

MARS

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OBSERVATIONS

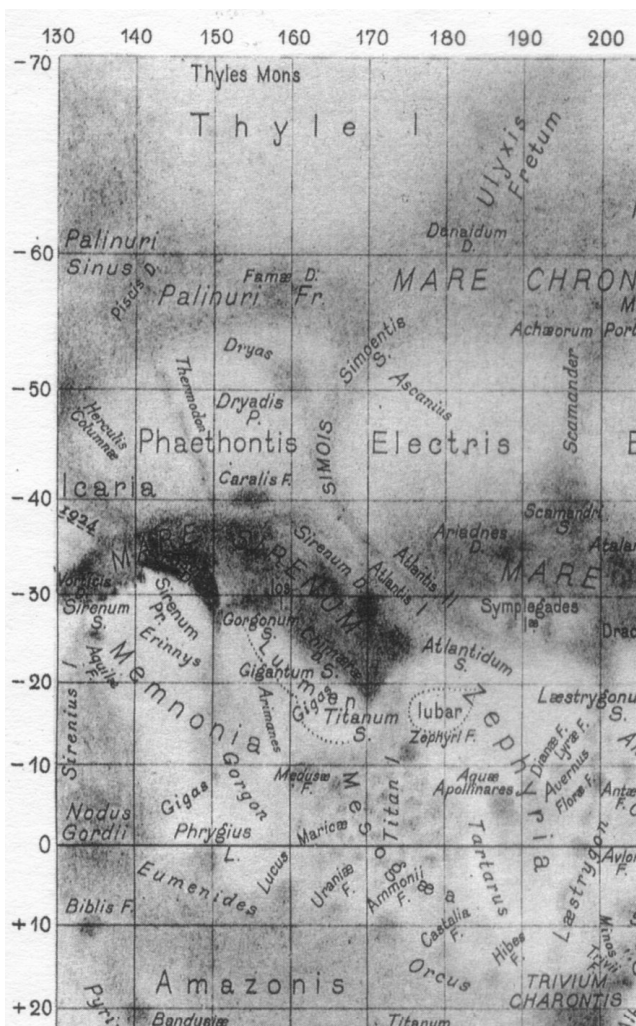
No.08

*Published by the International Society of the Mars Observers**Erinnys and Eumenides:**Demeter in Arcadia and Ama-terasu in Takamagahara*

By

Masatsugu MINAMI

§0. The nomenclatures of Erinnys and Eumenides were given by G V SCHIAPARELLI



in 1881/82 and denote the canals whose (western longitude, southern latitude) respectively are located at (145°W, 26°S) and (145°W, 5°S): Eumenides is a long canal. (See a map around there, extracted from E-M ANTONIADI's Map).

According to ANTONIADI, there is no record of Erinnys except for SCHIAPARELLI's observation and of somebody ten years later. On the other hand Eumenides had been many times observed by several observers, for example by SECCHI and KEISER in 1862, and by SCHIAPARELLI himself around from 1877. It was sometimes straight, but another time looked doubled. ANTONIADI caught it at the edge of a shadowy northern region in 1894 by the use of a 21 speculum. He also observed it in a similar way by the Grande Lunettes. C FLAMMARION looks to have observed it in 1896. It should be remarked however that any dark and bright markings in ANTONIADI's book are based on the results of his historian soul, and any are not always checked by him. So he did not see Erinnys and it was almost only SCHIAPARELLI who observed Eumenides. So from the point of view of the observations, there may not arise few interest in Erinnys and as well

in Eumenides, but from the view point of nomenclature from Greeks they are interesting.

§1. Jürgen BLUNCK's *"Mars and Its Satellites"* (Exposition Press, NY, 2nd Ed, 1982) writes that Erinnys is "one of the Furies, goddess of vengeance. Their home is the world below, whence they ascend to earth to pursue the wicked. In Aechylus they are the daughters of night, represented as awesome, Gorgonlike women, wearing long black robes, with snaky locks, bloodshot eyes, and clawlike nails." On the other hand, Eumenides are "the gracious goddesses, a euphemism of the Erinyes." We should know that there is not so difference between the two as shown below: This is a kind of a Greek duality, so to speak. It is interesting these name were put near the Sea od Sirenes (pl of Siren), and also near Gorgon and Orcus (both also in 1881/1882 by SCHIAPARELLI).

The relation between the two, Erinnys and Eumenides, is detailed in *"Dictionary of Greek and Roman Biography and Mythology"* (edited by William SMITH, 1867). It suggests that the mythology of Erinnys is older. For example the book writes as follows: "Eumenides, also called Erinnyes, and by the Romans Furiæ or Diræ, were originally nothing but a personification of curses pronounced upon a guilty criminal. The name Erinnyes, which is the more ancient one, was derived by the Greeks from the verb *** I hunt up or persecute, from the Arcadian word, *** I am angry; so that the Erinnyes were either the angry goddesses, or the goddesses who hunt up or search after criminal. The name Eumenides, which signifies "well-meaning" or "soothed goddesses" is a mere euphemism, because people dreaded to call these fearful goddesses by their real name, and it was said to have been first given them after the acquittal of Orestes by the court of the Areiopagus, when the anger of the Erinnyes had become soothed. It was by a similar euphemism that at Athens the Erinnyes were called *** or venerable goddesses." (here *** implies a set of Greek words and we omitted). Apparently these are independent of or before than the stories of the mythology of Olympus.

§2. Now we have to talk about Demeter. This Goddess is famous in Roman myths as Ceres. Her story is well known for example by the wide circulation of Ovidius' *Metamorphoses*: The usual stories of star constellations quite depend on Ovidius. Usually Demeter or Ceres is a Goddess of fertility, and talked about in a neat manner. However the situation is not simple as is well known and also she is under a duality. Before stating our point we here cite some descriptions about Demeter from William SMITH' editions: "Demeter is one of the great divinities of the Greeks." "Demeter would be the mother or giver of barley or of food." "Demeter was the daughter of Cronus and Rhea, and sister of Hestia, Hera, Aïdes, Poseidon, and Zeus." "By her brother Zeus, Demeter became the mother of Persephone (Procerpina) and Dionysus, and by Poseidon of Despoena and the horse Arion. The most prominent part in the mythus of Demeter is the rape of her daughter Persephone by Pluto, and this story not only suggests the main idea embodies in Demeter, but also directs our attention to the principal seats of her worship. Zeus, without the knowledge of Demeter, had promised Persephone to Pluto, and while the unsuspecting maiden was gathering flowers which Zeus had caused to grow in order to tempt her and favour Pluto's scheme, the earth suddenly opened and she was carried off by Aïdoneus (Pluto). Her cries of anguish were heard by Hecate and Helios. Her mother, who heard only the echo of her voices, immediately, set out in search of daughter." "Demeter wandered about in search of her daughter for nine days, without taking any nectar or ambrosia, and without bathing." "As the goddess still continued in her anger, and produced famine on the earth by not allowing the fields to produce any fruits, Zeus, anxious that the race of mortals should not become extinct, sent Iris, (later Rhea,) to induce Demeter to return to Olympus, but in vain."

Usual aftermaths of Demeter or Ceres are well known: For example her daughter Persephone or Procerpina or Cole is forced to stay under ground for sometime and cannot stay besides her mother the rest of the year. Demeter receives Persephone back in spring, and hence one may consider the

constellation Virgo corresponds to Persephone. Persephone brings about thus a happy season.

§3. Hitherto there seems no relation between Erinnys and Demeter. Usually they look independent. But there is a dark period about Demeter: Demeter the black. We here pick out a book written by PAUSANIAS around 180AD. PAUSANIAS was a person who made a long journey around Greece and visited a lot of remains and ruins in Greece. According to the tales of PAUSANIAS the relation of Erinnys and Demeter is not simple. We here use *Pausanias Description of Greece* (with an English Translation by W. H. S. Jones, Litt. D., and H. A. Ormerod, M. A., in 4 Volumes. Cambridge, MA, Harvard University Press; London, William Heinemann Ltd. 1918) (in Japan a complete Japanese translation from the Greek original was published in 1991: the whole volume amounts to about 950 pages). Note first that since PAUSANIAS was a traveller, his is not a story teller's one.

Demeter is talked many times but it may be in relation with Poseidon that Erinnys first appears. First we cite the following from VIII-25-[5], that is, Volume 8, Chapter 25 and Section 5:

VIII-25-[5]: *When Demeter was wandering in search of her daughter, she was followed, it is said, by Poseidon, who lusted after her. So she turned, the story runs, into a mare, and grazed with the mares of Oncius; realizing that he was outwitted, Poseidon too changed into a stallion and enjoyed Demeter. At this place Demeter became of course angry in addition to the angry about the concealment of her daughter. Next at VIII-25-[6]: At first, they say, Demeter was angry at what had happened, but later on she laid aside her wrath and wished to bathe in the Ladon. So the goddess has obtained two surnames, Fury because of her avenging anger, because the Arcadians call being wrathful "being furious," and Bather (Lusia) because she bathed in the Ladon. The images in the temple are of wood, but their faces, hands and feet are of Parian marble.* The Fury here told is nothing but Erinys, since the original Greece of "Fury" is nothing but Ἐρινύς. The river Ladon is known as

a pretty river, and so her act is a kind of purification becoming Eumenius, and suggests a duality.

What we most pay attention is in the following where "Demeter, the black" and especially the presence of "cave" where she hid appear. VIII-42-[1]: *The second mountain, Mount Elaius, is some thirty stades (5.4 km) away from Phigalia, and has a cave sacred to Demeter surnamed Black. The Phigalians accept the account of the people of Thelpusa about the mating of Poseidon and Demeter, but they assert that Demeter gave birth, not to a horse, but to the Mistress, as the Arcadians call her. (In the original Greek here the Mistress is called Δέσποινα or Despoina, and Japanese translation explicitly calls her Despoina.)*

VIII-42- [2] : *Afterwards, they say, angry with Poseidon and grieved at the rape of Persephone, she put on black apparel and shut herself up in this cavern for a long time. But when all the fruits of the earth were perishing, and the human race dying yet more through famine, no god, it seemed, knew where Demeter was in hiding, VIII-42- [3]: until Pan, they say, visited Arcadia. Roaming from mountain to mountain as he hunted, he came at last to Mount Elaius and spied Demeter, the state she was in and the clothes she wore. So Zeus learnt this from Pan, and sent the Fates to Demeter, who listened to the Fates and laid aside her wrath, moderating her grief as well. For these reasons, the Phigalians say, they concluded that this cavern was sacred to Demeter and set up in it a wooden image.*

Here the English word of "Fates" implies originally Moira Goddesses and play the role of consolation. Moirai have also complex characters and cannot be isolated with Erinnys, but here PAUSANIAS lacks some pieces of important information. In fact the presence of the cave was first brought to light, but it is otherwise said it was Iambe or Baubo who consoled Demeter (both Goddesses do not appear in PAUSANIAS). The preceding Dictionary edited by William SMITH says more concretely that Iambe is "a Thracian woman, daughter of Pan and Echo, The extravagant hilarity displayed at the festivals of Demeter in Attica was traced to her; for it is said that, when Demeter, in her wanderings

in search of her daughter, arrived in Attica, Iambe cheered the mournful goddess by her jokes. She was believed to have given the name to Iambic poetry; for some said that she hung herself in consequence of cutting speeches in which she had indulged, and others that she had cheered Demeter by a dance in the Iambic metre." Similarly Baubo is as follows according to the edition of W SMITH, *"a mythical woman of Eleusis, whom Hesychius calls the nurse of Demeter; but the common story runs thus:--on her wanderings in search of her daughter, Demeter came to Baubo, who received her hospitality, and offered her something to drink; but when the goddess, being too much under the influence of grief, refused to drink, Baubo made such a strange gesture, that the goddess smiled and accepted the draught."* Here "a strange gesture" is interesting and implicative though the above Dictionary does not tell much. At any rate, as to the consolation of Demeter, some kinds of funny things were offered, and at present, as far as the present writer knows, there are two ways of the story about the soothing Demeter. Apparently these kinds of women play the role of tricksters, and though they don't mention about the sacred cavern on the other hand and gestures (there are known much strange images of Baubo) are picked out together with the draught, there must have been a characters of Mythology where any darkness is connected.

To sum up, Demeter, one of the twelve deities in Mons Olympus, was a Goddess of fertility and her absence implied a great famine. Unfortunately her daughter was kidnapped and she was angry and depressed, and in search of her daughter she wandered in black apparel. Her grief was so deep that she once hid herself in a cave: Consequently people on the earth face to famine, and hence Zeus set a spy to Demeter, and finally the cave where Demeter was inside was found out. However Demeter did never intend to come out from the cave. So Zeus sent out again somebodies like Iambe or Baubo as Moira, and entertained the depressed Demeter, and finally soothed Demeter. As she went out from the cave the fruits resumed bearing and the agriculture

was recovered. There was still a serious problem about the treatment of Persephone, but a compromise was to be built. As to the real aspect of the cavern, PAUSANIAS does not tell in details, but it is certain there remained a legend around there though other story tellers disregarded.

§4. The above story must have reminded any Japanese who knows about some of the Japanese old mythology. We of course have something tell about the story of Izanagi-Izanami, but we can begin with Ama-terasu who is the famous Sun Goddess in Japan.

Basil Hall CHAMBERLAIN (1850~1935) stayed in Japan from 1873 to 1911 (who was therefore a friend of Lafcadio HEARN and of course an acquaintance of Percival LOWELL). He wrote many about Japan (also taught at the University of Tokyo) while especially the *"Things Japanese"* (1891) is famous. Here as to the first part of Mythology he succinctly wrote as follows: *"One of these deities was the Sun-Goddess Ama-terasu, who was born from his (Izanagi's) left eye, and while the Moon-God sprang from his right eye, and the last born of all, Susanowo, whose name means 'the Impetuous Male', was born from his nose. Between these three children their father divides the inheritance of the universe."*

At this point the story loses its unity. The Moon-God is no more heard of, and the traditions concerning the Sun-Goddess diverge from those concerning the Impetuous Male Deity in a manner which is productive of inconsistencies in the rest of the mythology. The Sun-Goddess and the Impetuous Male Deity have a violent quarrel, and at last the latter breaks a hole in the roof of the hall in Heaven, where his sister is sitting work with her 'celestial weaving-maidens,' and through it lets fall 'a heavenly piebald horse which he had flayed with a backward flaying.' The consequences of this impious act were so disastrous that the Sun-Goddess withdrew for a season into a cave, from which the rest of the eight hundred myriad deities with difficulty allured her. The Impetuous male Deity was thereupon banished, and the Sun-Goddess remained mistress of the field. Yet,

strange to say, thenceforward retires into the background, and the most bulky section of the mythology consists of stories concerning the Impetuous Male deity and his descendants, who are represented as the monarchs of Japan, or rather of the province of Izumo. The Impetuous Male Deity himself, whom his father had charged with the dominion of the sea, never assumes that rule, but first has a curious told amorous adventure and an encounter with an eight-forked serpent in Izumo, and afterwards reappears as the capricious and filthy deity of Hades,"

Since the purpose of CHAMBERLAIN was to write about the *true* History of Japan, he neglected some parts of Mythology, while Susanowo is more deeply related with the settlement of the old Japanese politics through the Izumo district, CHAMBERLAIN did not tell more about Ama-terasu. In this sense, we admit, he was a man of fine view. However the Japanese Mythology is also not simple, and we should add as follows: (Note that the Japanese History and Mythology is written down in "*Kojiki*" or "*Nihongi*." CHAMBERLAIN is known also as an English translator of "*Kojiki*" and so we cite a part of his translation in Appendix below).

The mythological story continues as follows: Because of several rude manners and rampages of Susanowo, Ama-terasu became very angry and desperate, and consequently she entered and remained inside a dark rock cave (Ama-no-iwato) in a heavenly mountain. Thus the Japanese people who were fed by rice faced starvation without Sunlight. A lot of Gods and Goddesses gathered at the entrance of the cavern and asked Ama-terasu to come out, whereas her grief was so strong that she refused to do so. Then a clever God put forwards an idea to solve the deadlock: Uzumé-no-mikoto, a goddess of mirth, was invited to accomplish a plan. Uzumé danced an ecstatic one before the cavern, and her breast was exposed and the skirt of Kimono-like garment was hoisted and hence the Gods and Goddesses before the entrance roared with laughter. Ama-terasu heard the roaring party from the inside, and her curiosity allowed her to open the door a

bit, and then a God called Ame-no-tajikarawo-no-mikoto (a God having a Heraculean strength) pulled further the door and opened completely, and Gods and Goddesses crowded around Ama-terasu and she was finally surrounded by them so that she could not return inside the cave again. Her angry was thus dissipated and soothed by the humorous amusement and finally returned to her home: As a result, her Sun was again shone on the earth.

As is apparent, one of the most important Goddess here is Her Augustness Heavenly-Alarming Female =Ame-no-uzumé-no-mikoto. And she easily reminds us of the character and role played by Iambe or Baubo as Moira. The act of Ama-terasu hiding in a cavern was also caused by her brother who is somewhat is related with a horse (and related with the Sea), and hence Ama-terasu really corresponds to Demeter who was a Goddess of fertility and Susanowo does to Poseidon. Horse (called *U-ma* in Japan, while in China just *ma*) is not original in our lands and it was came across from the China continent (similarly the Japanese apricot is called *U-mé* (or *Mu-mé* in an older times), but it also came from the China continent: In China it is called *méi*), and so this part of the Mythology certainly came from the Asian continent. The Eurasia Continent is so large that it might have been possible for any story-telling to be easily but complicatedly propagated, and so it is reasonable to consider that the story of Takagamahara (High Plain of Heaven) story must not be independent of the story of Olympus. Ama-terasu is still worshipped in a lot of Shinto Shrines in Japan even now. To tell the truth, the present writer once visited the Takachiho district which is said the place the Gods and Goddesses lived, and saw a cave decorated, while it did never appear to be real. There are many places which insist that the cavern existed, among which Takachiho is the most famous.

§5. There are a couple of anthropologists [Taryo OOBAYASHI (1929~2001), Atsuhiko YOSHIDA (1934~)

and so on] who pointed out the intrinsic relation with the story of the cave in PAUSANIAS with cave where Ama-terasu hid, but any origin or the propagation of the relation is not cleared. Once Claude LÉVI-STRAUSS (1908~2009) pointed out that Susanowo was a kind of persons like Baitogogo which are seen globally around the world, and Baitogogo itself is from the American Indian, but the true origin of the story is not known. At any rate, they are never independently invented but must have been intimately related in the ancient times somewhere from Africa to Asia when human kinds had no letters yet.

However in the Japanese Mythology the *euphemistic* duality which is always apparent in the Greek Mythology looks to quite lack, and this may be originally Japanese. We may scarcely find the duality between Erinnys and Eumenides in Japanese Mythology. Just Ookuninushi-no-mikoto in the Izumo district may show a euphemistic duality.

It is also pointed out that the relation between Izanagi and Izanami is very akin to the story between Orpheus and Eurydice. Its intimacy may be nearer than the distance between Asia and Europe, and the origin may be the same, while however there is still a sense of distance between the two.

It was amazing SCHIAPARELLI employed the name of Emperor Yao in China in relation with a myth of floods (just like Noah), but he never cited any term from the Japanese Mythology though the latter is full of deities and stories. SCHIAPARELLI also forgot to take into account the Ladon River though he is an originator of canals. Fortunately in 1976 they settled down Ladon Valles at around (029°W, 22°S).

APPENDIX:

Here is shown some original paragraphs concerning Ameno-uzume (Augustness Heavenly-Alarming Female) from B H CHAMBERLAIN's translation of "Kojiki" (1919). The Sun-Goddess Ama-terasu is newly denoted "Heaven-Shining-Great-August-Deity" and Susanowo or "the Impetuous Male

Deity" is called "His-Swift-Impetuous-Male-Augustness" here.

"As the Heaven-Shining-Great-August-Deity sat in her awful weaving-hall seeing to the weaving of, the august garments of the Deities, he broke a hole in the top of the weaving-hall, and through it let fall a heavenly piebald horse which he had flayed with a backward flaying, at whose sight the women weaving the heavenly garments were so much alarmed that impegerunt privatas partes adversis radiis et obierunt.

So thereupon the Heaven-Shining-Great-August-Deity, terrified at the sight, closed [behind her] the door of the Heavenly Rock-Dwelling, made it fast, and retired. Then the whole Plain of High Heaven was obscured and all the Central Land of Reed-Plains darkened. Owing to this, eternal night prevailed. Hereupon the voices of the myriad Deities were like unto the flies in the fifth moon as they swarmed, and a myriad portents of woe all arose. Therefore did the eight hundred myriad Deities assemble in a divine assembly in the bed of the Tranquil River of Heaven, and bid the Deity Thought-Includer, child of the High-August-Producing-Wondrous-Deity think of a plan, assembling the long-singing birds of eternal night and making them sing, taking the hard rocks of Heaven from the river-bed of the Tranquil River of Heaven, and taking the iron from the Heavenly Metal-Mountains, calling in the smith Ama-tsu-ma-ra, charging Her Augustness I-shi-ko-ri-do-me to make a mirror, and charging His Augustness jewel-Ancestor to make an augustly complete [string] of curved jewels eight feet [long],-of five hundred jewels, -and summoning His Augustness Heavenly-Beckoning-Ancestor-Lord and His Augustness Great-Jewel, and causing them to pull out with a complete pulling the shoulder [-blade] of a true stag from the Heavenly Mount Kagu, and take cherrybark from the Heavenly Mount Kagu, and perform divination, and pulling up by pulling its roots a true cleyera japonica with five hundred [branches] from the Heavenly Mount Kagu, and taking and putting upon its upper branches the augustly complete [string] of curved jewels eight feet [long],-of five hundred jewels,-and taking and tying to the middle branches the mirror eight feet [long], and taking and hanging upon its lower branches the white

pacificatory offerings and the blue pacificatory offerings, His Augustness Grand-jewel taking these divers things and holding them together with the grand august Offerings, and His Augustness Heavenly-Beckoning-Ancestor-Lord prayerfully reciting grand liturgies, and the Heavenly Hand-Strength-Male-Deity standing hidden beside the door, and Her Augustness Heavenly-Alarming Female hanging [round her] the heavenly clubmoss of the Heavenly Mount Kagu as a sash, and making the heavenly spindle-tree her head-dress, and binding the leaves of the bamboo-grass of the Heavenly Mount Kagu in a posy for her hands, and laying a sounding board before the door of the Heavenly Rock-Dwelling, and stamping till she made it resound and doing as if possessed by a Deity, and pulling out the nipples of her breasts, pushing down her skirt-string usque ad private partes. Then the Plain of High Heaven shook, and the eight hundred myriad Deities laughed together. Hereupon the Heaven-Shining-Great-August-Deity was amazed, and, slightly opening the door of the Heavenly Rock-Dwelling, spoke thus from the inside: "Methought that owing to my retirement the Plain of

Heaven would be dark, and likewise the Central Land of Reed-Plains would all be dark: how then is it that the Heavenly-Alarming-Female makes merry, and that likewise the eight hundred myriad Deities all laugh?" Then the Heavenly-Alarming-Female spoke saying: "We rejoice and are glad because there is a Deity more illustrious than Thine Augustness." While she was thus speaking, His Augustness Heavenly-Beckoning-Ancestor-Lord and His Augustness Grand-jewel pushed forward the mirror and respectfully showed it to the Heaven-Shining-Great-August-Deity, whereupon the Heaven-Shining-Great-August-Deity, more and more astonished, gradually came forth from the door and gazed upon it, whereupon the Heavenly-Hand-Strength-Male-Deity, who was standing hidden, took her august hand and drew her out, and then His Augustness Grand-jewel drew the bottom-tied rope along at her august back, and spoke, saying: "Thou must not go back further in than this!" So when the Heaven-Shining-Great-August-Deity had come forth, both the Plain of High Heaven and the Central-Land-of-Reed-Plains of course again became light. □

CMO 09/10 Mars Note (10)

Recent Variations of the Area of Solis Lacus

The area of Solis Lacus (Lake of Sol) is a difficult place to observe: At the time of great opposition however it passes the centre of the disc, but at the aphelic apparition it lies too southern to check the details of the area. Solis L itself may be caught as a dark spot when it is aphelic because the high latitude of the planet brings sometimes good seeings, but at the mediocre apparitions Solis L looks quite difficult and too blurred to observe the details by the naked eyes.



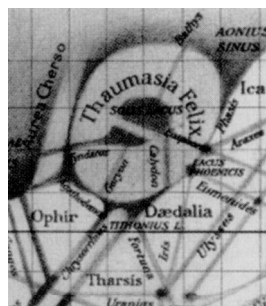
Most recently in 2003 we were able to observe even some details of the area between Nectar and Agathodæmon by the naked eyes, but usually the area is not an easy place to observe.

(Here we site a sketch of a small region between Nectar and Agathodæmon) based on a drawing by Hitomi TSUNEMACHI in 2003 by the use of a 25cm Wakugawa spec at Naha.)

However the object of the Mars observation is nowadays not to check the details, and hence concerning the area of Solis L we should not be so worried about the details, but since the change of the area of Solis L is frequent we should take always a stance to check the situations: It is perhaps to need to have a posture to find a trend of the area, though as we think no one has ever been successful to grasp the unified tendency.

As to the secular changes of Solis L, ANTONIADI once showed four very different images from different years (from 1877 to 1926 cited at p140 to p141 in his book): In the above case the figure in 1877 made by G V SCHIAPARELLI looks quite strange, but, as seen from Etienne Leopold TROUVELOT's drawing on 3 September in the

same year shows a similar figure (see eg the one cited in Stéphan LECOMTE's talk in IWC MO), and hence what was singular was not because of SCHIAPARELLI but the strangeness was because of the planet itself. Here we show the parts of map by SCHIAPARELLI made in 1890 and ANTONIADI's:



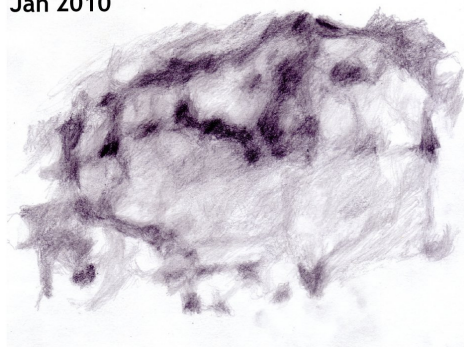
(Aurea Cherso in SCHIAPARELLI in 1890 is different from ANTONIADI's: The former was named by S in 1877.)

The dark down line of Phases (or its west) seems to have been seen from 1877 to 1879.

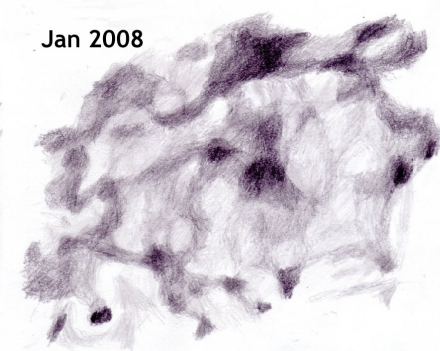


It is sometimes said that the variation was due to the occurrence of the dust clouds near it. Certainly the place is not a definite dark place and temporarily affected by the dust storm, while it has not been trapped concretely: There might have possibly been another unexpected reason for the change. ↙

Jan 2010



Jan 2008

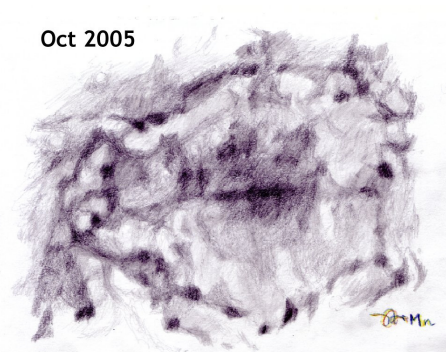


In Note (7) of CMO #380, we touched on some cases of the variation of dark areas, while we excluded the case of Solis L because it looked complicated. So we try to pick out the area of Solis L at this place. However in 2009/2010, the tilt ϕ was unfavourable, and so ↗

Dec 2007



Oct 2005



we here, to compare with the preceding cases, don't cite ccd images but use the drawings by the author who will be much based on the ccd images by William FLANAGAN (*WFI*) and Damian PEACH (*DPc*). These imagers are good because they use the same kinds of apparatus and took images more than once a night. Conversely speaking, they took every 5 minutes or ten or twenty minutes, but they are not all the same because of the seeings: So we made a set of rough drawings to average, but it was so sorry ours are very rough. Just we hope to show the changes seen during the period from 2005 to the present time.

In December 2003, there was a dust phenomenon near the area of Solis L, and its aftermath is an interesting object, but already the apparent diameter was decreased so that no definite comparison can be given with the case when it was large. So here we pick out the case in October 2005 just before when the interesting dust occurrences were seen. The dust was first seen at near Eos in 18 October 2005 and at that time the area of Solis L remained unchanged, but here we pick out the ccd images given by *WFI* on 16 October, and gave a rough sketch of the region of Solis L. Since *WFI* made use

of an L filter, we constructed the sketch from his LRGB images. The R images of *WFI* are not necessarily good since R is just used to obtain the colour of the disc (on the other hand we used R images in the case of *DPc*, though it does not necessarily affect the RGB images).

We thought the density of Solis L in 2005 is superior to that in 2003. The main area looks also larger.

In 2005 the dust series occurred to the eastern side of Thaumasia Foelix, and hence the series of dust did not much affected inside the area of Solis L, though the side of M Erythræum was much influenced. Compared with the case of 2003, Nectar looked denser while the canal-like line which was conspicuous in 2003 running the centre of Solis L was still visible.

In the case of 2007, the MRO unearthed a dust rising at Eos on 21 June ($\lambda=262^\circ\text{Ls}$) (cf CMO #335), and its resonance was seen on 23 June at Argyre, and on 24 June ($\lambda=264^\circ\text{Ls}$) it was observed from the terrestrial station on Noachis. Since the dust was warmed up at Noachis it developed quite large, while its resonance did not look at first to reach the area of Solis L yet. However on 7 July ($\lambda=272^\circ\text{Ls}$) after Dave TYLER (*DTy*)' observation the dust looked to have a resonance near the area of Solis L (CMO#334): On 8 July ($\lambda=272^\circ\text{Ls}$) Bruce KINGSLEY (*BKn*) at $\omega=064^\circ\text{W}$, *DPc* at $\omega=066^\circ\text{W}\sim072^\circ\text{W}$. Richard BOSMAN (*RBs*) at $\omega=068^\circ\text{W}$, and David ARDITTI (*DAr*) at $\omega=071^\circ\text{W}\sim083^\circ\text{W}$ caught the dust, and on 9 July ($\lambda=273^\circ\text{Ls}$) *DPc* caught it quite dense at $\omega=065^\circ\text{W}\sim071^\circ\text{W}$. It seemed to remain further, and Don PARKER (*DPk*) shot it out on 17 July ($\lambda=278^\circ\text{Ls}$) at $\omega=070^\circ\text{W}$ and on 19 July ($\lambda=279^\circ\text{Ls}$) at $\omega=049^\circ\text{W}$, 055°W . Unfortunately even then the apparent diameter was $\delta=6.8''$ and hence the details of the effect were unknown. However the influence must have been decisive.

The two central figures made of rough sketches here show the ones in 2007/2008 which are based firstly on *DPc*'s excellent images on 7 & 8 December 2007 ($\lambda=359^\circ\text{Ls}$) and secondly *WFl* on 14 Jan 2008 ($\lambda=017^\circ\text{Ls}$): Apparently the main part of Solis L appears quite different than that in 2005, and it had become smaller. In 2005 and before, the main part of Solis L showed two protrusions towards south, while now the western horn looks decreased in

density to the effect that the bottom looks to be triangular (if we refer to ANTONIADI's map, Fulgoris Depressio receded whereas Helii Depressio looks remained). In the second figure which was based on *WFl*'s images, the main parts are all weaker in R. Note that in 2007/2008, the boundary between Aurea Cherso and Capri Cornu (in the sense of ANTONIADI) is invisible. We should say the change of Solis L is one of the most conspicuous deformations which recently occurred.

It should be remarked that the two cases in 2007/2008 look not the same although the days are not so different. Especially a great difference is seen outside of Thaumasia Foelix to the SE direction and minor changes are otherwise also seen. There might have been occurred something before and after the spring equinox, but we cannot identify. More than dust, a set of white clouds must have brought about changes in association of the darkened M Erythræum. The outside darkening was seen on Yasunobu HIGA (*Hg*)'s image on 25 December ($\lambda=008^\circ\text{Ls}$), and on 26 December, Teruaki KUMAMORI (*Km*)'s images as well as Yukio MORITA (*Mo*)'s images show it. Ian BRUCE (*IBr*)'s images on 5 January ($\lambda=013^\circ\text{Ls}$) show quite vividly.

Another point we should not miss is the difference of phase angles of the two: One was taken before opposition and the other after, and hence difference of the angle is about 30° . Small difference of the shadows will be easily caused between the two.

The images in 2009/2010 were not superb in general (perhaps because of the weather conditions) and as was pointed before the area of Solis L was quite southwards. We here make a rough sketch of the region from *DPc*'s images on 23 January 2010 ($\lambda=042^\circ\text{Ls}$), 26/27 January ($\lambda=043^\circ\text{Ls}$) in a scale similar to the preceding cases. The main part of Solis L does not look to have recovered, and the western part of Solis L seems still to be faded. Just the area of Ambrosia L looks to have been darkened (as in

around 1954). The boundary of the direction of Aurea Cherso recovered and outline of the region including Thaumasia Foelix is quite cleared.

Letters to the Editor

●*Subject: Transit of Venus Project*
Received: Mon 07 March 2011 02:02:14 JST

Dear Colleagues, A number of us, following the AAS meeting in Seattle, have become interested in coordinating efforts internationally for purposes of observing the transit of Venus in 2012, the last to occur during our lifetimes. We are attempt to organize ourselves under a common umbrella organization tentatively called "The Transit of Venus Project" (until a better name can be found).

As all of you are aware, the 2012 transit will be extremely advantageous for observers, since almost all the most populated areas of the Earth will be able to see at least some of the transit (the only land masses excepted are the tip of Spain, the western part of Africa, the eastern part of South America and Antarctica). In addition to high-tech observations of the transit (including some from space) such as were made in 2004, we wish to emphasize the singular importance of the transits in the history of astronomy and in the geographical exploration of the Earth, which led to massive preparations and daring expeditions in the Eighteenth Century in pursuit of the Halleyan project of determining the solar parallax. The level of interest and commitment at the time was comparable to that of the Race to the Moon in our own recent history.

We are hoping that any of you who are interested in becoming involved—whether as a planner and coordinator or as a participant or both—will apprise us of your level of interest and the status of your personal preparations and plans to observe the transit. We would also ask you to suggest the names of others who may be interested in participating. Our goal is ultimately to have observers

We finally note that we tried to fix the position of the small dots but because of our clumsiness and the seeing fluctuations they are not always apparent and so we admit still they are not exactly placed. □

stationed throughout the world, and are especially eager to have observers stationed at sites important historically during past transits (Steven van Roode's web page on this subject is extraordinarily complete) and those who are able to emulate past observations using historical instruments. Your response to this e-mail will result in your being kept in the loop — and future communications will probably include a regular (monthly, bimonthly?) organ for coordinating these activities. Sincerely,

William SHEEHAN, on behalf of the "Transit of Venus Project"

○*Subject: FW: Transit of Venus Project*
Received: Wed 09 Mar 2011 22:06:13 JST

Françoise (and Peter), I just received this interesting communication from my close friend Masatsugu Minami, and thought it might be of interest re: Janssen. You probably know all this, but just in case not...

I had the great pleasure of visiting the site of Janssen's expedition with Masatsugu and other avid Japanese amateur astronomers in 2004. Hard to believe that we are now approaching another transit already! I don't feel so sorry for Le Gentil as I once did, as time flies much faster as one gets older, and eight years now seems an eye-blink. What will it seem at eighty? Best,

○*Subject: Earthquake*
Received: Sat 12 Mar 2011 08:40:25 JST

Dear Masatsugu, I realize that you are not on the eastern coast of Japan (Tokyo side) and perhaps were spared the devastation of the Earthquake. Have you heard how others of our Japanese colleagues of the CMO are faring? Hoping you and your wife are well. Regards,

○*Subject: FW: Earthquake*
Received: Sun 13 Mar 2011 02:43:14 JST

Masatsugu, We are relieved that you and yours are unaffected. Françoise asked about you, and I

sent your comments.

Bill SHEEHAN (Willmar, MN, USA)

●.....*Subject: M9.0 Earthquake!*

Received: Fri 11 Mar 2011 23:38:54 JST

Dear Dr. Minami, Thank you for your concern. We are all right. Our town was rather distant from the seismic center, but the quake was quite powerful. I was in our dental clinic, treating our patients when the earthquake occurred. All heavy equipment in the treatment room remained intact as each piece had been securely anchored to the floor which enabled our patients to be unhurt. Our house is terribly chaotic...I'm attaching a snap of my room.

I am sorry I can't submit my opinion on Dr. Sheehan's excellent essay last month.

Wishing good results for your biopsy,

Rei-ichi KONNAI (Fukushima, Japan)

●.....*Subject: Earthquake*

Received: Fri 11 Mar 2011 18:24:44 JST

Dear Masatsugu, I have not been able to send message before today because of new problems on my web line - and this morning I have just seen impressive images and videos from Japan hit by the earthquake and the tsunami... I hope that you are well and all the people you know ! Best wishes

○.....*Subject:Re:RE:Re:GRS images on 7th march*
Received: Fri 11 Mar 2011 18:29:07 JST

Dear Masatsugu, dear Isamu Hirabayashi, As I have already written to Masatsugu, I hope all of you are well after the earthquake...

Thank you for your comment on those Jupiter images - I was indeed hoping to take a last valuable testimony of what's going on Jupiter.

I will certainly add you Mr. Hirabayashi to my Jupiter mailing list. Due to the weather forecast I think however that it was my very last set from the 2010 apparition. Let's wait for the next one!

With best wishes

Christophe PELLIER (Nantes, France)

●.....*Subject: hi*

Received: Sat 12 Mar 2011 21:16:09 JST

Dear Masatsugu, We have been seeing on television the terrible news from Japan. Our hearts are broken for the people who have suffered so much. I hope, in particular, that you and your family are OK. With warm regards,

Sam WHITBY (Hopewell, VA, USA)

●.....*Subject: Earthquake*

Received: Sun 13 Mar 2011 06:26:47 JST

Dear Masatsugu, I was very sorry to hear about the terrible tragedy in Japan. I hope that you and your family are safe. Maureen and I are keeping you and our friends in Japan in our prayers.

Best regards,

Don PARKER (Miami, FL, USA)

●.....*Subject: Japanese earthquake and tsunami*

Received: Sun 13 Mar 2011 06:55:53 JST

Dear Masatsugu, Having seen the news of the terrible earthquake(s) and tsunami in Japan I am just writing to make sure you are alright: I think you are quite some distance from the worst affected regions.

The images on the news have been quite shocking.

With sincere regards

Richard McKIM (Peterborough, UK)

☆☆☆

TEN YEARS AGO (187)

-----CMO #241 (25 March 2001) pp2931~2954 -----

<http://www.hida.kyoto-u.ac.jp/~cmo/cmomn0/cmo241/index2.htm>

The opening report is #05 of the 2001 apparition, and treated the period from 16 Feb 2001 ($\lambda=118^\circ\text{Ls}$) to 15 Mar 2001 ($\lambda=131^\circ\text{Ls}$) during which the apparent diameter δ augmented to 8.8", and the tilt ϕ varied from 9°N to 4°N . The phase angle was at maximum $i=38^\circ$. The season was $\lambda=131^\circ\text{Ls}$ on 15 Mar, and entered the period of the latter half of the 1999 season. At the end of the period the planet was at the meridian when the Sun rose. A total of 13 observers joined (domestically 8, and abroad 5) and 147 observations were gathered. In mid Feb the weather was good in Japan: MORITA (Mo) caught the brightening Chryse-Xanthe and chased. The npc became difficult to see whereas the sph became to draw attention. On 1 Mar ($\lambda=124^\circ\text{Ls}$), Don PARKER (DPk)

chased Elysium which became brighter in the evening: These were very instructive because the Hellas and Syrtis Mj were on the morning size.

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/DPk01Mar01.htm>

On 2 March, Hellas came to the evening side from Japan and was paid attention in relation with the nph. On 13 Mar ($\lambda=130^\circ\text{Ls}$) NISHITA (Ns) took a ccd image (first preview?) at $\omega=248^\circ\text{W}$.

FORTHCOMING 2001 MARS (9) was "Disk with Grids. II" in which the season of the yellow cloud was treated and the cases were shown from 1 July 2001 ($\lambda=188^\circ\text{Ls}$, $\phi=06^\circ\text{N}$, $\delta=20.5^\circ$, $\iota=15^\circ$) to 1 Jan 2002 ($\lambda=301^\circ\text{Ls}$, $\phi=26^\circ\text{S}$, $\delta=6.3^\circ$, $\iota=39^\circ$).

<http://www.hida.kyoto-u.ac.jp/~cmo/cmo/coming2001/0109/09.html>

1998/99 Mars CMO Note (19) was "The sph in 1999 bis" which was a supplement of the article of 1998/99 Mars CMO Note (15) (CMO#237): "The south-polar hood in 1999"

<http://www.hida.kyoto-u.ac.jp/~cmo/cmomn0/99Note19/index.htm>

<http://www.hida.kyoto-u.ac.jp/~cmo/cmomn0/99Note15/index.htm>

In the former, the threshold was pinned down at around $\lambda=140^\circ\text{Ls}$, but in 1999, the northern tilt was too large to grasp the spr. The latter article so reexamined: Since there was a germ at Thaumasia Foelix on 9 Apr ($\lambda=122^\circ\text{Ls}$), and finally concluded Hellas suggested the threshold on 21 Apr ($\lambda=127^\circ\text{Ls}$).

LtE was from Sam WHITBY (VA, USA), David R KLASSEN (NJ, USA), Don PARKER (Fl, USA), Myron E WASIUTA (VA, USA), Carlos E HERNANDEZ (Fl, USA), Damian PEACH (UK), Frank J MELILLO (NY, USA): and as well as from H ISHADOH, T ISHIBASHI, Y MORITA, Y HIGA, T AKUTSU: Especially H TSUNEMACHI informed us of the death of her pet dog Jj(16 years old).

TYA (67) was written by Mk about CMO#103 (25 Mar 1991): 20 years ago the planet was at eastern quadrature at Tau. Already $\delta = 7''$ in mid Mar, but it was high up and so observable long. The season was $\lambda=032^\circ\text{Ls}$ on 15 Mar 1991, while the tilt was too southern. We also still received a report from Tom CAVE†.

(Mk & Mn)

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MARS No. 241
25 March 2001

OBSERVATIONS Published by the OAA Mars Section

CMO 2001 Mars Report # 08 — OAA Mars Section

THE present report deals with the Mars observations made during the period from 16 February 2001 (118° Ls) to 15 March 2001 (131° Ls) during which the apparent angular diameter δ went up from $7.0''$ to $8.8''$, the tilt ϕ changed from 9° N down to 4° N, and the planet was on the maximal waxe with the phase angle $\epsilon = 38^\circ$. The apparent declination was down to -22° at the end.

On 15 March the Moon near the last quarter (slightly gibbous) came near the planet Mars to the north by $1''.47$; implying that the planet rose at midnight and would disappear at daybreak. The Martian season of 131°Ls on 15 March corresponds to the season we met last in 1999 near at opposition, and so we shall observe hereafter the Martian season which we observed in 1999 when the diameter δ was descending.

The season on our side also drastically changed: On 16 February the roof top of the Observatory was quite white with snow and the temperature was down to -3°C in the early morning, while on 15 Mar it was rather warm with 4°C outside of the dome. On 19 Mar it went up to 9°C at midnight.

今回のレポートは16Feb2001(118°Ls)から15Mar2001(131°Ls)迄の観測を扱う。視面径は7.0"から8.8"まで増えた。中央緯度 ϕ は9°Nから降り、4°Nを切った。位相角 ϵ は38°で、ここが極大である。以後圓へ戻って行く。視面径は落ち込んで、期星は-22°近かった。

15Marには火星の北(1.47")に下弦に近い月がやってきた。つまり火星は夜半に昇り、明け方には南中するということを感じたということである。実際、9秒近くともなればヴェネランには最早佳境である。而も、季節は15Marで131°Lsであったから、1999年の夏の頃と同じとなっている。従って、これから前回の後半に入り、下りを昇る際で、心機一轉である。

こちらの季節もこの一ヶ月で急激に変わった。16Febには霜降は雪の降った後で天文台の周りは白く、外は-3°Cまで下がったが、15Marには4°Cで春の暖かであった。19Marには夜半9°C、朝方5°Cで春の到来を感じる。公園の樹の雪吊りがははれていて、これからは融分と凍になるであろう。

THIS time we acknowledge receipt of 147 observations from the following 13 observers: 今回報告を頂いた観測者十三名と報告数147は次の通りである。

AKUTSU, Tomio 阿久津 富夫 (Ak) 柳木・岡山 Kansuyma, Tschigi, Japan
1 Sets of CCD Images (12 March 2001) / f60x32cm spec equipped with a Televis 2
HERNANDEZ, Carlos E カルロス・ヘルナンデス (ChR) 佛羅里達 Miami, FL, USA
1 Set of Drawings (6 March 2001) 410, 470x20cm SCT

2 9 3 1

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CMO #382/ ISMO #08 (25 March 2011)

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