



Fig. 17.23. The Round Zodiac of Dendera (DR). Drawn copy of the central part, apparently made in accordance with a modern photograph of the original. Taken from [1062], pages 9 and 71.

4.1. Copies of the Round Zodiac from Dendera

Above, in Chapter 12 of CHRON3, we already cited several drawings of the Round Zodiac of Dendera – those taken from the Napoleonic album on Egypt ([1100]) as well as some others, from a modern publication ([1062], see figs. 12.4 – 12.10 in CHRON3, Chapter 12. However, in the present case it isn't a drawn copy of the entire bas-relief that we need, but rather one of its central part, which is where we find the planets and the zodiacal constellations. Such a copy can be seen in fig. 17.23, which we suggest to the readers for reference.

The drawn copy in fig. 17.23 is taken from [1062].

We also had detailed photographs of the Round Zodiac at our disposal, which Professor Y. V. Tatarinov from the MSU had taken in the Louvre at our request. A comparison of these photographs with fig. 17.23 demonstrates that the drawn copy in question is very precise and accounts for every single detail of the figures' mutual disposition, which, as we shall see, is very important for the correct decipherment of the Round Zodiac.

In fig. 17.24 one sees a photograph of a fragment of the Round Zodiac.

As above, we shall provide the readers with a blow-by-blow account of our dating method as applied to the Round Zodiac, qv in CHRON3, Chapter 16:7.



Fig. 17.24. Modern photograph of a part of the Round Zodiac from the temple in Dendera. The original of the zodiac was taken away from Egypt to Europe during Napoleon's expedition, and is kept in the Louvre nowadays. What one sees in the temple is a mere copy. Taken from [370], page 165.

4.2. The coloured version of the Round Zodiac

Step 1, qv in CHRON3, Chapter 16:7.1. The initial interpretation of the primary horoscope and the compilation of the Round Zodiac's coloured copy.

The tables of collected Egyptian astronomical symbols, qv in CHRON3, Chapter 15, make the figures of every constellation and almost every planet from the primary horoscope in the Round Zodiac easy to identify, qv in CHRON3, Chapter 15:1, and CHRON3, Chapter 15:4. Likewise in the Long Zodiac, there is some ambiguity here concerning the Sun and the Moon, and it leads us to different identification options. Other planets of the primary horoscope are identified unambiguously for the most part.

As a result, the coloured Round Zodiac was compiled, as seen in fig. C5.

Below, in our discussion of the Round Zodiac, we shall assume that the readers always have the "coloured zodiac" as well as the original copy (fig. 17.23) and the photographs in fig. 17.24 at their disposal to use for reference whenever they need to.

4.3. Constellation figures in the DR zodiac

Constellation figures from the Round Zodiac are highlighted red in fig. C5. Their symbols are always the same as we find in the Long Zodiac (see CHRON3, Chapter 15:1). Once again, our identification of the Round Zodiac's constellations is exactly the same as one finds in the works of N. A. Morozov ([544], Volume 6), N. S. Kellin and D. V. Denisenko ([376]), as well as T. N. Fomenko ([912:3]). We also see the same identifications in the work of the Egyptologist Sylvia Cauville ([1062]).

Constellation figures in the Round Zodiac comprise the zodiacal belt that looks like an oblate circle. It is circumscribed by a red line in fig. C5. We see a row of figures, all of which come from secondary horoscopes (mark the figures highlighted blue in fig. C5). Secondary horoscope symbols can also be found within the Zodiacal belt, qv in fig. C5.

4.4. Planetary symbols from the primary horoscope of the DR zodiac

Planetary figures from the primary horoscope of the Round Zodiac are highlighted in yellow (fig. C5).

The primary's horoscopes planets, with the exception of the Sun and the Moon, are drawn as wayfarers carrying planetary rods. All the figures one finds outside the zodiacal belt represented by a red line in fig. C5 pertain to secondary horoscopes exclusively. The planets of the primary horoscope are only drawn inside the zodiacal belt in this zodiac. However, we do find secondary horoscope planets among the planetary figures located within the zodiacal belt as well. We come up with two borderline cases when it isn't clear a priori whether the planetary symbol in question comes from the primary horoscope or a secondary one. Those are as follows:

- 1) The wayfarer with the head of a falcon standing on top of the figure of Capricorn.
- 2) The wayfarer with a human head standing on top of Virgo's ear of wheat. We mentioned this figure in CHRON3, Chapter 12. See also figs. 12.30, 12.31 and 12.32 above, as well as figs. 17.23 and 17.24.

Both of these wayfarer figures are standing on top of objects that neither resemble snakes, nor boats. In the present case, the implication could be that they

serve as planetary symbols in both primary and secondary horoscopes. Don't forget that boats and snakes were used as special "transposition symbols" in Egyptian zodiacs, which means that if we find them underneath planetary figures, the latter are always "transposed" elsewhere from the primary horoscope, qv in CHRON3, Chapter 15:6. In rectangular Egyptian zodiacs various other symbols were used for this purpose – not just snakes and boats. However, the "transposition" rule may not work with round zodiacs whenever the object underneath a figure is neither a boat nor a snake.

The problem is that in round zodiacs the objects aren't arranged in a row the way they are in rectangular zodiacs, but rather hang one over the other. High density of symbols may result in some figures touching others. Therefore, if a planetary figure from a round zodiac has got some symbol underneath, and it cannot be identified as a special "transposition symbol", we have to consider different interpretation options for it.

It turned out that one of the two abovementioned "ambiguous" figures from the Round Zodiac of Dendera – namely, the one standing on top of Capricorn, comes from the primary horoscope, whereas the one standing on Virgo's war of wheat is a secondary horoscope figure. However, during the stage of preliminary analysis we allowed all possible identification options for these two figures, which is why both of them are highlighted with two colours at once in the coloured version of the Round Zodiac – yellow, which is the colour of the primary horoscope's planets, and blue (the secondary horoscope colour).

Let us now provide a consequential list of all the planets from the Round Zodiac's primary horoscope (see CHRON3, Chapter 15:4) for the validation of interpretations used in our research.

Saturn is drawn as a male wayfarer with a planetary rod in between Virgo and Libra. The figure has a crescent or a pair of crescent-shaped horns on its head. More information about the reasons why we opine that Saturn in the primary horoscope is represented by this particular figure can be found in CHRON3, Chapter 15:4.2. Our identification of Saturn in the Round Zodiac coincides with the ones made by N. A. Morozov ([544], Volume 6), N. S. Kellin and D. V. Denisenko ([376]), T. N. Fomenko ([912:3]) as

well as S. Cauville ([1062]). See CHRON3, Chapter 15:4.2 for more details.

Thus, Saturn is either in Virgo or Libra in the Round Zodiac, which makes said constellation comprise the planet's allowed position area.

N. A. Morozov had been of the opinion that Saturn was in Virgo on the Round Zodiac ([544], Chapter 6, page 658), likewise T. N. Fomenko ([912:3], page 661). The "best point" for Saturn will therefore be the middle of Virgo. Bear in mind that average deviations from the "best points" are only used in the preliminary comparison of solutions and aren't considered as a valid basis for rejection, qv in CHRON3, Chapter 16:12.

Jupiter in the Round Zodiac's primary horoscope is the male wayfarer with a planetary rod between Cancer and Gemini.

This identification of Jupiter concurs with those suggested by N. A. Morozov ([544], Volume 6), N. S. Kellin and D. V. Denisenko ([376]), T. N. Fomenko ([912:3]) and S. Cauville ([1062]). The Egyptologist Sylvia Cauville is also of the opinion that this identification is validated by the hieroglyphic inscription near the head of the figure. Therefore, the allowed position area for Jupiter consists of Gemini and Cancer.

According to N. A. Morozov, who considered Jupiter to have been in Cancer, we shall choose the middle of Cancer as the "best point" for Jupiter.

Mars from the Round Zodiac's primary horoscope is the male wayfarer over Capricorn with a planetary rod in his hand. The fact that the figure stands for Mars is implied by the inscription over its head, as well as the comparison with the Long Zodiac, qv in CHRON3, Chapter 15:4.7. Of course, the figure of Mars can also be ascribed to a secondary horoscope, since it hangs right over Capricorn, with its feet almost touching the constellation figure. As we already know, this is a transposition symbol often used in Egyptian zodiacs for indicating that the transposed figure has got nothing to do with the primary horoscope. There is really no choice in this case – we are forced to consider this figure of Mars to be part of the primary horoscope.

Let us emphasise that we have every right of doing so insofar as the general laws of symbolism in Egyptian zodiacs are concerned. As we stated above, in the zodiacs of the *round* type an object placed under-

neath a figure isn't necessarily a transposition symbol, unless it's a boat or a snake.

Our identification of Mars in the Round Zodiac coincides with that of N. A. Morozov ([544], Volume 6), N. A. Kellin and D. V. Denisenko ([376]), T. N. Fomenko ([912:3]) and S. Cauville ([1062]). It is also confirmed by the hieroglyphic inscription that we find here. See CHRON3, Chapter 15:4.7 for additional details.

And so, Mars is in Capricorn on the primary horoscope of the Round Zodiac. The allowed position area for Mars is therefore limited to the constellation of Capricorn, whose middle will obviously serve as the "best point" for Mars.

Let us continue.

Venus in the primary horoscope of the Round Zodiac is represented by a pair of female wayfarers carrying planetary rods, qv in CHRON3, Chapter 15:4.8. The figure in front has a leonine head. We find Venus right underneath the constellation figure of Aries; however, the thread that binds the two Piscean figures from the Round Zodiac together leads to Venus as well. Thus, Venus is either shown in Aries or Pisces.

Our identification of Venus in the Round Zodiac concurs with that of N. A. Morozov ([544], Volume 6), N. S. Kellin and D. V. Denisenko ([376]) as well as T. N. Fomenko ([912:3]), but differs from the identifications suggested by the Egyptologists ([1062]). See CHRON3, Chapter 15:4.8 for more details.

Visibility indicators as given in Egyptian Zodiacs are very important in case of Mercury and Venus, qv in CHRON3, Chapter 15:7. In the Round Zodiac we see no star over the heads of the female pair that represents Venus, which means was therefore invisible. The absence of a star in this part of the zodiac was verified with the aid of photographs and proven true.

Thus, Venus in the primary horoscope of the Round Zodiac is shown in either Aries or Pisces; these two constellations comprise the allowed position area for Venus in the astronomical solution.

Since N. A. Morozov, N. S. Kellin and D. V. Denisenko ([376]), and also T. N. Fomenko were of the opinion that Venus is shown in Aries, we shall consider the middle of Aries to represent the "best point" for Venus.

Let us now consider the next planet.

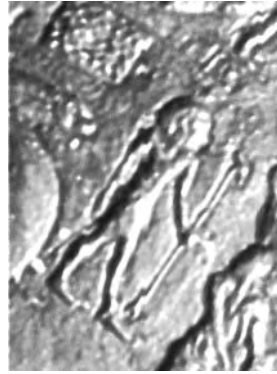


Fig. 17.25. The Round Zodiac of Dendera. Figure of Mercury in the primary horoscope. Modern photograph. Taken from [370], page 165.

Mercury in the Round Zodiac's primary horoscope is drawn as a two-faced man carrying a planetary rod located in between Pisces and Aquarius. We see a star over the head of the figure, which testifies to the visibility of the planet. A photograph of the Round Zodiac's fragment with Mercury in the primary horoscope can be seen in fig. 17.25.

Our identification of Mercury in the Round Zodiac concurs with the identification suggested by N. A. Morozov ([544], Volume 6), N. S. Kellin and D. V. Denisenko ([376]) as well as T. N. Fomenko ([912:3]); however, the Egyptologists are of a different opinion ([1062]). See more details in CHRON3, Chapter 15:4.9.

We end up with Mercury from the primary horoscope of the Round Zodiac in either Pisces or Aries. Thus, the allowed position area for Mercury in the astronomical solution is comprised of Pisces and Aquarius; the "best point" for Mercury shall therefore be the cusp of the two constellations.

We have thus identified every planet of the Round Zodiac, the two exceptions being the Sun and the Moon. One of the "borderline" figures, which can belong to either the primary or a secondary horoscope, remained unused – namely, the wayfarer with a rod observed over Virgo's ear of wheat. This figure should therefore be a fragment of the secondary autumn equinox horoscope, since this is where we find it (don't forget that the autumn equinox point is located in Virgo in every Egyptian zodiac, qv in CHRON3, Chapter 15:8.1). We shall mention this planetary figure below, in our account of the Round Zodiac's secondary horoscopes.

This was the last planetary figure of a wayfarer in the Round Zodiac. There are no other figures with planetary rods anywhere else in the zodiac, excepting the ones in boats, which belong to secondary horoscopes by definition. Let us now consider the Sun and the Moon. They were drawn as circles in Egyptian zodiacs, qv in CHRON3, Chapter 15:4.13–15.

The Sun and the Moon. Likewise the Long Zodiac, the Round one presents us with some ambiguity in identifying the Sun and the Moon. The problem is that we see three circles here at once. Each one of them may serve as a solar or lunar symbol in the primary horoscope. Two of the circles are found in Pisces, and one more in Libra. We have therefore considered all possible identification options for the solar/lunar circles. The third one is left unidentified to be subsequently ascribed to one of the secondary horoscopes.

The final version, which is the one that yielded an exhaustive solution, proved to be in perfect concurrence with the solar and lunar symbols that we already identified as such in the Long Zodiac. We are referring to the circle in Libra in particular, which looks just like the one from the Long Zodiac and represents the Moon here as well – a full one. The circle in Pisces with a woman making an offering drawn inside it is just like the circle in the same constellation that we saw in the Long Zodiac, the sole difference being that in the latter case it is a man who makes the offering. Keep in mind that this circle turned out to be a solar symbol from the secondary horoscope of spring equinox in the Long Zodiac, whereas the male figure represents Jupiter, which was close to the Sun during the days of the spring equinox, making a “sacrifice to the Sun”, as it were. We observe the very same phenomenon in the Round Zodiac, with Venus making the “sacrifice” instead of Jupiter – hence a female figure and not a male one. The symbols are identical in every other respect.

Finally, the Sun from the primary horoscope turned out to be the circle between Aries and Pisces in the exhaustive solution of the Round Zodiac. We see an eye inside the circle; the meaning of this symbol was discussed at length in CHRON3, Chapter 15:4.14. Here it is probably a reference to the Sun being in the immediate vicinity of the Alpha from the Aries constellation – the star that was known as

the “Eye of the Ram” in ancient astronomy ([544], Volume 6, page 657).

Step 2, qv in CHRON3, Chapter 16:7.2. Having defined the planets of the primary horoscope – complete with the bulk of multiple options for the Sun and the Moon, we used the Horos software to calculate all possible dates for which the disposition of planets on the celestial sphere would coincide with the way their symbols are arranged in the Round Zodiac, in case of a single identification option, at least. The rigid criterion applied at this stage is the exact correlation between the planetary order in the solution and the zodiac. Solutions that didn’t satisfy to this criterion were rejected instantly. We came up with several dozen preliminary dates scattered across the solution search interval between 500 B.C. and 1900 A.D. – see CHRON3, Chapter 16:7. These dates were subsequently tested for compliance with the specifications of secondary horoscope and planetary visibility indicators, qv in CHRON3, Chapter 16:7.

4.5. Secondary horoscopes in the DR zodiac

4.5.1. Autumn equinox horoscope in the DR zodiac

The horoscope of the autumn equinox can be found in the vicinity of Virgo, qv in fig. 17.23 and fig. C5. It includes the following symbols:

1) Male wayfarer with a planetary rod hanging over Virgo’s ear of wheat. This figure can be seen above, in Chapter 12 of CHRON3 (figs. 12.31 and 12.32).

2) The bird that sits on the tail of the snake serving the figure of Leo as a dais. It is visible very well in the photograph of a small fragment of the Round Zodiac (see fig. 17.26). The bird ended up right under the feet of the “auxiliary” Virgo standing on Leo’s tail. It can therefore relate to Leo as well as Virgo. See CHRON3, Chapter 15:1.5–6 in re the “auxiliary Virgo figure” in Egyptian zodiacs.

3) Five figures found under the constellations of Libra, Virgo and Leo in the secondary horoscope row – bear in mind that this row of figures encloses the Zodiacal belt of the Round Zodiac in a semicircle, qv in fig. C5.

These five figures form the “autumn equinox procession” in the Round Zodiac.

The procession is headed by the symbol that we already mentioned in CHRON3, Chapter 15:8.1,

namely, a man sitting on a stool with his arms reaching forward symmetrically. He is holding two identical vessels, one in each hand. These are likely to symbolise the daytime and the night time, the meaning of the entire symbol being that day equals night in the point of the equinox – this is indeed the case, as we know. The figures seen in front of the equinox symbols belong to another procession – the summer solstice one; we shall discuss it below.

We see the equinox symbol followed by the symbol of the New Year, which we have also mentioned earlier. It looks like a woman sitting on a chair and holding an infant on her palm. This symbol corresponds to the autumn equinox day perfectly, which used to fall over the very beginning of the year in Egyptian calendars – a September year, as we must remember, qv in *CHRON3*, Chapter 15:12.

Next we see the figure of Saturn carrying a scythe from the secondary horoscope of the autumn equinox. Since Saturn cannot travel too far on the celestial sphere over the course of a single year, we see the same planet from the primary horoscope right above the one considered presently. It looks exactly the same, albeit equipped with a planetary rod instead of a scythe.

Next comes Leo, whose paws rest on the autumn equinox plaque. Such plaques mark equinox points in the zodiacs from Dendera. The other plaque looks exactly the same; we find it in Pisces, or the vernal equinox point.

However, Leo is hardly drawn here for the mere purpose of resting its paws on the equinox plaque. It is followed by a female figure; we see it right next to Leo's tail. The woman has leonine legs and a tail, and there's a tall hat on her head. She holds a cup on her palm. Such cups held on palms are plentiful in the Lesser Zodiac of Esna (EM), where they accompany secondary horoscope planets. What we see here must therefore be one of the planets from the secondary horoscope, and it is perfectly clear which one – a woman with a leonine body can only represent Venus, since the symbol of Venus in the Egyptian zodiacs is a lioness, qv in *CHRON3*, Chapter 15:4.8.

The symbolic meaning of this couple is perfectly clear – Venus was in Leo on the day of the autumn equinox.

This is what the entire procession of five figures is



Fig. 17.26. The Round Zodiac of Dendera. Figure with a rod standing over the ear of wheat held by Virgo, and the bird underneath the “second Virgo” that stands on Leo's tail. Modern photograph. Taken from [370], page 165.

telling us. In the secondary horoscope of the autumn equinox we see Saturn in the same position as it occupies in the primary one (the constellation being either Virgo or Libra), as well as Venus in Leo.

Let's see whether the secondary horoscope figures that we listed in the beginning might tell us anything – the male figure that stands over Virgo's ear of wheat and the bird underneath the feet of the “auxiliary” Virgo.

First and foremost, we must emphasise that the ear of wheat in Virgo's hands isn't a mere detail of the drawing – it represents the Alpha of Virgo, one of the most famous stars in ancient astronomy. Other names of this star are Spica and Virgo's Ear of Wheat ([704]). In the old star charts one would normally see this star crowning Virgo's ear of wheat.

Therefore, the fact that our planet is standing on top of the ear of wheat implies that it had been very close to Spica on the day of the autumn equinox.

What planet could it be? We discussed this issue at length above, in Chapter 12 of CHRON3. The planet is Mercury.

Indeed, there is a hieroglyphic inscription over the head of the figure as well as the star that indicates its visibility. The inscription can be seen with perfect clarity in fig. 12.32 cited in CHRON3, Chapter 12. One can also make it out in the photograph of this zodiacal fragment in fig. 17.26.

A brief table of Egyptian hieroglyphs, which however suffices in order to read the name of the planet in this inscription, is given in figs. 17.27 and 17.28.

The inscription over the head of the planetary figure consists of three hieroglyphs, qv in fig. 12.32:

1) The curved line hieroglyph that stands for the sound S ([370], page 19; see also fig. 17.28).

2) The human leg hieroglyph that stands for the sound B ([370], page 19; see also fig. 17.27).

3) The small-handled ladle hieroglyph that stands for the sound K ([370], page 19; see also fig. 17.28).

The name of the planet is therefore SBK. Seeing as how vowels are omitted from Egyptian transcriptions of names as a rule, qv in the section below, this name can be read as Sebek. Egyptologists have the tradition of replacing the omitted vowels in Egyptian words with the letter E, qv in [1378:1], page 71. According to H. Brugsch, Sebek is the name of Mercury ([544], Volume 6, page 697).

We must point out that the planetary figure in question corresponds well with the usual drawings of Mercury in Egyptian zodiacs – it is a male wayfarer with a human face, qv in CHRON3, Chapter 15:4.9. Furthermore, in the work of S. Cauville, a modern French Egyptologist, this figure is also identified as Mercury ([1062], page 29).

It has to be mentioned that the figure of Mercury as discussed above is misrepresented in the Napoleonic album ([1100]). Firstly, it is shifted sideways from Virgo's ear of wheat, qv in fig. 12.30 in CHRON3, Chapter 12. Secondly, the hieroglyphic inscription over its head is distorted to a great extent – we see a single curved snake instead of the two first hieroglyphs in this inscription. We mentioned this above in CHRON3, Chapter 12, and feel obliged to reiterate, since this error from the Napoleonic album eventually led to a misinterpretation of this figure's identity in [912:3], where it is considered to represent Jupiter.



Fig. 17.27. Examples of Egyptian hieroglyphs, with their phonetic meanings given in cases where a hieroglyph doesn't represent a single word, but rather a letter thereof (name transcriptions, for instance). Many of the hieroglyphs "have phonetic meaning and stand for a consonant, or several consonants... The sounds and the meanings of the sign were deciphered after a comparison of many names and words transcribed in hieroglyphs with respective Greek or Coptic words" ([370], page 19). First half of the table. Taken from [370], page 19.

COROLLARY. One sees the following in the secondary horoscope of autumn equinox from the Round Zodiac:

Saturn is in the same position as in the primary horoscope – in Virgo or Libra.

Mercury is right over Virgo's ear of wheat, or very close to the Alpha of Virgo. Old names of this famous star include those of "Spica" and "Virgo's Ear of Wheat".

Venus is in Leo.

Another planet – or, possibly, the Sun, is drawn in

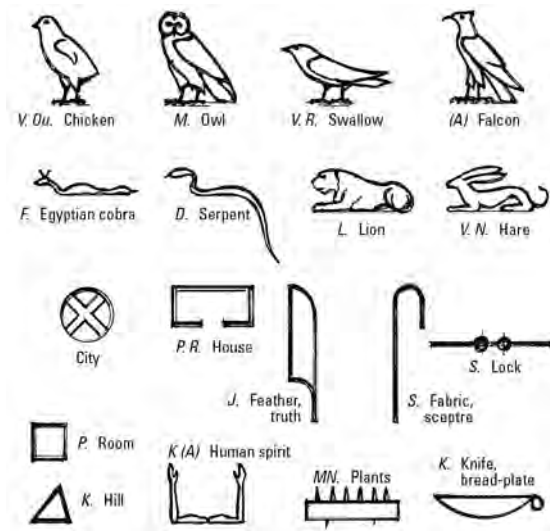


Fig. 17.28. Examples of Egyptian hieroglyphs, with their phonetic meanings given in cases where a hieroglyph doesn't represent a single word, but rather a letter thereof (name transcriptions, for instance). Second half of the table. Taken from [370], page 19.

either Virgo or Leo as a bird underneath the feet of the “auxiliary Virgo”.

For the sake of completeness, we feel obliged to point out that there's another tiny figure of a secondary horoscope planet in this part of the Round Zodiac. It is sitting on a stool over Leo and holding a whip in its hands. However, this planet is just as likely to come from the secondary horoscope of summer solstice, since it is located right in between the two areas “covered” by these horoscopes. Indeed, in the exhaustive solution that we came up with eventually, it turned out to be a planet from the horoscope of summer solstice. We shall therefore mention it below, when we consider this horoscope specifically. Mark that during the verification of preliminary solutions we tried to ascribe the symbol to summer solstice as well as autumn equinox; it revealed itself as a part of the former.

4.5.2. Winter solstice horoscope in the DR zodiac.

We already considered the secondary horoscope of winter solstice from the Round Zodiac of Dendera above, in CHRON3, Chapter 15:5.2. Let us merely re-

peat the corollary that we made in re the content of the horoscope there.

Apart from the standard symbols of the minimal secondary horoscope integrated into the figure of Sagittarius, we see three planets in the secondary horoscope of winter solstice in the Round Zodiac. However, one of them might be the Sun, which should be here on the day of winter solstice at any rate. There are two or three planets here apart from the Sun, one of them identified as Mars and another likely to stand for Venus.

4.5.3. Spring equinox horoscope in the DR zodiac

The secondary horoscope of spring equinox in the Round zodiac depends on the chosen interpretation, since it has to employ the circles in Pisces that aren't part of the primary horoscope.

Let us describe the horoscope in the interpretation that eventually led us to the final solution. That is, the large circle in Pisces with a female figure inside it pertains to the secondary horoscope of spring equinox. In this case, it should naturally stand for the Sun. The conspicuously large size of this circle corresponds to the idea of the spring equinox as a vernal feast of the Sun.

However, in the present case the secondary horoscope of spring equinox is just the same in the Round Zodiac as it is in the Long one. The only difference between them is the fact that the planet “making a sacrifice for the feast of the sun” is male in the Long Zodiac and female here. Therefore, the closest planet to the Sun had been Venus in the prime of its matutinal visibility.

4.5.4. Summer solstice horoscope in the DR zodiac

This horoscope in the Round Zodiac consists of several figures found inside the zodiacal belt, as well as the “summer solstice procession” in the secondary horoscope row. There are four figures in the procession; one of them has a small bird underneath its feet.

Let us begin with the figures from within the zodiacal belt. There are two of them; the first one is a small male figure. We find it right here in Gemini, near the constellation figure's face, with its feet located at the waist level of Gemini; the figure is holding two short sticks of some sort, one of them T-shaped. It is also wearing a peculiar headdress – it looks like two

broad feathers facing upwards. One of the “second Mercury’s” figures from the Long Zodiac has a similar headdress, which means that the small figure is likely to represent Mercury here as well. However, we can make no definite claims in this respect.

The second figure was already mentioned above – a small figure sitting on a stool right over Leo with a tall hat on its head. The gender of the figure is hard to fathom; the “step length litmus test” that provides for easy distinction between male and female figures in Egyptian zodiacs isn’t applicable here, for the figure is sitting with its legs held together.

We see two planets in the horoscope so far. The first one is male, located in either Gemini or Taurus. It is likely to be Mercury, but we can’t be perfectly certain. The second is either male or female, and we find it in Leo.

Let us now consider the procession in the secondary horoscope row. Right underneath Gemini, near the middle of the procession, we find the pole with a solar bird on top of it. This is the Egyptian symbol of summer solstice that is already known to us quite well. It represents the Sun at its absolute peak, which can only happen on the day of summer solstice. We see another summer solstice symbol nearby, on the left of the pole with the bird – a calf in a boat, qv in CHRON3, Chapter 15:8.4.

We also see several figures meant to represent the planets of this secondary horoscope here, one on either side of each of the two summer solstice signs.

On the right of the pole with a bird (possibly a reference to morning visibility from the side of Taurus) we see a male planet of some sort. It is a large figure of a walking man taking large steps, with a whip on his shoulder and a planetary rod in his hand. There is a bird of some sort at his feet, although its exact species remains enigmatic – it bears distant semblance to a hen or a goose, possibly a peacock.

A whip on the shoulder may be an attribute of either Mars or Jupiter, whereas the goose is a symbol of Mars. The disposition of the planet suggests that the latter should be identified as Mars, although we can make no certain claims so far.

The exact position of this planet on the ecliptic remains unclear, since the planets from the secondary horoscope row of the Round Zodiac aren’t always related to the primary constellation signs closest to

them. This relation is only present in case of the constellation that contains a solstice or equinox point – Virgo and Gemini in the present case. In general, the row of secondary horoscope figures of the Round Zodiac has a specific marking and is hardly linked to the main zodiacal belt at all. The “autumn equinox procession” considered above serves as a good example. We have witnessed it to possess a Leo figure of its very own, which can be seen underneath the primary zodiac’s figure of Libra – very far away from Leo in the primary horoscope.

Let us return to the “summer solstice procession” that we find underneath the sign of Gemini. On the far left of the procession we see a woman with a strung bow in her hands. She is preparing to fire an arrow over the head of the horizontal figure of Taurus. Next we see the figures from the secondary horoscope of autumn equinox as mentioned above – the New Year’s symbol et al.

The woman firing an arrow over the head of the incumbent figure of Taurus is a symbol which we shall frequently encounter in Egyptian zodiacs, qv in CHRON3, Chapter 15:8.4. It stands for Venus in secondary horoscopes. We know nothing of why the figure prepares to fire an arrow from the bow; the astronomical meaning of this action remains beyond our ken.

We find Venus on the other side of the solar symbol than the one where we see the first planetary figure (probably Mars), so it is likely to have been drawn in opposite visibility position as well – apparently vespertine. Once again, we cannot determine the constellation that housed Venus.

The interpretation of this secondary horoscope is as follows. We see some planet in either Gemini, next to the Sun, or in Taurus – possibly Mercury. Another planet (whose shape tells us nothing) was in Leo. Some male planet was observable perfectly well in matutinal visibility – Mars, most probably. Venus was in vespertine visibility.

4.6. The exhaustive solution for the Round Zodiac: morning of 20 March 1185 A.D.

We only came up with the complete solution for a single interpretation option of the Round Zodiac’s primary horoscope. The solution is unique – morn-

ing of 20 March, 1185. The fact that the observations were conducted in the morning plays a key role – planetary visibility conditions aren’t met for evening observations. Let us cite the final interpretation version of the Round Zodiac that gave us the exhaustive solution:

DATA FOR THE HOROS PROGRAM

Zodiac: Round Zodiac of Dendera (DR).
Interpretation option: Moon in Libra.
Interpretation option code: DR9.
Planetary positions in the primary horoscope:
 Sun in Pisces
 Mercury in either Aquarius or Pisces
 Saturn in either Virgo or Libra
 Moon in Libra
 Mars in Capricorn
 Venus in either Aries or Pisces.
 Jupiter in either Cancer or Gemini.
The borders of all possible positions can be crossed by a value of up to 5 arc degrees.
The planetary order on the ecliptic (ordered by latitude, the minimal value being on the left):
Venus Jupiter Saturn Moon Mars Mercury Sun

DATA

	Sun	Moon	Saturn	Jupiter	Mars	Venus	Mercury	
# FROM: ----- #	10.5	5.5	5.0	2.0	9.0	11.0	10.0	#
# TO: ----- #	0.5	7.5	7.0	4.0	10.0	1.0	12.0	#
# BEST POINTS: ----- #	11.5	6.5	5.5	3.5	9.5	.5	11.0	#

END OF DATA

NB: Planetary positions are given on the planetary scale (see CHRON3, Chapter 16:10).

Average deviation of the planets in the exhaustive solution from their “best points” equalled a mere 8.5 degrees, which is less than one third of a zodiacal constellation’s length. The correspondence is all but ideal, which should be telling us that planets hit the environs of their “best points” with very high precision indeed, qv in CHRON3, Chapter 16:12.

Let us proceed to cite the calculated planetary positions for the 19, 20 and 21 March 1185 A.D. The dates are given according to the Julian calendar and transcribed as year/month/day, and also transcribed as Julian days (JD) as used for astronomical calculations ([393], page 316. See CHRON3, Chapter 16:4).

Planetary positions are given in degrees on the ecliptic J2000 (first line) and also according to the “constellation scale” (second line). The third line contains the name of the constellation that housed the planet. See CHRON3, Chapter 16:4 for more details.

The full moon fell on the night of 19-20 March in 1185 (as calculated with the Turbo-Sky program).

**THE EXHAUSTIVE SOLUTION OF
THE ROUND ZODIAC OF DENDERA
(PRIMARY HOROSCOPE)**

Julian day (JD) = 2153957.00
Year/month/day = 1185/3/19

Sun	Moon	Saturn	Jupiter	Mars	Venus	Mercury
377.0	214.3	178.0	142.1	318.4	29.2	352.9
11.76	5.97	5.08	3.94	9.60	0.11	11.16
Pisces	Vir/Lib	Vir/Leo	Can/Leo	Capr.	Aries	Pisces

Average deviation from “best points” equals 9.9 degrees.

Julian day (JD) = 2153958.00 (full moon in Libra)
Year/month/day = 1185/3/20

Sun	Moon	Saturn	Jupiter	Mars	Venus	Mercury
377.9	226.3	177.9	142.1	319.2	30.5	354.4
11.78	6.51	5.08	3.94	9.63	0.16	11.20
Pisces	Libra	Vir/Leo	Can/Leo	Capr.	Aries	Pisces

Average deviation from “best points” equals 8.5 degrees (local minimum).

Julian day (JD) = 2153959.00
Year/month/day = 1185/3/21

Sun	Moon	Saturn	Jupiter	Mars	Venus	Mercury
378.9	238.1	177.9	142.0	319.9	31.7	355.9
11.81	7.05	5.08	3.94	9.66	0.21	11.23
Pisces	Sco/Lib	Vir/Leo	Can/Leo	Capr.	Aries	Pisces

Average deviation from “best points” equals 10.5 degrees.

The Round Zodiac of Dendera (DR). Verification table for the solution of 20 March 1185 A. D.									
Visibility of Mercury	Visibility of Venus	Autumn equinox	Winter solstice	Spring equinox	Summer solstice	The Passover Full Moon	Additional scenes	Notes	
Mercury rising in Cairo on 19.03.1185. S. S. = 12°. M = +0.7. Visible.	Venus in vespertine visibility. S. S. = 12°, M = -3.4. Venus is invisible in the morning.	12 September 1184 A.D. Sun in Virgo (5.3).	12 December 1184 A. D. Sun in Sagittarius (8.4).	14 March 1185 A. D. Sun in Pisces (11.6).	12 June 1185 A. D. Sun in Gemini (2.4).	The Passover Full Moon in Libra on 20 March (the day of the horoscope) = circle in Libra is simultaneously the Moon in the primary horoscope and the Passover Full Moon.	None.	Interpretation code DR8. Morning horoscope. The astronomical Passover Full Moon on the night of 19-20 March. The Passover Full Moon on 18 April according to the Paschalia. Easter according to the Paschalia (21 April).	
⊕	⊕ For the morning.	Mars next to the Sun (distance = 2°) => invisible. ⊕ Mercury in Virgo, next to Spica (distance = circa 1°). Visible on 10.09.1184. ⊕	Mercury in Sagittarius on 4.12.1184. S. S. = 9°. M = +0.9. Visible in the morning, later disappeared from sight. 12.12.1184. S. S. = 4. M = +1.0. Invisible.	Venus in Pisces, vespertine visibility. S. S. = 10°. M = -3.4. ⊕ Mercury in Aquarius, 2.5 times further away from the Sun than Venus. ⊕	Venus in Cancer. ⊕ Mercury is invisible (S. S. < 1°). M = +4.2. ⊕ Jupiter in Leo, next to Regulus (distance < 1°). M = -1.3. ⊕	⊕			
⊕	⊕	Venus in Leo, next to Regulus. Visible. ⊕ Saturn in Virgo on the morning of 12 September. S. S. = 12°. M = +0.9. ⊕ Jupiter in Leo.	Venus in Sagittarius. 12.12.1184. S. S. = 10. M = -3.4. In matutinal visibility. Mars in Scorpio. Visible in the morning.	Mars in Capricorn (9.5). => The offering to the Sun is made by Venus – the female figure. ⊕	Mars in Pisces. M = +0.1. ⊕ ⊕				
		⊕	⊕						

Fig. 17.29. The verification table for the complete solution of the Round Zodiac from Dendera – morning of 20 March 1185 A.D. Abbreviations used: S. S. – solar submersion rate transcribed in arc degrees (see CHRON3, Chapter 16:7, Step 3-B); M – planetary luminosity; a fraction between 0 and 12 in parentheses is the calculated position of a planet on the “constellation scale”, qv in CHRON3, Chapter 16:10. Bottom right – the result of comparing the solution with the zodiac as well as the average distance between planets and their “best points”, qv in CHRON3, Chapter 16:11 and 16:14.

4.7. Verification table for the exhaustive solution of the Round Zodiac

Let us cite the verification results for the exhaustive solution of the Round Zodiac from Dendera discovered by the authors (the morning of 20 March 1185). The verification table of the solution can be seen in fig. 17.29. It indicates the degree of correspondence between the solution and the source data from the Round Zodiac. Bear in mind that we use the term “exhaustive solution” for referring to a solution that has a plus sign in every column of its verification table, which implies perfect correlation with the Egyptian zodiac when every single condition is met, qv in CHRON3, Chapter 16:14.

Let us give an overview of the verification table and the content of its columns (see fig. 17.29).

The first column tells us that Mercury was visible. On the morning of 20 March 1185 A.D. Mercury was visible perfectly well in Cairo, let alone Luxor. The submersion rate of the Sun had equalled 12 degrees when Mercury rose in Cairo. The planet’s luminosity had equalled 0.7, which made Mercury resemble the brightest of stars.

This figure is all but identical to the representation of Mercury from the Round Zodiac, which has got a star over its head. This is why we can draw a plus sign in the first table of the verification table.

The second column reflects the visibility of Venus. The two women that symbolise Venus in the Round Zodiac have no stars over their heads, which means that Venus had been out of the observer’s sight on the date transcribed in a given horoscope.

Indeed, on 20 March 1185 Venus had been below the horizon and hence invisible at dawn - it only appeared in the sky at dusk.

We shall therefore draw another plus sign in the second column of the verification table (on the condition that the horoscope was compiled as a result of matutinal observations).

The third column represents the secondary horoscope of autumn equinox.

As above, we are considering a September year – one that began in September 1184 A.D. and ended in August 1185 A.D. Autumn equinox fell on the 12 September 1184 A.D., qv in Annex 5. However, as we already explained above, this date couldn’t be estimated

with enough precision before, and one can encounter six-day discrepancies between real and estimated dates in XIV century books. We shall therefore regard the planetary positions for the interval between 6 and 18 September. Indeed, on 10 September 1184, a mere two days before the exact autumn equinox date, the planets that had been near the Sun that day were arranged in the sky – in strict correspondence with the secondary autumn equinox horoscope of the Round Zodiac.

Planetary positions calculated for 10 September 1184 A.D. are as follows.

Julian day (JD) = 2153767.00

Year/month/day = 1184/9/10

Sun	Moon	Saturn	Jupiter	Mars	Venus	Mercury
185.8	227.4	174.7	143.3	184.7	152.4	204.4
						(longitude J2000)
5.27	6.56	5.00	3.99	5.25	4.29	5.73
						(constel- lation scale)

A representation of the celestial sphere as observed from Cairo on 10 September 1184 can be seen in fig. 17.30, where we see the morning and evening horizons of Cairo with the sun submersed by 9 degrees. The stars and planets between the two horizons were rendered invisible by the sunshine. Let us provide a list of planets that could be seen on that date – at dusk and at dawn.

The following planets were visible at dawn (listed in accordance to their distance from the Sun):

Saturn ($M = +0.9$) – in its rightful primary horoscope location in Virgo;

Venus ($M = -3.8$) – near the beginning of Leo next to Regulus (Alpha of Leo);

Jupiter ($M = -1.4$) – in Leo.

The only planet visible at dusk was Mercury ($M = +0.98$) near the very horizon. The submersion of the Sun hadn’t been all that deep for the moment Mercury set – just 9 degrees. Nevertheless, the planet was bright enough to be seen, considering how deep the Sun had set. It could be observed right over the horizon at dusk. Furthermore, Mercury had been very

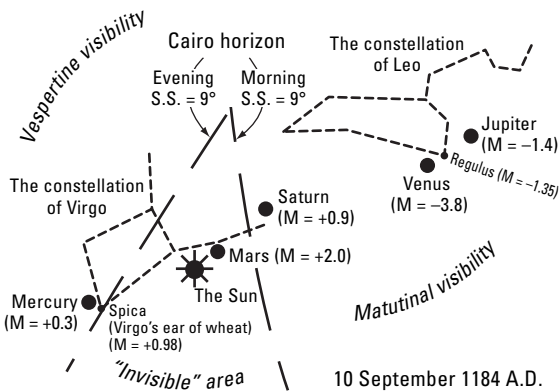


Fig. 17.30. A representation of the sky in the morning and in the evening for the autumn equinox days of 10 September 1184 as seen from Cairo. One sees the horizon at dusk and at dawn; the stars and the planets in the celestial area between them were rendered invisible by the sunshine. Calculated with the astronomical program Turbo-Sky. The drawing is approximated.

close to Spica (the “Ear of Wheat” star in Virgo), that day, the distance between the two equalling approximately 1 degree.

Mars had also been close to the Sun – the distance between the two celestial bodies didn’t exceed two degrees. It had been rendered completely invisible by the sunshine on each of the days comprised in the autumn equinox interval that we have under considerations.

We ought to compare this situation to what one sees in the representations of the Round Zodiac. We have to remind the reader of the components that add up to the secondary horoscope of autumn equinox in the Round Zodiac (qv in CHRON3, Chapter 17:4.5.1 above):

Mercury is over Virgo’s ear of wheat – very close to Spica, in other words. Perfect correspondence.

Saturn retains its primary horoscope position in either Virgo or Libra. This fits the solution as well. Nothing to be surprised about – this is simply an astronomical implication of the primary horoscope.

Venus in Leo. Perfect correspondence.

Another planet (or, possibly, the Sun) is drawn in either Virgo or Leo as a bird underneath the feet of the “auxiliary Virgo”. This also fits our solution well,

including invisible Mars one finds right next to the Sun in Virgo. Actually, it is possible that the bird “hiding” underneath the feet of the “auxiliary” Virgo figure represents Mars – or, alternatively, the Sun in Virgo, with Mars remaining beyond the scope of this horoscope. Thus, we see perfect concurrence with the astronomical solution.

Thus, Jupiter is the only planet we failed to have located in the Round Zodiac, as it was indicated in the solution. All other planets are right where they should be. However, Jupiter had been even further away from the Sun than Venus on the date indicated in the solution, the latter planet drawn as the last figure of the “autumn equinox procession” in the Round Zodiac. Jupiter failed to have become part of the “procession” as a result.

Jupiter is nevertheless present in the Round Zodiac. Let us recollect the tiny figure sitting on a stool in front of Leo. We were saying that it might either pertain to the secondary horoscope of the autumn equinox, or that of the summer solstice. Our solution demonstrates that this figure relates to both horoscopes and represents Jupiter. This planet doesn’t usually stay in the same constellation this long – however, it had looped a loop in Leo that year, which made it stay there for a whole year.

As you can see, the correspondence is ideal in case of Jupiter as well.

We shall therefore draw another plus sign in the third column and proceed to the next one.

Fourth column – secondary horoscope of winter solstice.

Winter solstice of the September year under study falls on 12 December 1184, qv in Annex 5. Having added a few days at each end, we came up with the period of circa 6-18 December 1184. This is the interval that shall be used in our astronomical environment research as conducted for the solar area in particular.

Mercury remained near the Sun on every day included in the interval under consideration, rendered invisible by solar luminosity on every date postdating 4 December 1184, when one could still see it above the horizon, and positioned with the utmost convenience for the observer at that. We shall therefore specify planetary positions for two dates – 4 December 1184 as mentioned above, and 12 December 1184, when Mercury was already beyond visibility. Other

planets remained in their former positions, more or less, with the exception of the Moon.

We must note that the Moon was new on the 4-5 December and hence invisible. It only appeared in the sky for the first time on 6 December between Sagittarius and Capricorn in vespertine visibility.

Julian day (JD) = 2153852.00

Year/month/day = 1184/12/4

Sun	Moon	Saturn	Jupiter	Mars	Venus	Mercury
271.2	265.6	182.4	151.9	242.1	257.9	261.2
						(longitude J2000)
8.13	7.97	5.19	4.27	7.19	7.71	7.82
						(constellation scale)

Julian day (JD) = 2153860.00

Year/month/day = 1184/12/12

Sun	Moon	Saturn	Jupiter	Mars	Venus	Mercury
279.4	369.0	182.6	151.7	247.7	268.0	273.7
						(longitude J2000)
8.37	11.56	5.20	4.26	7.37	8.04	8.20
						(constellation scale)

In fig. 17.31 we cite the positions of planets that were close to the Sun on 4 December 1184 A.D., when Mercury had still been visible. There were three planets in the sky at dawn – Mercury in Sagittarius at the very crack of dawn, Venus at the cusp of Sagittarius and Scorpio, and Mars in Scorpio, right next to Antares – the brightest star of the constellation. All these planets were in matutinal visibility; there had no vespertine planets with Jupiter in Leo and Saturn in Virgo. Both of them were too far away from the Sun and hence became omitted from the secondary horoscope area.

Let us now recollect the planets included in the winter solstice zodiac of the Round Zodiac, as analysed above:

We see three planets. One of them is a figure sitting

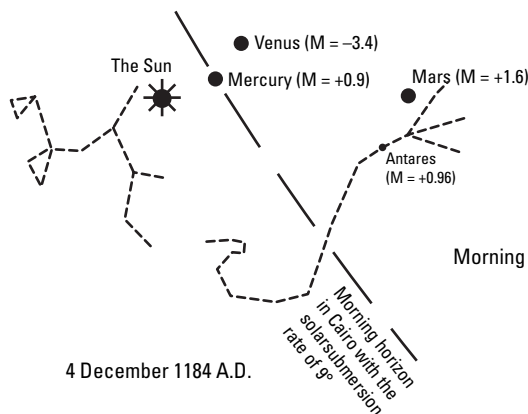


Fig. 17.31. Planets that had been close to the Sun on 4 December 1184, on the last day of Mercury’s visibility before the winter solstice that took place on 12 December. We see the morning horizon as observed from Cairo. Calculated in Turbo-Sky. The drawing is approximated.

on a stool, in Scorpio, with a circle over its head – the Sun, perhaps, or one of the planets. Mars is also included in this horoscope – and, possibly, Venus as well.

This corresponds with our solution quite well. Indeed, we see a total of three planets near the Sun, among them Mars and Venus. Mars was in Scorpio; its representation in the Round Zodiac is a large figure in a boat that holds a planetary rod. This is the same figure as one sees in Scorpio. A propos, its appearance is quite in line with how Mars is drawn in the primary horoscope of the Round Zodiac. Both figures have the head of a falcon.

Over the head of Mars we see a sitting figure that we hypothetically identified as Venus above. Our solution confirms this hypothesis – Venus was between Mars and the Sun.

Finally, the third planet of this secondary horoscope (drawn as a man with a wand in his hand) may well be identified as Mercury in our solution, if we are to remember that Mercury was often drawn as a male wayfarer with a human face in Egyptian zodiacs, qv in CHRON3, Chapter 15:4.9.

Therefore, we have to draw another plus sign in the fourth column of the verification table for this solution.

Fifth column – secondary horoscope of spring equinox.

Spring equinox fell over 13-14 March in 1185 – it had preceded 20 March, the date transcribed in the primary zodiac, by just one week, qv in Annex 5.

Let us cite the planetary positions for 14 March 1185 A.D.

Julian day (JD) = 2153952.00

Year/month/day = 1184/3/14

Sun	Moon	Saturn	Jupiter	Mars	Venus	Mercury
372.0	151.7	178.4	142.3	314.7	383.1	345.9
						(longitude J2000)
11.64	4.26	5.09	3.95	9.47	11.91	10.96
						(constellation scale)

Since the spring equinox had been very close to the date of the primary horoscope, all the planets (except for the Sun and the Moon) virtually in their “main” positions as indicated in the primary horoscope. Therefore, the secondary horoscope of spring equinox is just the same in the Round zodiac as it is in the Long one – it consists of nothing but the Sun that looks like a large circle in Pisces, as well as another planet, one that was visible best in its proximity to the Sun and therefore considered to have been “making an offering” during the feast of the Sun.

Calculated planetary positions as cited herein demonstrate Venus to have been the closest planet to the Sun on the spring equinox day of 1185; nevertheless, it hadn’t approached the sun close enough to disappear in the solar radiance. Calculations performed with the aid of the Turbo-Sky program demonstrate that Venus was perfectly visible at dusk on that date. The submersion rate of the Sun had equalled 10 degrees when Venus set, the luminosity of the latter equaling -3.4, and so it must have looked quite spectacular at dusk. There were no other planets near the Sun on any of the days included in the interval under consideration. There are no further doubts about the identity of the planet that makes an offering to the Sun – it is Venus. This is exactly what we see in the secondary horoscope of spring equinox from the Round Zodiac.

Yet again we see a perfect correlation with the

Round Zodiac, drawing a plus sign in the fifth column as well.

Sixth column – secondary horoscope of the summer solstice.

Summer solstice fell over the 12-13 June 1185, qv in Annex 5.

Let us cite the planetary positions for 12 June 1185:

Julian day (JD) = 2154043.00

Year/month/day = 1184/6/13

Sun	Moon	Saturn	Jupiter	Mars	Venus	Mercury
99.8	264.3	176.9	149.3	381.2	133.7	98.5
						(longitude J2000)
2.35	7.92	5.06	4.19	11.87	3.60	2.31
						(constellation scale)

In fig. 17.31a we see the planetary disposition in the solar area of the zodiac for the summer solstice day of 12 June 1185. We witness all of the following to be true for the day in question:

- 1) The only planet to accompany the Sun in Gemini is Mercury - obscured by solar rays, since the submersion rate of the Sun for the moment when Mercury crossed the horizon had equalled one degree maximum, and the planet’s luminosity had been rather low – a mere +4.3.
- 2) Jupiter was in Leo, near Regulus. The planet

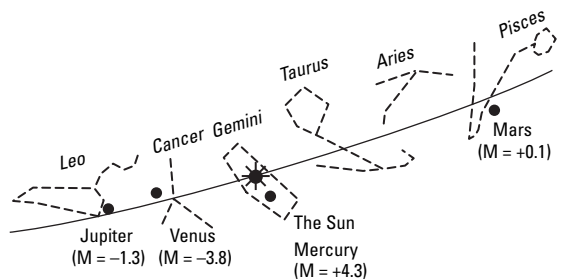


Fig. 17.31a. Planets in the solar area distributed along the ecliptic on the summer solstice day of 12 June 1185. All of them were visible well, with the sole exception of Mercury; the latter had been right next to the Sun, and couldn’t be seen from any part of the Earth. Calculated in Turbo-Sky. The drawing is approximated.

was very bright, its luminosity equalling -1.3 on the photometric scale. Jupiter had been in its vespertine visibility phase.

3) Venus ($M = -3.8$) was in Cancer, its visibility being vespertine.

4) Mars was the only planet in matutinal visibility. Notwithstanding the rather formidable distance between the planet and the Sun in Pisces, one sees no other planets between Mars and the Sun, which means that Mars was the closest planet to the Sun one could observe at dawn. Its luminosity was exceptionally high that moment, equalling 0.1 . Mars was therefore brighter than any star (with the exception of Sirius), roughly equalling Arcturus in luminosity. However, since both Sirius and Arcturus had set below the horizon two hours before the Sun rose in Cairo in the morning of 12 December 1185, Mars can be considered to have been *the brightest star in the sky that day*.

Now let us return to the secondary horoscope of summer solstice from the Round Zodiac:

1) There was a certain planet in either Gemini or Taurus, next to the Sun – probably Mercury, which concurs with our solution perfectly.

2) Leo housed another planet in vespertine visibility, which is already known to us as Jupiter, and the very same figure simultaneously represents this planet in the autumn equinox horoscope, *qv* above. This also concurs with our solution perfectly.

3) Venus was in vespertine visibility – likewise in our solution, which places it in Cancer, near the Sun. The visibility of Venus had been excellent that day.

4) There was a male planet in perfect matutinal visibility – most probably Mars. This figure is huge – the biggest in the Round Zodiac. This is in perfect concurrence with our solution, which tells us that there was just one planet visible at dawn on the day of summer solstice – also serving as the brightest star on the celestial sphere. It was Mars, which explains the extraordinary size of Mars in this particular zodiac – it isn't often that Mars plays the part of the brightest star in the sky; a case such as this one is indeed exceptional.

Thus, the correspondence between our solution and the Round Zodiac remains excellent. We draw another plus sign – in the sixth column of the verification table this time.

We have listed all of the secondary horoscopes and are now left with just a few extra scenes and the Passover full moon. However, there are no extra scenes of any substance in the Round zodiac, insofar as astronomical verification is concerned at least. The only item left to consider is the Passover full moon.

Seventh column – the Passover full moon. As we already know, the first vernal full moon would often be drawn in Egyptian zodiacs – the Passover full moon, that is, *qv* in *CHRON3*, Chapter 15:9.1.

The first vernal full moon fell on 20 March in 1185 (as calculated with the Turbo-Sky program), which is the very solution date that we came up with for the Round Zodiac. Thus, the Passover full moon simply coincides with the primary date of the horoscope, and is therefore unlikely to be drawn separately.

This appears to be true. There is no separate symbol to stand for the Passover full moon, like the one we encountered in the Long Zodiac, for instance. It has to be remembered that the date of the Long Zodiac's primary horoscope also coincides with a full moon – albeit one that bears no relation to the Passover. It can be found in Libra, in the same position as the Passover full moon. This manifested as the two moons we see in the Long Zodiac – one of them belongs in the primary horoscope, and the other one stands for the Passover full moon. On the contrary, the Round Zodiac that we have under study here only has a single full moon for both the Passover and the main horoscope.

We must point out that since the Round Zodiac contains the date of the Passover full moon, it is de facto an Easter zodiac.

And so we draw our final plus sign in the seventh column of the verification table.

There are no additional scenes anywhere in the Round zodiac that could assist us with astronomical dating. The scenes we do find therein, such as “the wolf on the scythe” and “the severed head next to Aquarius” (*qv* in *CHRON3*, Chapter 15:9) play no part in astronomical verification.

Our table is complete and has got a plus sign in its every column, *qv* in fig. 17.29. The present solution of the Round Zodiac is therefore exhaustive and final.

There were no more complete solutions for any other interpretation of the Round Zodiac.

COROLLARY:

The Round Zodiac of Dendera contains the following date: morning of 20 March 1185 A.D. The first full moon that spring (the Passover full moon) falls on the same night.

5. THE DECIPHERMENT OF THE DATING CONTAINED IN THE ZODIAC FROM THE GREATER TEMPLE OF ESNA (EB)

Let us now consider the zodiacs from Esna – another ancient Egyptian city, also located near the “Bight of the Kings” on the Nile, likewise Dendera, qv in fig. 17.5 above. Esna is located further up the current of Nile than Dendera and the actual royal necropolis – on the coast of Nile, at the very southern edge of the bight on the Nile.

During the Napoleonic expedition to Egypt, Europeans discovered a number of “extremely ancient” Egyptian constructions in Esna. According to the drawings from the Napoleonic album ([1100]), the constructions were destroyed or seriously damaged.

In particular, they discovered two ancient temples with zodiacs inside them. One of the temples is very large, whereas the other one (in the north of Esna) is a great deal smaller, which is why we’re referring to them as to the Greater and the Lesser Temple of Esna.

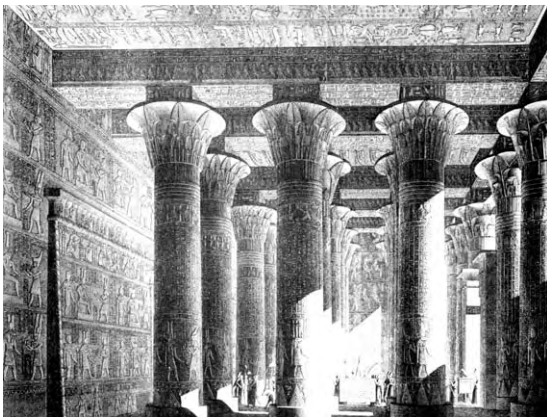


Fig. 17.32. The inside of the Greater Temple in Esna according to the drawing of the Napoleonic artists (reconstruction). In the foreground one sees the ceiling with the zodiac that we shall be referring to as the “Greater Zodiac of Esna”, or the EB zodiac. Taken from [1100], A. Vol. I, Pl. 83.

Zodiacs were found in both of the temples. Just like the ones from Dendera, they were gigantic ceiling bas-reliefs carved in stone. We shall witness many similarities between the zodiacs from Dendera and Esna – the astronomical symbolism used therein is uniform for the most part.

A reconstruction of how the Greater Temple of Esna looked on the inside can be seen in fig. 17.32. It was taken from the Napoleonic album ([1100]). One sees the zodiac that we call the Greater Zodiac of Esna, or simply the Greater Zodiac (EB in abbreviation) on the ceiling of the temple. It was copied by Napoleonic artists quite meticulously, and represented in [1100] twice – as a simple drawn copy and a shaded one. The former was cited above in fig. 12.18, and the latter can be seen in fig. 17.33.

After the discoveries concerning the Dendera zodiacs, the question of just which dates we can find transcribed in the zodiacs from Esna is all the more interesting to us, since Esna is rather close to Dendera, as you may remember, and both towns are adjacent to the royal Egyptian necropolis in the “Bight of the Kings”.

We shall consider the zodiac from the Lesser Temple of Esna below, and proceed with the interpretation and dating of the Greater Zodiac from Esna.

5.1. Copies of the zodiac from the Greater Temple of Esna

We shall need a more detailed drawn copy for the purposes of dating than the ones found in fig. 12.18 above. Such a copy can be seen in figs. 17.34 – 17.37. The drawings allow the readers to follow each step of the astronomical symbols contained in the Greater Zodiac.

The only copies of the zodiacs from Esna that we had at our disposal come from the Napoleonic album ([1100]). Above, in our analysis of the Dendera zodiacs, we have seen that these copies are prone to containing minor imperfections. They are nevertheless rather accurate, and suffice for dating. It would naturally be expedient to have precise photographs of the Esna zodiacs, like the ones that proved very useful to us in case of the Round Zodiac, qv above. Unfortunately, we had no options of obtaining such photographs.

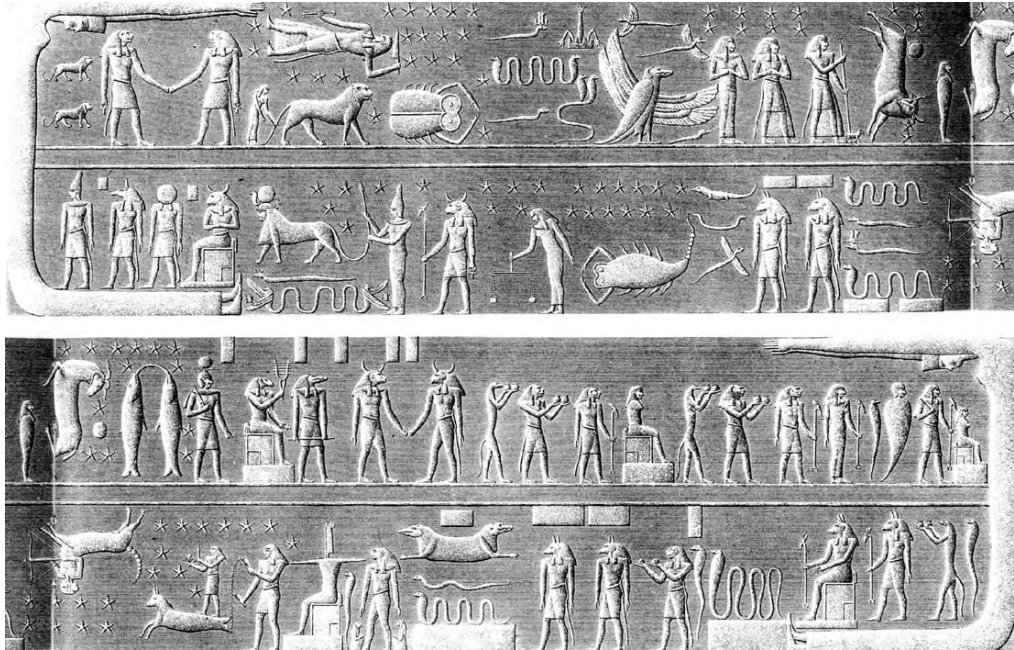


Fig. 17.33. Shaded copy of the Greater Zodiac (EB) from the Napoleonic album. Taken from [1100], A. Vol. 1, Pl. 79.

As above, we shall describe our dating of the Greater Zodiac from Esna step by step, qv in CHRON3, Chapter 16:7.

5.2. Coloured zodiac from the Greater Temple of Esna. Symbols of constellations and planets in the primary horoscope

Step 1, qv in CHRON3, Chapter 16:7.1. The initial interpretation of the primary horoscope and the compilation of the zodiac's "coloured version".

The general tables of Egyptian symbols as seen in CHRON3, Chapter 15:1, make it rather easy to find all the figures of zodiacal constellations in the Greater Zodiac. For the most part, they coincide with the ones used in the zodiacs from Dendera. The only figures that need to be described separately are those of Gemini, Libra and Virgo, which appear to be quite odd in this case.

The constellation of Gemini is represented by three figures and not the usual two, qv in the coloured versions of the zodiacs from Esna. The first of the Gemini figures is a man with a long stick in both hands which

he rests upon a small animal under his feet, followed by the two other figures, one male and the other female, whose arms are crossed in the exact same manner. This triad looks perfectly identical in both zodiacs from Esna, standing for the constellation of Gemini in both cases. This is a unique characteristic of the two zodiacs from Esna; this constellation looks differently in other Egyptian zodiacs. See more on this in CHRON3, Chapter 15:1.3.

Libra is simply drawn as a pair of scales, just the same as in the zodiacs of Dendera. We focus our attention on them for the sole reason that the scales are held by a woman in the Greater Zodiac. We believe the female to be part of the secondary winter solstice horoscope, since it is located in the corresponding area – see CHRON3, Chapter 15:1.3 for argumentation in support of this theory. Moreover, it is proven by the exhaustive solution for the Greater Zodiac discovered by the authors. This figure actually stands for Venus in one of the secondary zodiacs; we shall expound this in detail below.

The same can be said about the symbol of Virgo in the Greater zodiac, which is drawn here in the exact



Fig. 17.34-35. A magnified drawn copy of the Greater Zodiac of Esna (EB) from the Napoleonic album. Part one. Taken from [1100], A. Vol. I, Pl. 79.

same way as it is in the zodiacs from Dendera. It is the woman with an ear of wheat in her hands. In fig. C6 the figure is highlighted red; we also see a lioness with a human face, whose tail nearly touches the hands of Virgo; this figure stands apart from the constellation and must belong to the secondary horoscope of autumn equinox from the Greater Zodiac.

The only reason we should mention the figure is that it may be misinterpreted for the constellation of Leo at a glance due to semblance in appearance – this is how we usually see the figure of Leo drawn in Egyptian zodiacs: a woman that either stands on the lion's tail or holds on to it, qv in CHRON3, Chapter 15:1.5. However, this assumption would be incorrect, since the real constellation figure of Leo is elsewhere on the Greater Zodiac, whereas the above-mentioned lioness with a human face does not form the Egyptian symbol of Leo in conjunction with Virgo. Indeed, let us study them more attentively. First of all, the leonine figure is grossly out of proportion as compared to the Egyptian drawings of Leo. The woman, or the so-called “auxiliary Virgo, is never bigger than the actual constellation figure in any Egyptian zodiac, qv in CHRON3, Chapter 15:1.5. One clearly sees the contrary to be the case, since the figure in question is the primary Virgo. Apart from that, the leonine figure with a human face seen next to Virgo is explicitly accompanied by a transposition symbol, since it stands on a snake, qv in CHRON3, Chapter 15:6; there is nothing of the kind anywhere near Virgo. This is why we have to ascribe the leonine figure to a secondary horoscope, separating it

from the constellation. Finally, the above is also confirmed by our solution.

There are no new characteristics pertaining to constellation figures in the Greater Zodiac of Esna.

The coloured version of the Greater Zodiac, qv in fig. C6, has all of the figures highlighted in red (the colour code is explicated in CHRON3, Chapter 16:8).

Now for the planets of the Greater Zodiac's primary horoscope. There are no particular complications involved so far – most of the primary horoscope's planets can be identified effortlessly, some of them at the first sight.

We recognize Saturn instantly – it is in Virgo, near the edge of the Zodiacal strip, qv in fig. 17.34, and looks just the same as it does in the zodiacs of Dendera – a wayfarer with a crescent on his head.

Furthermore, one must pay attention to the fact that all the figures carrying planetary rods are grouped into five groups on the zodiac, according to the number of planets drawn in Egyptian zodiacs (with the exception of the Sun and the Moon). Three of the groups have a single planetary figure with a rod each, whereas the other two have a pair each, one figure following in steps of the other (see fig. C6, where all of these figures are highlighted yellow).

This circumstance happens to be the key to the solution of the entire horoscope. The ancient concept of Mercury and Venus possessing a “double nature” is already known to us quite well – after all, the two have smaller orbits than the Earth, and are always close to the Sun as seen by a telluric observer. They hide behind the Sun every now and then, and appear

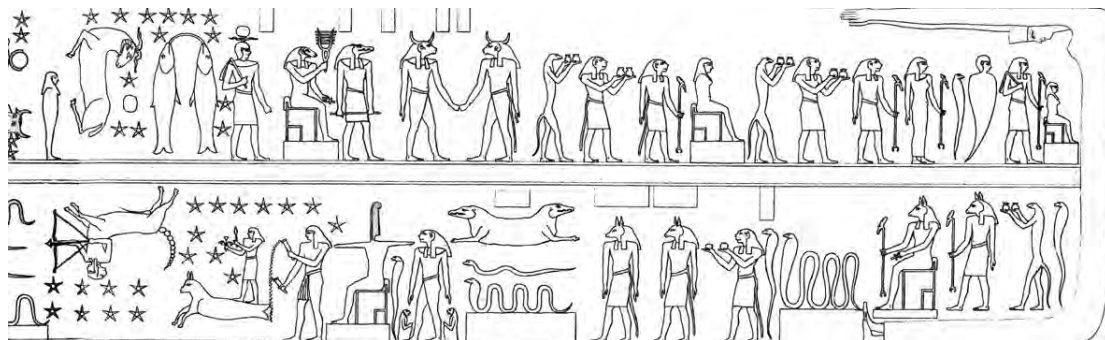


Fig. 17.36-37. A magnified drawn copy of the Greater Zodiac of Esna (EB) from the Napoleonic album. Part two. Taken from [1100], A. Vol. I, Pl. 79.

from a different side of the luminary every time, hence their attribute of matutinal and vespertine visibility. See more on it above, in *CHRON3*, Chapter 15:4.

Indeed, we recognize a woman in one of the double figures carrying planetary rods. It is accompanied by a man with the head of a lion, *qv* in fig. 17.37. We see no other female figures equipped with planetary rods anywhere else in the Greater Zodiac, which makes it easy for us to recognize this planet as Venus. We see two other female figures sitting on stools close nearby, the left one being bigger and the right one smaller. We shall learn what they stand for soon enough – for the meantime, let us simply point out their female gender; all the other similar figures sitting upon stools that we encounter in the Greater Zodiac are male, which is yet another indication that the planet we see here is Venus – a female planet.

The second couple of rod-bearing figures that we found grouped together is drawn as two male figures with heads of either jackals or dogs. The planet they represent is therefore Mercury; we see that one of its “representatives” holds a planetary rod whilst sitting on a chair. The other one is close nearby; both figures are located at the very edge of the zodiacal strip, *qv* in fig. 17.37.

Furthermore, we see a whole collection of attributes pertaining to “double planets” between the two figures; these can only relate to Venus and Mercury. Then there are some explicitly Mercurian attributes to boot – primo, two figures, identical in both appearance and pose, secundo, a bicephalous animal, tertio, two small animals of a kind looking at each

other, and *quatro*, prostrate arms of the figure sitting on the chair. Finally, the figure’s head is replaced by a feather, which is another symbol of Mercury, *qv* in *CHRON3*, Chapter 15:4.10.

All of the above means that Mercury was either in Aquarius, or close nearby.

The other two planets of the primary horoscope are less conspicuous. One of the figures looks like a man holding a planetary rod in his hand and a whip on his shoulder, which we see to the right from Venus (near the edge of the zodiacal strip) and the man with a leonine head who also carries a planetary rod, to the left from the pair of sitting female figures. See fig. 17.37, as well as the coloured version of the Great Zodiac in fig. C6, where the figures are highlighted yellow.

Since we have already identified the two other planets of the primary horoscope (with the exception of Jupiter and Mars), the remaining pair must represent Jupiter and Mars.

We shall refrain from guesswork in establishing their respective identity and consider two versions equally viable at this stage (jumping ahead, we can tell the reader that the figure with the whip proved to be Mars, whereas the wayfarer with a leonine head represents Jupiter).

Furthermore, unlike the zodiacs from Dendera, where the main complications involved the respective identity of the Sun and the Moon, their respective symbols in the present zodiac make it perfectly easy to distinguish between the two. We only see two circles here – one of them is in Taurus and has a very

eloquent crescent drawn inside of it, whereas the second circle (between Aries and Pisces) is plain and simple, without any crescents. The most likely position for the Moon is therefore Taurus, and Aries for the sun. The main solution proves this very well.

Nevertheless, we have considered versions involving the reverse identification of the couple, less probable but possible in theory, where the circle with a crescent in Taurus stands for the Sun with a new moon, whereas the full moon is represented by the simple circle between Aries and Pisces. However, this identification gave us no full solutions, proving itself false *ipso facto*.

We compiled the coloured version of the Greater Zodiac as a result, qv in fig. C6.

Thus, we managed to identify most of the primary horoscope's figures from the Greater Zodiac already at the stage of preliminary analysis, the only cases with options being those of Mars/Jupiter and Sun/Moon. However, astronomical calculations resolved the ambiguity instantly, since there are very few preliminary solutions of the Greater Zodiac – about ten of them all in all, the exhaustive solution being unique.

The small number of preliminary solutions is understandable in this case. Mark the fact that all the planetary figures of wayfarers one finds in the primary horoscope are located between Pisces and Aquarius, with the sole exception of Saturn. Furthermore, the cusp of the two constellations occupies *one half* of the entire zodiac's space, no less.

We can thus instantly make the conclusion that we see an almost complete planet caravan between Pisces and Aquarius – the only planet we find elsewhere on the date transcribed in the Greater Zodiac is Saturn.

This is very good for astronomical dating, since the dates of the primary horoscope can be calculated without the need of identifying any planet separately, except for Saturn – we already know the rest to be located in either Pisces or Aquarius.

We performed all necessary calculations, but they yielded no other exhaustive solutions, which makes our identification of all planets included in the Greater Zodiac's primary horoscope unequivocal.

The symbolism of the Greater Zodiac of Esna proved to correspond with the zodiacs from Dendera in particular, and other Egyptian zodiacs in general, qv in CHRON3, Chapter 15:1, and CHRON3, Chapter

15:4. In other words, there we discovered no contradictions between the astronomical symbols used in zodiacs found in Dendera, Esna and elsewhere in Egypt. Nevertheless, the zodiacs from Esna possess a number of unique characteristics, which is especially manifest in case of the Lesser Zodiac, as we shall see further on.

We assume the readers to have the coloured version of the Greater Zodiac (fig. C6) at their disposal for necessary reference, as well as the drawn copy thereof, qv in figs. 17.34-17.37.

5.3. The primary horoscope and the “doubles” of planets in the EB zodiac

Planetary figures from the primary horoscope of the Greater Zodiac were discussed in enough detail earlier on. Let us define their distribution across zodiacal constellations.

Saturn is the male figure with a bovine head with a crescent on its head; we see it between the symbols of Virgo and Libra, which means it may have been in either of the two constellations; they shall thus comprise its allowed position area.

The middle of Virgo was chosen as the “best point” for Saturn – simply because there is another figure in Virgo that resembles Saturn – its “sitting double”, which is the very same figure, but without the planetary rod and sitting instead of walking.

Despite our choice of the “best point” (middle of Virgo), we find Saturn exactly on the cusp of Virgo and Libra, which is where it should be for the primary figure, unlike its sitting double.

Pay attention to the fact that most of the primary horoscope's planets from the Greater Zodiac of Esna have such “sitting doubles” except for Mars and the Moon. The former has a double nevertheless, although a special one – it looks like a military shield with a human head upon it. The “double of the Moon” shall be described in more detail below; it is the tiny figure between Taurus and Aries. All the “doubles” are highlighted green in the coloured version of the Greater Zodiac, qv in fig. C6. The Sun is the only figure left without a double.

All of these “doubles” are located near the primary figures of their respective planets, possibly standing for secondary horoscopes – however, they should all re-

late to vernal equinox in this case, excepting Saturn (bear in mind that all the other planetary figures are concentrated between Pisces and Aquarius). However, the date of the vernal equinox shall be close to that of the primary horoscope. After all, the primary horoscope's solar figure is drawn in Aries, right next to Pisces – the constellation housing the spring equinox point of the primary horoscope, qv in CHRON3, Chapter 15:8.3. This implies the possibility that the doubles do actually stand for planets from secondary horoscope, and their positions on the zodiac must indeed be close to the figures of the primary horoscope.

However, in this situation they offer no help in the elimination of extraneous solution since the disposition of such “doubles” gives us no new information to complement the primary horoscope; furthermore, we cannot even be certain that the figures come from a secondary horoscope and don't merely accompany the primary horoscope's planets as entourage.

We already mentioned Saturn, and will proceed with the rest of the primary horoscope's planets found in the Greater Zodiac of Esna.

Mercury, Jupiter, Venus and Mars are all shown between Aquarius and Pisces, which limits the acceptable position area of all four planets to these two constellations. Also, in accordance to what we said in the previous section, the only acceptable order options for these planets on the ecliptic counting from Aquarius to Pisces are as follows:

Mercury – Mars – Venus – Jupiter,

or

Mercury – Jupiter – Venus – Mars.

Finally, let us consider the Sun and the Moon.

We find the Sun between Pisces and Taurus; said constellations will therefore comprise its acceptable position area.

We see the Moon on the back of Taurus. It is therefore either in this constellation or in Aries, since the lunar circle is drawn in between the two; the acceptable position area for the Moon must therefore cover both Aries and Taurus.

We also have a reverse interpretation option, with the Sun and the Moon swapping positions, qv in the previous section.

Let us however point out that in the final solution the Sun is on the cusp of Aries and Taurus, whereas the Moon is right in Taurus, qv below.

5.4. Visibility indicators in the EB zodiac

Indicators of planetary visibility as used in the Greater Zodiac of Esna are substantially different from the ones from the Dendera zodiacs. The latter used a star over the head of a planetary figure to indicate its visibility, which isn't drawn if the planet was invisible.

Au contraire, we see no symbols to indicate that a planet was visible; however, invisible planets have solar circles instead of heads, which is perfectly correct astronomically – it is the solar radiance that renders planets invisible, after all. The Sun stands between the observer and the planet, obscuring view; we therefore see a solar circle instead of the planet's face.

Each planet in the primary horoscope of the Greater Zodiac from Esna is drawn visible, with just a few planets from the secondary horoscope of autumn equinox possessing invisibility indicators. See more about this below.

5.5. Secondary horoscopes in the EB zodiac

Secondary horoscope of autumn equinox in Virgo. We see the following figures in the respective part of the Greater Zodiacs, which either stand for planets in a horoscope, or serve as additional astronomical symbols that must get some sort of explanation in the exhaustive solution.

On the left of Virgo we see a lioness with a human face with a large circle on her head. As we explained above, this figure bears no relation to the constellation of Virgo and therefore comes from a secondary horoscope, which is also emphasized by the autumn equinox sign that looks like a two-headed snake below. See CHRON3, Chapter 15:8.1 for more details on the autumn equinox symbols used in Egyptian zodiacs.

The lioness usually symbolises Venus in Egyptian zodiacs, which must also be the case here, qv in CHRON3, Chapter 15:4.8.

The other female figure (the one that holds the scales of Libra and also stands for Venus from a secondary horoscope - the only planet of the feminine gender, as you remember, must relate to the secondary horoscope of winter solstice. The area to the right of Virgo, after Libra, must therefore contain planets

from another secondary horoscope, and our search should be continued in the opposite direction – towards Leo.

After the leonine Venus we see Saturn, which makes perfect sense. The primary horoscope's Saturn is either in Libra or Virgo, and so we must find this rather slowly-moving planet close nearby on the day of the autumn equinox as well.

Saturn is followed by a triad of figures, one of which has a solar disc instead of a head, signifying its invisibility in solar rays. The two others should stand for planets that were visible that day; all planets are represented with male figures.

The route of our further movement across the Greater Zodiac turns around the curved body of the “goddess Nuit” and changes direction, making us proceed from left to right. The first thing we see here is the autumn equinox symbol that looks like two male figures with leonine heads holding hands. See CHRON3, Chapter 15:8.1 and CHRON3, Chapter 15:8.3 for more on equinox symbols in Egyptian zodiacs. We are therefore still in the territory of the autumn equinox horoscope.

Next we see a symbol of Leo with an “auxiliary Virgo” over its tail. There is a figure of a militant-looking man above, who has raised a large knife or a sword over his head as if he were trying to kill someone – most likely Mars or Saturn. We see it above Leo and the “auxiliary Virgo”, which locates the planet in either Leo or Virgo. It is however possible that the figure comes from the secondary horoscope of summer solstice, since we find it at the border of two secondary horoscope.

This is where the area of the autumn equinox ends; it is followed by the sign of Cancer, and, further on, a collection of summer solstice symbols, qv in CHRON3, Chapter 15:8.4.

We came up with the following secondary horoscope.

Venus was in Virgo on the day of the autumn equinox – possibly invisible, judging by the solar circle on its head. There were three more planets in Virgo apart from Venus, one of them invisible and the other two visible. Further on we find Leo and Virgo; one of the constellation housed Mars (or, possibly Saturn; if not, we expect it to be there on the day of summer solstice).

Secondary horoscope of winter solstice in Sagittarius. This is where the sign of Sagittarius represents a standard astronomical hieroglyph with a minimal secondary horoscope. It marks the point of winter solstice, without providing us with any further information of any substance.

Nearby, in Capricorn, we find a small male figure holding the solstice symbol in its hand. We mentioned it above, in CHRON3, Chapter 15:8.2, when we were discussing the symbolism of the equinox points. This object is a symbol of the winter equinox and not a planet.

To the left from the Sagittarian sign we shall first see a collection of solstice symbols looking as snakes of different kinds, qv in CHRON3, Chapter 15:8.2. Next to them there are two absolutely identical male figures with jackal heads. The only planet that could be drawn in this manner is Mercury – a “double” male planet, qv in CHRON3, Chapter 15:4, where we mention the fact that a jackal's head symbolises Mercury in Egyptian zodiacs.

Next, right after Scorpio, we see a female figure holding the pair of scales that symbolises Libra in her hand. We mentioned it above and discovered that it must pertain to the secondary horoscope of winter solstice. Thus, Venus was in Libra on solstice day.

We came up with the following secondary horoscope of winter solstice: Mercury is in either Sagittarius or Scorpio, and Venus is in Libra.

Let us move on to the next secondary horoscope.

The secondary horoscope of spring equinox in Pisces. This horoscope is absent. The possible reason may be extreme proximity to the primary horoscope.

Alternatively, it may be represented by the “sitting doubles” – however, this shall hardly help us with verifying solutions, since the “doubles” are but a reflection of the primary horoscope, which is satisfied in all of our preliminary solutions at any rate. In other words, all the preliminary solutions shall conform to such a horoscope automatically.

The secondary horoscope of summer solstice in Gemini. We see this horoscope to be all but empty in the Greater Zodiac of Esna. The actual figure of Gemini is drawn in the usual manner – as an “astronomical hieroglyph” that incorporates the actual constellation sign as well as a minimal secondary horoscope (Venus and Mercury), represented by the female and