595\_2210 (2015) –outlined by the author

**GEOMETRY**

In 1983 Richard Hoagland took up the investigation and attempted to bring this controversial work to the forefront. He followed the fine work of DiPietro and Molenaar and put together a group of scientists from outside the NASA community called the Independent Mars Investigation to study the Cydonia area. Their work produced the hypothesis that the D&M Pyramid was a bilaterally symmetric, five-sided pyramid that held a message of hyper-dimensional physics encoded into a mathematical relationship between it and the surrounding Cydonia area structures. Hoagland compared its almost perfect five-pointed pentagonal design to the Pentagon building in Arlington, Virginia and compared its classic form to Leonardo da Vinci’s anatomical drawing featuring the five points of man20 (Figure 6).



**Figure 6** Five-pointed pentagon.

LEFT: D&M Pyramid (Viking, 1976). NASA/JPL/Cydonia Institute.

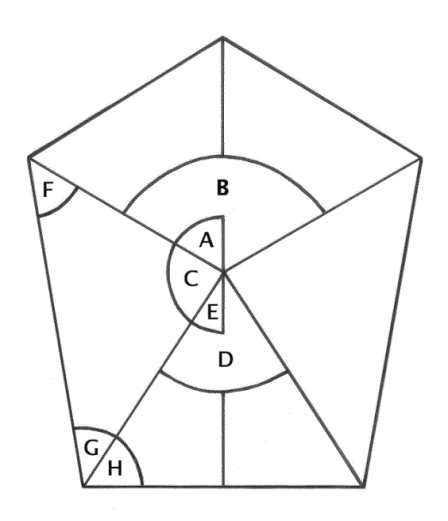
CENTER: Aerial view of the U.S. Pentagon (Arlington, Virginia).

Drawing by the author. Image source: Google Earth.

RIGHT: Leonardo da Vinci’s Vitruvian Man.

Drawing by the author after Leonardo da Vinci.

A cartographer, Erol Torun, who was employed by the U.S. Defense Mapping Agency, was among the first to scientifically challenge Hoagland’s research.21 After an extensive examination of the angles and geometry of the D&M Pyramid, Torun found the formation to have a complex mathematical relationship built into its internal geometry.22 Specifically, he found this geometry to be a redundant occurrence of the relationship e/pi (See figure 7 and table 1).



**Figure 7** Internal geometry of D&M Pyramid. Diagram includes notations A - H

A: 60 \_/3 C/A = \_2 Tan A = \_3

B: 120 2 π\_/3 B/D = \_3 Sin A = \_3/2

C: 85.3 A/D = e/\_ Cos E = \_5/e

D: 69.4 e/\_5 C/D = e/\_5 Sin G = \_5/\_

E: 34.7 A/F = e/\_5

F: 49.6 e/\_ H/G = e/\_5

G: 45.1 B/C = \_/\_5

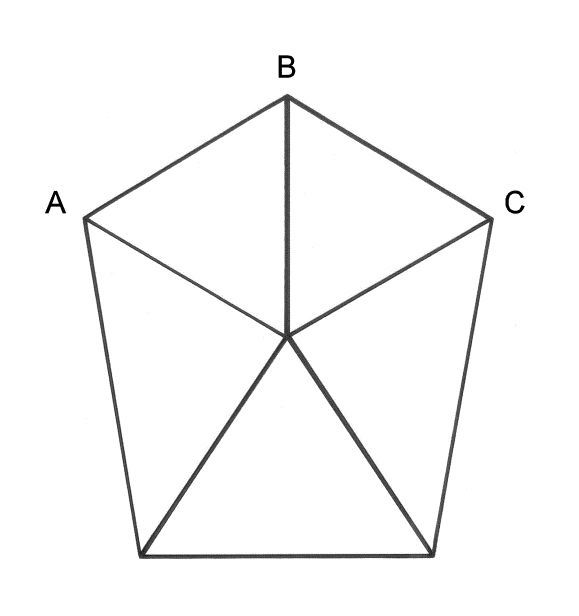
H: 55.3 D/F = \_/\_5

**Table 1** Angles (Degrees and Radians) ● Ratios ● Trigonometic Functions

Torun found the base of the D&M Pyramid to be approximately 7 kilometers (2.8 miles) from the tip of the front buttress to the back. He noted that the front buttress (labeled B in Figure 8) appears to point directly toward the Face, while the left front buttress (labeled A in Figure 8) points toward the center of an area of polygonal formations that Richard Hoagland described as the City Square. The right front buttress of the D&M Pyramid (labeled C in Figure 8) points toward the Tholus mound, a formation with a spiral indentation resembling the Silbury Hill monument found here on Earth (Figure 8). In his technical report, Torun states:

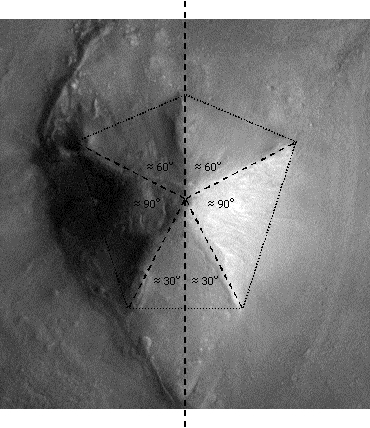
*This object’s five-sided shape and bilateral symmetry is unlike any other landform seen to date in this solar system, and even small scale phenomena such as crystal growth cannot explain its morphology.*23

As a result of Torun’s analysis Hoagland realized that he had found the same redundant occurrence of the relationship of e/pi in the position of the Cydonia structures as Erol Torun had found within the D&M Pyramid.24 Despite the growing evidence supporting the hypothesis that the D&M Pyramid may be an artificial structure, it would be another thirty six years before NASA would take the opportunity to photograph this highly anomalous structure.





With the release of the 2002 THEMIS image of the D&M Pyramid a member of the Society for Planetary SETI Research Dr. Mark Carlotto presented his initial analysis on his Web site “New Frontiers in Science” (Figure 9). The focus of his paper was on what he called the “simple and elegant geometry” of the structure that gave the D&M the appearance of bilateral symmetry.25 Carlotto’s diagram in Figure 9 demonstrates Torun’s earlier identification of the structure’s formal angles and triangular facets at approximately 30, 60, and 90 degrees.

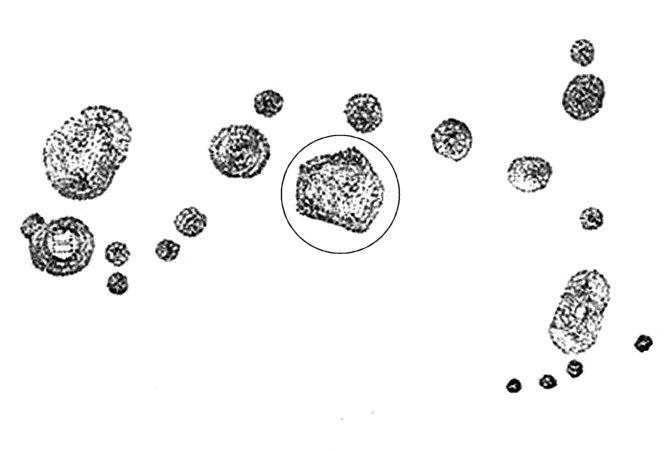




Carlotto also produced an animation that not only flipped the western side of the structure back and forth over its eastern side; it also included a mirrored image of the western side that emphasized the structure’s proposed symmetry.

**TERRESTRIAL COMPARISON**

Five sided pyramids and mounds are very rare in the archaeological record. Only a few have been found within the continental boarders of North America. One of the best examples can be found near Clarksdale in Coahoma County, Mississippi. It is located in the Yazoo Basin within a complex of mounds known as The Carson Mounds. The site, which dates back to 1040 AD, covers an area of approximately 1 mile from its western side to its eastern edge. It includes 4 large pyramidal mounds and 2 conical mounds and over 80 smaller mounds (Figure 10).



**Figure 10** The Carson Mounds, detail (1040 BC). Coahoma County, Mississippi. Drawing by the author. Notice the pentagonal shape of Mound D, circled.

The mound of interest here is a five-sided pentagonal formation known as Mound D which has a comparable shape to the D&M Pyramid on Mars. Mound D is a little over 14 feet in height and the maximum dimensions of its base line measures 300 feet by 252 feet.26

Ever since the discovery of the D&M Pyramid early researchers have compared this this five-sided pyramidal formation to the Pentagon in Arlington, Virginia.27 However, none of these comparisons have ever included the entire formations showing the full architectural footprint of both the D&M Pyramid and the Pentagon. Many of these early comparisons present tightly cropped images of the D&M Pyramid alongside a tapered versions of the Pentagon highlighting its five-sided shape28 (Figure 6). To be clear, the peak of the Pentagon points toward the south, not north, as oriented in many of these comparisons.

With the release of the new THEMIS image of the D&M Pyramid, we finally got a highly detailed, bird’s-eye view of the entire structure, which provided us with a full-framed comparison with the Pentagon (Figure 11). Notice the arrowhead-shaped footprint of the Pentagon complex in Arlington, with its arching parking lot area, which is a perfect match to the shape of the D&M platform including its strategically placed “debris” apron. This comparison begs the question: If the D&M Pyramid is a partially damaged structure resting on an arrowhead platform on another world, then how can it share a template with a contemporary iconic structure built here on Earth? This curiosity is heightened by the fact that the Pentagon was built in 1941 and its architectural companion, the D&M Pyramid on Mars was unknown until 1976.

Besides their common pentagonal design and triangular footprint these two five-sided structures share common wounds.



**Figure 11** D&M Pyramid compared to the U. S. Pentagon.

Left: THEMIS PIA03768 (2002)

Right: aerial view of the U.S. Pentagon (Google)

A groundbreaking ceremony was held on September 11, 1941 in Arlington, Virginia to begin construction on the new headquarters of the United States Department of Defense, which became known as The U.S. Pentagon.29 Sixty years later, on the same day, September 11, 2001, American Airlines Flight 77 was hijacked by terrorist and flown into its western side, destroying a large section of the building.

When the damage inflicted on the western side of The U.S. Pentagon is compared to the damage observer on the eastern side of the D&M Pyramid on Mars (Figure 12) a deeper explanation of this terrorist attack in Virginia needs to be addressed. Was the September 11, 2001 attack on The U.S. Pentagon a ceremonial reenactment? Did someone want to transfer the damage observed on the D&M Pyramid on Mars onto the Pentagon, creating a perfect “mirrored” duplicate? Did someone want to create two identical pentagonal structures, both sitting on a triangular platform and both damaged on their opposite sides…while sitting on two opposing worlds? Was this all part of some Dark Ops ritual?



**Figure 12** The U.S. Pentagon, Arlington Virginia. Aerial view courtesy Spaceimaging.com.

Note the damage to the western side of the building.

As above so below.

……………….

Footnotes

1. Matt Williams, *What is Cydonia?*, Universe Today, November 25, 2016. https://www.universetoday.com/46538/what-is-cydonia/

2. Head III, J.W.; Kreslavsky, M.; Hiesinger, H.; Ivanov, M.; Pratt, Stephen; Seibert, N.; Smith, D.E.; Zuber, M.T., *Oceans in the past history of Mars: Tests for their presence using Mars Orbiter Laser Altimeter (MOLA) data*, Geophysical Research Letters, December 15, 1998, Vol 25, (24): 4401–4404.

3. Gazetteer of Planetary Nomenclature, Mars, Cydonia. https://planetarynames.wr.usgs.gov/Feature/1364.

4. T.L. MacDonald, *The origins of Martian nomenclature*, Icarus, Volume 15, Issue 2, October 1971, 233-240.

5. Mars Viewer, Viking Orbiter, 035A72, dated July 25, 1976. http://viewer.mars.asu.edu/planetview/inst/viking/035A72#P=035A72&T=2

6. Mark Carlotto, *The Cydonia Controversy*, (Lulu.com, 2008), 47.

7. Mars Viewer, Viking Orbiter, 070A13, dated August 30, 1976. http://viewer.mars.asu.edu/planetview/inst/viking/070A13#P=070A13&T=2

8. Ray Boeche, *Journal of the Fortean Research Center*, Paperbound, (Lulu.com, 2012), 10.

9. Mark Carlotto, *The Cydonia Controversy*, (Lulu.com, 2008), 47.

10. V. DiPietro and G. Molenaar, *Unusual Martian Surface Features'* Mars Research, Glen Dale, Maryland (1982).

11. Randolfo Rafael Pozos, The Face on Mars: Evidence for a Lost Civilization?, (Chicago/Chicago Review Press, 1986), ix.

12. Mars Odyssey THEMIS, About THEMIS & the Mars Odyssey mission, Mars Space Flight Facility, Arizona State University, <http://themis.asu.edu/about>. The THEMIS infrared camera on board the Mars Odyssey spacecraft records temperature changes on the surface associated with volcanic heating and near-surface water or ice. THEMIS infrared images taken during the day will look much like a shaded relief map, with areas facing the sun being bright (hot) and shaded areas being dark (cold). In a THEMIS inferred image taken at night the instrument can detect temperature differences due to the various materials present within the surface.

13. Personal e-mail communication with Philip Christensen by James Miller. July 18, 2002. Christensen is the Principal Investigator for the 2001 Mars Odyssey Thermal Emission Imaging System (THEMIS) instrument. He is also a Regents Professor of geological sciences and a Professor in the School of Earth and Space Exploration at Arizona State University. http://themis.mars.asu.edu/christensen

14. Mars Odyssey THEMIS, PIA03768, *The So-Called ‘Face on Mars*, April 12, 2002.

15. Mars Odyssey THEMIS, V38438003, August 14, 2010.

16. Malin Space Science Systems *The Cydonia "D&M Pyramid" Landform*,

MGS MOC Release No. MOC2-484, September 15, 2003.

http://www.msss.com/mars\_images/moc/2003/09/15/.

The D&M mosaic was created by Dr. Malin’s Main Space Science Systems. He used two MOC images obtained in June (R06-00469) and July (R07-00422) of 2003 and one THEMIS VIS image acquired on March 8, 2002 (V01024003). The mosaic is 8 km by 8 km (5 mi by 5 mi) across and each of the three images is illuminated from the lower left. North is up. A mild contrast adjustment was performed on the D&M composite by The Cydonia Institute.

17. This opinion was also voiced in the caption for the THEMIS composite posted on the Main Space Science Systems web site, stating that the new image demonstrated that the D&M was not a pyramid.

http://www.msss.com/mars\_images/moc/2003/09/15/.

18. Keith Laney, *D&M Composite*, The Hidden Mission web site, Posted: Thu Feb 07, 2008 7:23 pm.

19. University of Arizona, MRO HiRISE, ESP\_042595\_2210, *Landscape Evolution in Cydonia Mensae*, dated August 28, 2015.

<http://www.uahirise.org/ESP_042595_2210>

20. Richard C. Hoagland, *The Monuments of Mars: A City on the Edge of Forever*, (Berkely: North Atlantic Books, 2001), 151.

21. Mark Carlotto, *The Martian Enigmas*, (Berkeley California: North Atlantic Books, 1997), 176.

22. Richard C. Hoagland, *The Monuments of Mars: A City on the Edge of Forever*, (Berkeley California: North Atlantic Books, 2001), 326.

23. Erol Torun, *The D&M Pyramid of Mars*, 1989 (revised Feb. 29, 1996),

<http://users.starpower.net/etorun/pyramid/>.

24. Richard C. Hoagland, *The Monuments of Mars: A City on the Edge of Forever*, (Berkeley California: North Atlantic Books, 2001), 326.

25. Mark Carlotto, “Analysis of Mars Odyssey THEMIS Imagery of the D&M Pyramid, New THEMIS imagery of the D&M shows it is a highly symmetrical object and is apparently related to other objects in the Cydonia complex.” New Frontiers in Science, Vol. 1, No. 3 (Fall 2002). www.newfrontiersinscience.com/. Carlotto also suggests the need for more precise angular measurements of the D&M to confirm Torun’s original model.

26. Jayur Madhusudan Mehta, Kelsey M. Lowe, Rachel Stout-Evans, John Connaway, *Moving Earth and Building Monuments at the Carson Mounds Site, Coahoma County, Mississippi*, Journal of Anthropology, vol. 2012, Article ID 192923, 21 pages, 2012. https://doi.org/10.1155/2012/192923

27. The groundbreaking ceremony for the building of the Pentagon took place on September 11, 1941. The building was dedicated on January 15, 1943, nearly sixteen months to the day after construction started. http://pentagon.afis.osd.mil/history.cfm.

28. See Richard C. Hoagland, *The Monuments of Mars*, plate 14 and Mark Carlotto, *The Martian Enigmas*, 36, 37, 169.

29. Steve Vogel, *The Pentagon: A History*, (Random House Publishing Group, 2008), 126.