

Part 2

THE DATING

OF THE EGYPTIAN ZODIACS

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A foreword to Part 2

The dating of the Egyptian zodiacs is a problem that was studied by many scientists of the XIX-XX century. A large contribution into the solution of this problem was made by N. A. Morozov ([544], Volume 4). However, his analysis of the Egyptian zodiacs is far from final, and the datings he came up with aren't quite satisfactory from the astronomical point of view. This was pointed out in the work of N. S. Kellin and D. V. Denisenko ([376]), who have managed to get a better solution for the Round Zodiac of Dendera than N. A. Morozov. However, they admit it themselves that their solutions are also far from ideal ([376]).

The first one to suggest a strict approach to the selection of astronomical solutions for the Egyptian zodiacs was T. N. Fomenko in [912:3]. This work demonstrated in particular that the Egyptian zodiacs allow for ideally strict solutions in case of certain interpretations of their astronomical content, and perfectly allowable ones at that. However, these interpretations as suggested by [912:3] weren't the only possible ones. Apart from that, many of the graphical details found in the Egyptian zodiacs hadn't yet been deciphered at the time. This goes to say that at this stage of research the problems of ambiguity and incompleteness of the Egyptian zodiacs' astronomical interpretation remained unsolved. Another poignant issue was presented by the fact that the astronomical datings of the Egyptian zodiacs are very unstable in face of variations in source data – in other words, minute and acceptable changes in the interpretation of a zodiac could lead to a significantly different astronomical dating thereof.

All of the above means that the astronomical datings of the Egyptian zodiacs obtained by 2001 could not be regarded as final.

This is why A. T. Fomenko and G. V. Nosovskiy launched a new research in 2000-2001 which included the development of special astronomical software that would make it feasible to run over all possible variants of the zodiacs' astronomical interpretation ([METH3]:4). Practically all of the graphical details found in the Egyptian zodiacs were studied in the process – even the ones that were considered completely unrelated to astronomy previously. It turned out that each of those figures has explicit astronomical meaning. This resulted in the important and unexpected

discovery of the fact, that unlike many of the ancient zodiacs, the Egyptian ones contain a great many additional astronomical data apart from the main horoscope. It is important that these data weren't included into the Egyptian horoscopes randomly – they follow a single rigid structure in every case.

What we have therefore discovered is the general structure of the Egyptian zodiac as a description of a calendar year spanning the primary date represented by a special cipher of sorts.

As a result, the total amount of useful astronomical information contained in a single Egyptian zodiac usually suffices in order to decipher the date it stands for; apart from that, it contains an exhaustive astronomical explanation of its cipher. In other words, our new approach isn't based upon the decipherment of the Egyptian zodiac, but rather allows to accomplish said goal via astronomical calculations, likewise the date of the zodiac. The datings of the Egyptian zodiacs that we come up with as a result are of a stable nature, and only allow for a single solution in case of the majority of zodiacs.

From the preface to

The New Chronology of Egypt. The Astronomical Datings of Ancient Egyptian Monuments. Research of 2000-2002

by A. T. Fomenko and G. V. Nosovskiy (Moscow, Veche, 2002)

This book is dedicated to the interpretations of datings contained in the ancient Egyptian zodiacs. We set several precise chronological landmarks of Egyptian history here, which was made feasible by our recently-developed method of the complete deciphering of the Egyptian zodiacs.

In our research of the Egyptian zodiacs we have used many important ideas of our predecessors N. A. Morozov ([544], Volume 6), N. S. Kellin and D. V. Denisenko ([376]) as well as T. N. Fomenko ([912:3]). In general, our research can be considered to continue and develop theirs. Many of the doubtless and fundamental facts estimated by these authors in re the astronomical symbols used in Egyptian zodiacs were adhered to and received independent confirmation. Apart from that, we have discovered that there is another layer of astronomical symbols present in the Egyptian zodiacs whose meaning remained beyond our comprehension earlier. This discovery, which came as considerable surprise even to ourselves, brought us to an altogether new level insofar as the opportunities of dating the Egyptian zodiacs are concerned. Owing to these unique opportunities and extensive astronomical computations we could estimate about ten datings as the only ones possible; all of them were presented in the ancient Egyptian zodiacs with the use of an old "astral calendar". All of the dates fall over the same post-XI century epoch.

The previously known interpretations of the Egyptian zodiacs (first and foremost the ones belonging to N. A. Morozov, N. S. Kellin – D. V. Denisenko and T. N. Fomenko were of a partial nature. These authors managed to obtain astronomical identifications of many zodiacal symbols, but not all of them, which is quite understandable since one had to sort out a great many interpretation options, and this is hardly possible to do manually. The interpretation we got in 2001 is the first one which is complete and accounts for all the graphical details of every zodiac; it also turns out that an astronomical solution is available in every case, which is an extremely important fact. The existence of such complete interpretation which can always be dated is very far from obvious a priori. Apart from that, the astronomical solutions that we came up with for the overwhelming majority of the zodiacs turn out to be the only ones. Our analysis is final in this respect.

It turns out that the complete interpretation of the primary horoscopes found in Egyptian zodiacs includes the partial interpretations offered by N. A. Morozov and T. N. Fomenko; however, there is a certain difference between them details-wise which brings clarity into multiple choice situations such as the interpretation of the symbols used for the sun and the moon that are rather easily confused with one another. Our predecessors would argue in favour of their choice after studying the content of the Egyptian symbols since they had no opportunity of sorting through all possible interpretation options yet, unlike the authors of the present book. Their interpretations weren't final in some cases, which would therefore make the datings they discovered less strict; therefore, the final datings that we came up with differ from the previous datings offered by Morozov, Kellin-Denisenko and T. N. Fomenko. However, all of the precise datings remained mediaeval, which is a rather important fact. It turns out that there isn't a single astronomical solution for the Egyptian zodiacs that would date to an epoch preceding the XII century A.D.

We also feel obliged to point out that the final datings that we managed to calculate for the Dendera zodiacs have already been mentioned in the work of T. N. Fomenko. Namely, she already considered the dating of the 22-27 April 1168 for the Long Zodiac of Dendera in the preliminary stage of her analysis, which coincides with the dating discovered by ourselves. This dating was rejected by T. N. Fomenko due to different identifications of the sun in the interpretation chosen by N. A. Morozov and the one that turned out final according to our method ([912:3], page 721). The same work by T. N. Fomenko ([912:3] specified the date of the 30-31 March 1185 as a possible solution for the Round Zodiac in one of the early analysis stages, which only differs from the final solution dating that we came up with by a mere 10 days. This dating was also rejected by T. N. Fomenko due to minute discrepancies between her interpretation and the final interpretation of the Round Zodiac offered by our method. As is the case with the Long Zodiac of Dendera, these discrepancies concerned the symbols used for the sun and the moon which are easy to confuse for one another.

Let us reiterate that after we had finished our computer calculations it turned out that the previous partial interpretations were confirmed for the most part. They comprise the fundament of the final interpretation, which confirms the general correctness of the previous research. It has to be said that all of the authors who studied the Egyptian zodiacs that we refer to above always emphasised that their datings were based on the interpretation options that struck them as the most likely and not an exhaustive study of all possible variants. Let us now list our datings of the ancient Egyptian zodiacs based on our final interpretation.

1) *The Round Zodiac of Dendera*: morning of the 20th March 1185 A.D.

2) *The Long Zodiac of Dendera*: 22-26 April 1168 A.D.

3) *The Zodiac from the Greater Temple of Esna*: 31 March – 3 April 1394 A.D.

4) *The Zodiac from the Lesser Temple of Esna*: 6-8 May 1404 A.D.

The Athribis zodiacs of Flinders Petrie:

5) *The Upper Zodiac of Athribis*: 15-16 May 1230 A.D.

6) *The Lower Zodiac of Athribis*: 9-10 February 1268 A.D.

7) *The Theban Zodiac of Heinrich Brugsch* which, as it turned out, contains a total of three zodiacs, each one of which gives an independent dating.

7a) The horoscope of demotic additions – 18 November 1861 A.D. (old style).

7b) The horoscope “without rods” – 6-7 October 1841 A.D. (old style).

7c) The “boat horoscope” – 15 February 1853 A.D. (old style).

Thus, the “ancient” Egyptian wooden coffin whose lid was adorned with this spectacular zodiac was manufactured in the middle of the XIX century.

8) *The coloured zodiac of Thebes* found in the Egyptian “Valley of the Kings” and represented in the Napoleonic Egyptian album ([1100]) – 5-8 September 1182 A.D.

The datings we come up with allow us to make the perfectly valid claim that the “ancient” history of Egypt and its Pharaohs doesn’t date back to several millennia before the new era, but rather to the XI-XV century A.D. – a “mere” 400-1000 years ago, in other words. As for the grandiose temples of the ancient Egypt, the Zodiac dates in these temples indicate the epoch of late XII – early XV century A.D.

The dates on the wooden Egyptian coffins (or sarcophagi) are of the utmost interest indeed. These wooden coffins, painted in different colours and covered in hieroglyphs, can be seen in many art albums on Ancient Egypt. They are considered to be “extremely ancient”. However, it turns out that their real age can be estimated precisely in certain cases due to the fact that the lids of these sarcophagi were often adorned with zodiacs containing ciphered dates. Deciphered, one of them (the zodiac of Brugsch) yielded the middle of the XIX century as a result. In other words, the “ancient” Egyptians (or, possibly, the Mamelukes) were making such coffins and used them for burials as recently as 150 years ago. Nowadays they are up on exhibition in many museums as the alleged relics of “ancient” history.

For some strange reason, we are given no explanation of the fact that the smoothly-planed and accurately sawed planks these Egyptian coffins are supposed to have been manufactured in absence of iron tools, likewise the boats of the Pharaohs. The implication is that the “ancient” Egyptians had planes. However, we are being told that the “ancient” Egyptians only had copper at their disposal, which isn’t the material one can use for making a plane. What are we left with, then? Another “mystery of the Ancient Egypt”? Such mysteries are abundant in Egyptian history. Now we have a means of eliminating them having the knowledge that the “ancient” Egypt, as well as other “ancient” civilizations are only several centuries old in reality, which is why we often put the word “ancient” in quotation marks.

As we have demonstrated in our previous books on the subject, the consensual version of ancient Egyptian chronology is most likely to be erroneous, which brings us to the question of when this false version first came to existence, as well as the entire erroneous version of Egyptian history that it is based upon.

It turns out that its roots don’t reach further back than the end of the XVIII century which is when the Europeans got their first opportunity of travelling to Egypt after several centuries of isolation. The Napoleonic army disembarked on the Egyptian shore in 1799; this was followed by the defeat of the Mamelukes in the famous Battle of the Pyramids. This is when the Europeans made their first acquaintance of the Egyptian antiquities, and the European scientists drew up a more or less detailed picture of ancient Egyptian history.

Shortly afterwards the “Napoleonic” album with drawings of the Egyptian monuments was published in France ([1100]). It included detailed drawings of several Egyptian zodiacs, among other things. This album was the first illustration of what relics were found in Egypt, since the Europeans only had a vague idea of the land itself as well as its history prior to that. In order to provide the reader with a demonstrative example of just how meagre the European knowledge of Egyptian history had been as recently as the XVII century we provide the entire section on Egyptian history taken from a voluminous and fundamental chronograph dating to the end of the

XVII century in [METH3]:4, Chapter 9. This section in its entirety takes up a mere two pages and contains nothing remotely resembling the modern version of Egyptian history which came to existence somewhat later (see *ibid*).

In school we are told the impressive tale of how Champollion who accompanied the Napoleonic troops to Egypt managed to decipher the mysterious hieroglyphs which had remained beyond everyone's comprehension for several centuries. It turns out that "the last stage the Egyptian language reached in its development had been the Coptic language of the Christian population of Egypt ... it was supplanted by the Arabic around the XVII century" ([85], Volume 15, page 464). In other words, the "ancient" Egyptian language in the final stage of its development had been the spoken language of the Egyptian Christians up until the XVII century A.D., no less! It becomes clear why Champollion would have to study the Coptic language in order to decipher the hieroglyphs ([85], Volume 47, page 510).

It is presumed that the labours of Champollion and his contemporaries, the founders of Egyptology, enabled the Europeans to glance into the very depths of the Egyptian history of the Pharaohs, which they were a priori ready to consider "exceptionally ancient".

Even though the deepest antiquity of the Egypt ruled by the Pharaohs was considered obvious, exact datings had remained unknown, and there was much diversity in opinions on how certain events of Egyptian history were to be dated. For instance, there were supporters of the "long" and the "short" version of Egyptian chronology amongst the Egyptologists; the discrepancy between the two versions amounted to several thousand years ([METH1]). The datings suggested by the specialist for the dating of Egyptian monuments could differ by several millennia or even several dozen millennia. Thus, for instance, the "Egyptologist" dating of the famous Dendera zodiacs which we shall be considering in the present book, had altered by a whole 15.000 years ([544], Volume 6, page 651).

Egyptologists were making claims about the "indubitable antiquity" of Egyptian history from the very beginning, and they are still very much at it. However, there is no real evidence to support this allegedly "self-implied" antiquity. The "reasons" they suggest as validation of this theory don't hold up to serious criticisms and are based on absolute certainty that the history of the Pharaohs pertains to an antediluvian age and had ended before the beginning of the new era (see [METH1]).

We shall refrain from reiterating our criticisms of the consensual Egyptian chronology and the radiocarbon datings of the Egyptian specimens in particular, since a detailed rendition of those can be found in Chron1 and Chron2 by A. T. Fomenko. Let us briefly formulate the hypothesis that is related in detail in Chron5.

We are of the opinion that the ancient Egypt in the times of the Pharaohs had been the royal burial ground of the Great Empire in the Middle Ages. This Empire had spanned all of Eurasia and a large part of Africa in the epoch of the XIV-XVI century A.D. Egypt had been a small part of this Empire, although it may have been the birthplace of its royal dynasty. The necropolis of the royal family was located in Egypt, and the population of this country was employed as workers and keepers of this cemetery. The kings, or the Pharaohs, did not live in Egypt and were brought here post-mortem. We consider this to be the explanation of the odd fact that almost all of the “ancient” Egyptian inscriptions contain nothing but descriptions of funeral rites.

Therefore, according to our reconstruction, the ancient Egypt had been the cemetery for the kings of the Great mediaeval Empire, and its inhabitants had to guard the peace of their deceased rulers, which had been their primary task. This was naturally done at the expense of the vast Imperial resources and not locally.

In Chron5 we also consider the issue of the construction of the pyramids. Egyptologists present us with rather spectacular yet absolutely ephemeral pictures of how the pyramids and other colossal stone constructions of the ancient Egypt were built. We are told about the great masses of “ancient Egyptian slaves” who were supposed to cut gigantic blocks of stone weighing some 200-500 tonnes from mountain quarries using copper saws, no less. These monstrous blocks would then be towed across the sand and transported over the Nile in some mysterious manner. Finally, they would be used as bricks for the construction of the pyramids.

None of the above is likely to have taken place. The construction of the pyramids must have been a much more interesting and realistic endeavour as opposed to the rather odd version related above.

According to the new point of view, the technologies of the XIV-XVI century were used in the Ancient Egypt, and rather complex ones, at that. Many of them were lost for many centuries after the decline of the Empire in the XVII century, such as the geopolymer concrete (see [REC]:2). The secret of this concrete was rediscovered several decades ago by Joseph Davidovich, the French chemist. It is widely used in construction nowadays, qv in [1086] – [1093].

Let us conclude with the sentiment that one needn't think that the Egyptian history ceases to be “ancient” in the light of the New Chronology, since the latter shifts the history of all other countries forwards as well, and considerably so. Egyptian history turns out to be the most ancient of all as a result; however, the very definition of the “antiquity” changes due to its former misinterpretation resulting from the use of the Scaligerian chronology.

According to the New Chronology, the oldest events whose traces remain in written history date to the X-XIII century of the new era. The subsequent events of the XIV-XV century are ancient enough, and we only have rather vague information about that epoch.

The ancient epoch ends with the introduction of Christianity in the XV century, which also differs from the historical version of Scaliger a great deal since it had really been a reform of the existing Christian church; however, this reform was significant enough for the subsequent version of Christianity to have received the definition of a new religion.

This epoch was followed by the Ottoman conquest of the XV-XVI century, when the colonization of America took place, for instance. The decline of the Great Empire took place after this, in the beginning of the XVII century. The historical period to follow can be considered recent history. See Chron6 and Chron7 for more details. Let us reiterate that in this chronological framework ancient Egyptian history of the X-XVI century remains one of the oldest; however, there is nothing peculiar about the fact that some of the “oldest” Egyptian customs had existed until the middle of the XIX century.

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chapter 12

The Egyptian zodiacs

1.

THE EGYPTIAN ZODIACS AND THE LIKELIHOOD OF THEIR RELIABLE ASTRONOMICAL DATING

An Egyptian zodiac is a drawing with a symbolical representation of the celestial sphere. Such a zodiac is done in a distinctive “ancient” Egyptian style and possesses a number of special characteristics that will be discussed below. The very name “zodiac” reflects the fact that the primary attention on these Egyptian drawings is focussed on the zodiacal part of the sky, or the belt of the twelve zodiacal constellations (Aries, Taurus, Gemini etc).

Let us remind the reader that all the planets as well as the Moon move along the zodiacal belt, and that the Sun is always located within the belt. It is naturally impossible to observe the Sun and the stars simultaneously, since the latter cannot be seen during the day. Nevertheless, the position of the sun among the stars is easy to guess at dusk or at dawn, when one sees the bright stars at sunrise.

Thus, the Zodiacal belt is the stellar track set by the motion of all the planets, likewise the Sun and the Moon, as seen from the Earth. This fact is of exceptional importance in our case. It was known rather well to the ancient astronomers who had used it for the creation of a rather special kind of “celestial astral clock”, where the Zodiacal belt played the role of the dial, and planets served as hands. This very “astral clock” was used for recording dates in Egyptian zodiacs.

It was done in the following manner: the positions of planets as well as the Sun and the Moon would be symbolically drawn on the zodiacs, fixing the positions of planets in relation to the constellations. Bear in mind that this disposition is in fact a horoscope, which is an “astral” representation of a dating. It turns out that if an Egyptian zodiac should contain symbols or planetary names, they serve to record a date transcribed as a horoscope.

Planetary positions on the celestial sphere change rather rapidly; therefore, a horoscope is very soon replaced by another one. Recurrences do take place, but intervals between them usually equal centuries or even millennia.

Modern calculation facilities allow to convert a horoscope into a date on the modern chronological scale with sufficient ease. However, the answer might prove rather ambiguous due to the fact that, very occasionally, a horoscope might recur; however, for most of them such recurrences are a scarce enough event in order to give us the opportunity to date them reliably on the interval of the last 2 or 3 millennia.

We shall give you a detailed account of how the Egyptian zodiacs are dated below. So far let us merely reiterate that Egyptian zodiacs are in no way a mere embellishment; they represent a certain date transcribed as certain symbols. Nowadays deciphering the astronomical symbols of Egyptian zodiacs makes it feasible for us to learn the real time of their compilation, which, in turn, makes it possible to answer the question of when the “ancient” Egyptians could really have lived and built their “ancient” temples. In other words, the astronomical dating of the Egyptian zodiacs allows the assessment of reliable and scientifically validated reference points in the chronology of ancient Egypt.

We shall jump ahead and mention that all these reference points prove to be mediaeval. Most of these “ancient” Egyptian zodiacal datings postdate the XII century A.D This concurs well with the

new chronology, according to which the earliest dates of written history of humankind date from the epoch of the XI century A.D. the earliest.

Apparently, the zodiacal transcription of dates used to be very popular in Egypt. Even in our day, “ancient” zodiacs are very popular there, and any tourist who might visit Egypt will be offered countless papyri of modern manufacture in memorabilia shops, with multicolour copies of “ancient” Egyptian artwork that will invariably have several zodiacs in their midst. One of such zodiacs (purchased in Luxor in 2000) can be seen in fig. 12.1.

The most well-established Egyptian papyrus shops will be overjoyed to make an “ancient” Egyptian zodiac for a client with the horoscope of the latter’s birthday, for instance, or any other arbitrary date. Nowadays this requires no sky observations – all one needs is a computer and some astronomical software that will instantly draw the star chart for any given day; then the data in question are transferred to the papyrus as “ancient” Egyptian symbols, and the horoscope is ready. It is possible that some of the “ancient” Egyptian zodiacs were manufactured in the XIX or XVIII century and not the antiquity. Zodiacs may have still been part of a living tradition among certain strata of Egyptian society at the time, especially considering as to how they bore direct relation to funeral rites, as we shall see below, and funeral rites are known for their particular longevity. Apart from that, zodiacs could be produced in the XIX century as forgeries for rich European buyers, which is a possibility that one should not neglect. Therefore once we set about dating some mind-bogglingly “ancient” Egyptian zodiac copied from a “doubtlessly exceptionally old” Egyptian sepulchre, we should be prepared to come up with any date – for instance, it may contain a ciphered XIX century dating. This is very much a possibility since the modern archaeological methods of dating “ancient” Egyptian artefacts are unfounded – and, most likely, blatantly incorrect. Egyptian tombs dated to times immemorial might be very recent in some of the cases and even date to the XIX century. We shall run into several such occasions below.

The astronomical meaning of the symbols used in Egyptian zodiacs isn’t always obvious. In some cases it only surfaces after a careful study. However, as a rule, Egyptian zodiacs can instantly be told apart from other “ancient” Egyptian artwork by the following distinctive characteristic. In nearly every case they contain the symbol of the celestial sphere drawn as a woman with her arms lifted above her head. This woman often has an unnaturally extended body that spans the zodiac. It is presumed that she represents the Egyptian goddess Nuit, or the “celestial goddess – ([2], page 10; also [370], pages 14-15). See fig. 12.2. One can see a picture of Nuit from the papyrus zodiac cited above in fig. 12.1.

Let us cite a few more examples of Egyptian zodiacs. We shall provide a more detailed study of all Egyptian zodiacs below, as well as the symbols upon them. So far we would like to give the reader a general idea of how an Egyptian zodiac might look.

In fig. 12.3 one sees an ancient drawing of the zodiac found in one of the royal sepulchres from the “Theban” necropolis in Luxor. The drawing dates back to the epoch of Napoleon’s Egyptian expedition. In general, this zodiac is done in the same style as the papyrus zodiac that one sees above; however, we see the figure of Nuit divided in two. As we shall see from a series of examples, this means that the zodiacal belt is split in two halves. One sees two respective rows of figures upon the zodiac, one under the other, qv in fig. 12.3. Our calculations demonstrate the date ciphered in this zodiac to be the 5-8 September 1182 A.D.

In fig. 12.4 we see a fragment of a ceiling relief carved in stone, depicting a zodiac with the size of 2.55×2.53 metres from the Egyptian temple of Dendera. This is one of the most famous Egyptian zodiacs also known as the “Round Zodiac of Dendera” due to its shape and in order to differentiate between it and the “Long” or “Rectangular” Zodiac of Dendera, which was found in the same temple. The round zodiac of Dendera was discovered by the Europeans in 1799 during the Napoleonic expedition ([1062], page 5) and later taken away to Paris ([1062], page 5; also [544], Volume 6, page 651). The original of this zodiac is kept in the Louvre nowadays ([1062], page 6), and there’s a copy in the actual temple. A drawn copy of the entire Round Zodiac as well as the surrounding artwork can be seen in fig. 12.5. A photograph of the zodiac’s central part can be seen in fig. 12.6, and that of Nuit the goddess from the same zodiac – in fig. 12.7.

In fig. 12.8 one sees a drawing of the Round Zodiac from the Napoleonic Egyptian album. The copy is a very accurate one; however, the artwork is modified to some extent – the original looks a great deal rougher. A modern drawn copy of the Round Zodiac can be seen in fig. 12.9. In order to give the reader a better idea of what it really looks like, we also cite a magnified fragment of the Napoleonic draft of the Round Zodiac in fig. 12.10. Once again we encounter Nuit as the symbol of the celestial sphere, with both a front and a side view available (see figs. 12.5 and 12.8). However, in this case Nuit isn’t part of the Zodiacal composition, but rather depicted separately nearby.

One can easily recognize the symbols of all twelve zodiacal constellations upon the Round Zodiac of Dendera (see fig. 12.9). All the zodiacal constellations are drawn in the exact same way as one sees them in the mediaeval European books on astronomy (Leo as a lion, Sagittarius as a centaur holding a bow, Capricorn as a fable-like animal with the head of a goat and the tail of a fish etc). N. A. Morozov, who had given this zodiac a scrupulous study, wrote the following: “I would like to draw the reader’s attention to the fact that ... the Zodiacal constellations ... are drawn perfectly well and comprise the ecliptic belt the way it is situated above the horizon – it is not concentric ... to the equinoctial, but rather raised high above it in its summer constellation part with Cancer and Gemini, and below in the opposite part with the winter constellations of Sagittarius and Capricorn. The zodiac resembles the kind one sees on the astronomical maps of Beyer and even in XIX century works on astronomy” ([544], Volume 6, page 658). As we can see, the author of the Round Zodiac had a good knowledge of astronomy, since the zodiac itself is filled with

astronomical symbols of all sorts – virtually every symbol we see there has some astronomical meaning.

Another zodiac was discovered in the very same Dendera Temple – the “Long” or the “Rectangular” Zodiac of Dendera. Just like the Round Zodiac, it is a ceiling relief of a formidable size consisting of two halves. Each of those equals 25 metres (see figs. 12.11, 12.12, 12.13 and 12.14. Halves of the Long Zodiac that represent the Zodiacal belt between the two of them are located near the ceiling edges of a gigantic “hypostyle” hall (25 by 42.5 metres – see [370], page 162). The ceiling is covered by artwork that is predominantly astronomical in character and content (see fig. 12.15). A modern photograph of a fragment of the Long Zodiac of Dendera can be seen in fig. 12.16.

The decipherment and dating of the Round and the Long Zodiacs was contemplated in a great number of works. In the XIX-XX century they were studied by Dupuis, Laplace, Fourier, Letronc, Holm, Bio, Brugsch, B. A. Tourayev, N. A. Morozov ([544], Volume 6, pages 655-672), N. S. Kellin and D. V. Denisenko ([376]), and also T. N. Fomenko ([912:3]). As a result, many various and, basically, equally arbitrary datings came to existence. The dating of these zodiacs thus remained ambiguous.

Our research demonstrates that apart from the primary horoscope, the Dendera zodiacs contain auxiliary astronomical information which wasn't taken into account by previous researchers. Once the oversight is rectified, we come up with an absolute dating – namely, the horoscope of the Round Zodiac of Dendera can be dated to the morning of the 20th March 1185 A.D., according to our research. The horoscope of the Long Zodiac can be dated to the 22-26 April 1168 A.D., or 17 years earlier. See more about these datings in Chron3, Chapter 17.

Thus, we learn that the ancient Egyptian temple in Dendera was built in 1185 the earliest; most possibly – a great deal later. Indeed, the date that we find ciphered on the ceiling of the temple can hardly correspond to the time of the temple's creation; it is more likely that the builders of the temple adorned its ceiling with the date of some holy event – the one that the actual temple was consecrated to, for instance. According to the New Chronology, the holy place of Dendera that comprises the hypostyle hall with the Long zodiac, as well as the chamber with the Round one, must have been built around the XIV-XV century A.D., which had been the epoch between the Great = “Mongolian” conquest of the XIV century and the Ottoman = Ataman conquest of the XV-XVI century, or, alternatively, the second half of the XVIII century when the Mamelukes seized power in Egypt once again, albeit for a short while. In other words, these constructions must have been erected by the Mamelukes.

Let us remind the reader that Egypt was conquered by the Ottomans (Atamans) in 1517, and that the Mamelukes had ruled there earlier ([85], Volume 15, page 454). According to our

reconstruction, it was the Mamelukes that maintained the influence of the Great = “Mongolian” Empire in Egypt. Their objective was to look after and to protect the grandiose royal cemetery of the Great Empire. This cemetery probably comprised the pyramids, the temples and other constructions related to the royal funeral rites in some way, qv in Chron5. In 1517 the Mamelukes lost power in Egypt to the Ottomans (Atamans). Although our reconstruction implies both Ottomans (Atamans) and Mamelukes to have originated from Russia-Horde, the epoch of the Ottoman conquest made a great many old customs and traditions of the Great = “Mongolian” Empire change to a great extent. These changes resulted from great embroilment, possibly accompanied by drastic dynastic changes in the XV century Empire, qv in Chron5. Therefore, the Ottomans (Atamans) could have persecuted certain old traditions of the Great Empire, destroying the “heretical” old temples and building new ones after a new fashion.

However, 250 years after the Ottoman (Ataman) conquest of Egypt, in 1766, the Mamelukes had once again managed to concentrate full power over Egypt in their hands. They had retained it for 30 years, up until Napoleon’s expedition ([85], Volume 15, page 454). It is therefore possible that some of these “ancient” Egyptian temples really date to the second half of the XVIII century and were deliberately built in the “ancient Egyptian” (Mameluke) style, yet with all the technical achievements of the XVIII century employed. The Mamelukes may have tried to revive some of their old traditions in the XVIII century. In particular, they may have resumed the construction of temples with zodiacs indicating the years of holy or famous ancient events. Bear in mind that the Mamelukes hadn’t been eradicated until 1811 ([85], Volume 15, page 455). Many “ancient” Egyptian traditions must have been wiped out as a consequence, and later dated to deep antiquity by the historians.

Another example is as follows. In fig. 12.17 we cite a drawn copy of the Egyptian zodiac discovered by the famous Egyptologist Heinrich Brugsch on the inside of the lid of an “ancient” Egyptian wooden sarcophagus ([544], Volume 6, page 695). Here the symbol of the sky (the goddess Nuit) looks like a woman with her hands lifted above her head. She is dressed in a tunic and located in the centre of the picture, with the Zodiac to the left and to the right. The symbols used for zodiacal constellations are once again easily recognizable. They are situated along Nuit’s body. On the left of fig. 12.17 we see the symbols for Cancer, Leo, Virgo, Libra, Scorpio and Sagittarius, whereas the symbols for Capricorn (with shaded head), Aquarius, Pisces, Aries, Taurus (shaded) and Gemini are on the right. The order of Zodiacal constellations is specified correctly, being the very same order they have on the celestial sphere. Furthermore, Heinrich Brugsch discovered demotic subscripts with the names of planets in this zodiac; these names are written explicitly between the figures of Zodiacal constellations. Brugsch managed to read them (see [376]; also [544], Volume 6, page 697) and estimate the places of planets in constellations. In other words, the zodiac of Brugsch contains the legible “subscript horoscope”, which makes it feasible to date the zodiac in question astronomically.

The dating of the “subscript horoscope” from Brugsch’s zodiac was first calculated by N. A. Morozov, yielding an astonishing result – 1682 A.D., the XVII century! The second possible solution (that of 18 October 1861) had been rejected by Morozov due to its being “too recent”, since in 1862 Brugsch had already published a drawing of this zodiac in [1054]. However, we have discovered that apart from the “subscript horoscope”, there are two more actual horoscopes on Brugsch’s zodiac that represent an integral part of the latter. Therefore, today we can complement and clear up the conclusions made by N. A. Morozov in re the dating of Brugsch’s zodiac. Below we tell the reader about this most noteworthy zodiac and its dating in full detail. We shall jump ahead and report that the dates ciphered in this zodiac (without accounting for the more recent subscript horoscope) are 6-7 October 1841 and 15 February 1853.

Therefore, the solution of 1861 is the one that becomes the most plausible one for the “subscript horoscope” – the year preceded the publication of Brugsch immediately. One of the Egyptians must have played a practical joke on Brugsch and drawn a horoscope for 1861 in demotic style, à la “Ancient Egypt” on the zodiac before demonstrating it to the “famous ideologist” in full realization that the latter wouldn’t even conceive of looking for the astronomical dating of the “ancient” zodiac in the present year – or even the future, several years later. See fig. 12.17 where the subscripts near the constellation figures to the left of Nuit’s body can be seen with sufficient clarity.

In fig. 12.18 one sees a drawn copy of a zodiac from one of the ancient towns in the Egyptian town of Esna (Isna). The old name of this town is Latopolis ([1100]). The present zodiac was also included into the Napoleonic Egyptian album, which is where we copied it from ([1100]). Let us refer to it as to the “Greater Zodiac” of Esna in order to distinguish it from the other zodiac, which was also found in Esna, but in a smaller table. A fragment of a shaded drawn copy of this zodiac from the Napoleonic album ([1100]) can be seen in fig. 12.19. See more about this zodiac and its dating below, in Chron3, Chapter 18. As we shall see, the date ciphered on this zodiac pertains to the end of the XIV century A.D., no less.

Another zodiac discovered in the small temple in the north of Esna is shown in fig. 12.20. It was also borrowed from the Napoleonic album in question ([1220]). We shall be referring to it as to the “Lesser Zodiac” of Esna (see more about this zodiac and its dating below). It turns out that the date ciphered herein is a XV-century one – namely, 1404 A.D.

Let us now tell the reader about the two zodiacs found in an artificial Egyptian burial cave at some point in the beginning of the XX century. Below, in fig. 13.9, one sees a drawn copy of these zodiacs. The cave with the zodiacs was discovered by the English archaeologist Flinders Petrie during his excavations in Athribis (a site in Upper Egypt, close to the town of Sohag – see [544], Volume 6, page 728). Two zodiacs were found on the ceiling of the cave, coloured in different

hues ([544], Volume 6, page 729). Flinders Petrie provided a drawn copy of these zodiacs in [1340:1] presuming them to date from the beginning of the new era. See also Volume 14 of the British School of Archaeology in Egypt Courier with Flinders Petrie's article about the Athribis excavations of 1901.

The zodiacs of Athribis were studied by the English astronomer A. B. Knobel for the purposes of dating, and then also by M. A. Vilyev and N. A. Morozov ([544], Volume 6, pages 728-752). However, they had to go for far-fetching explanations in their attempts to decipher and date the zodiacs of Athribis. The reason for this shall be explained below. As a result, there wasn't a single astronomical solution found that would satisfy to the symbols found on the zodiacs of Athribis completely anywhere in the works mentioned above. Our research demonstrated that such a solution does in fact exist and it is the only one possible – it turns out that the Athribis zodiacs date to the XIII century A.D. (1230 for the Upper Zodiac and 1268 for the Lower Zodiac). Therefore, the date of their creation cannot predate the XIII century.

Let us point out that up until very recently no final dating of the Athribis zodiacs could be made since the volume of calculations required for this purpose happens to be too great to be performed manually, without the aid of modern computer technology. However, all of the researchers mentioned above were confined to manual calculus and therefore had to introduce certain additional reasonable presumptions that would provide for curbing the volume of calculations to some extent. Unfortunately, these presumptions proved erroneous. Therefore, N. A. Morozov, for instance, who hadn't been bound by the Scaligerian chronology, still didn't manage to find a correct answer for the Athribis zodiacs.

In fig. 12.12 we see an example of an Egyptian zodiac where the constellations are represented as usual symbols, and the planets as half-length portraits. This zodiac was discovered in the middle of the XX century in the "ancient" Egyptian "Sepulchre of Petosiris", on the ceiling of the inner chamber ([1291], page 97).

Horoscopes are not contained in all Egyptian zodiacs. Some of them only possess Zodiacal constellation symbols sans planets. Such zodiacs cannot be dated astronomically as a rule due to the lack of horoscopes with dates ciphered therein. Approximate dating of such zodiacs is only possible if one is to compare them to similar ones, which do nonetheless permit to date them. An example of a horoscope-less zodiac can be seen in fig. 12.22. There are no planets on this zodiac – just zodiacal constellations.

There are certain examples of ancient Egyptian zodiacs containing less than twelve zodiacal constellations whose symbols differ from the ones used nowadays to a great extent – nevertheless, one can trace the general similarity well enough – see fig. 12.23, for instance; one can see an ancient Egyptian schist slate called the Libyan palette. It is most likely to be a zodiac

where the constellations are represented as seven walled cities with the corresponding constellation symbol drawn above each of these cities (Leo, Scorpio etc) measuring its constellation with the use of a goniometric tool resembling a pair of dividers. Such instruments were in fact used in astronomy – the “ancient” astronomer Ptolemy would often be drawn with one of those, qv above in figs. 0.1 and 11.27. Even Copernicus had used a similar instrument by the name of “triquetrum” ([926], page 55). See fig. 11.26 above.

It is possible that such zodiacs are the oldest ones, manufactured in epochs when the division of the ecliptic into constellations hadn’t assumed its modern form as to yet; it is possible that there were less zodiacal constellations at the time than nowadays. One finds echoes of this in the *Almagest*, for instance, where the constellation of Libra is called “The Claws of Scorpio” in the star catalogue; even though it is considered an independent constellation, the very name indicates that it may have once been part of the Scorpio constellation.

It is curious that one sees the constellation of Corvus in fig. 12.23. It is located next to Leo, which is where one would see either Cancer or Virgo nowadays. The actual constellation exists until the present day; however, it does not belong to the zodiacal belt, albeit a neighbour of the Virgo constellation. Nevertheless, in this Egyptian zodiac it is explicitly marked as a zodiacal constellation. We therefore see that in certain ancient Egyptian zodiacs the zodiacal constellations would be indicated different from the modern custom. However, in most of the Egyptian zodiacs the figures of zodiacal constellations are rather standard and hardly differ from their modern counterparts at all.

In fig. 12.24 we see a fragment of an old zodiac from the Slavic *Izbornik Svyatoslava* (Svyatoslav’s Almanac) allegedly dating to 1073. The constellation of Pisces is represented by a single fish here and not by a pair, the way it is customary today.

2.

THE ASTRONOMICAL DATING OF EGYPTIAN ZODIACS AND RELATED DIFFICULTIES.

The reasons why the Egyptologists eschew the astronomical dating of the zodiacs

To evade miscomprehension, let us point out right away that every reference to the “Scaligerian chronology” in the present work doesn’t attribute the datings to Scaliger himself, but his followers as well, or everyone who used the works of Scaliger as basis for the creation of the consensual version of history that proved erroneous, qv in Chron1.

We already mentioned that if an old zodiac contains indications of planetary positions, or a horoscope, it must contain some ciphered date. Nowadays these dates can be deciphered with the aid of computational astronomy – or, at least, suggest several versions of its dating, which is

what the very concept of dating the Egyptian zodiacs astronomically is based upon. This idea is far from new. In the end of the XVIII – beginning of the XIX century, when the Europeans had secured access to Egypt for the first time, they discovered a large amount of zodiacs there. Some of the Egyptian zodiacs (the most impressive ones) were copied by Napoleon’s artists and published in the Napoleonic album on Egypt ([1100]). They are directly referred to as “astronomical tables” or “sculptural zodiacs” there – see [1100], A. Vol. I, Pl. 79, or A. Vol. II, Pl. 82, for instance. Thus, the astronomical nature of the Egyptian zodiacs has never been doubted. Quite understandably, one would come up with the idea of dating these zodiacs astronomically, or employing horoscopes for this purpose. European astronomers of the XIX century have performed some calculations for this purpose.

However, since the astronomers had to conform to the orders of the historians, they also operated within the Scaligerian framework of Egyptian chronology. However, this is where astronomy contradicted Scaligerian chronology blatantly. No dating that would satisfy the Scaligerites has ever been found. Let us linger on this for a while, starting with the mention that nearly all the Egyptian zodiacs date to the epoch of Roman rule in Egypt, according to historians, or the beginning of the new era ([1017:1], page 38). In the earliest stages, attempts were made to date these zodiacs to even more distant epochs. Historians would try to date the Dendera zodiacs to an epoch preceding the new era by 15.000 years, no less ([544], Volume 6, page 651).

However, these exceptionally “attractive” datings of Egyptian zodiacs must have been complicated by the all too obvious similarity between the astronomical symbols used in Egypt and in Europe, and so in order to insist that Egyptian zodiacs predate the new era by hundreds and thousands of years one would have to explain the reason why the drawings of constellations on these exceptionally ancient Egyptian zodiacs coincide with the pictures in mediaeval European books on astronomy in finest detail. Dating the Egyptian zodiacs to the beginning of the new era would make the problem a great deal less serious, since this dating allows to make claims that both the “ancient” Egyptians and the mediaeval Europeans borrowed their astronomical symbols from the Romans, hence the similarity. Shifting the dates forward from the first centuries of the new era would also prove a non-option for the Scaligerite experts in Egyptian history since the Scaligerian chronology is of the opinion that the history of the “ancient” Egypt ceases shortly after the beginning of the new era. The zodiacs that one discovers in the “doubtlessly ancient” Egyptian temples and sepulchres cannot be dated to an epoch post-dating the first A.D. centuries within the framework of Scaligerian chronology.

As a result, possible (according to the Scaligerites) datings of ancient Egyptian zodiacs turn out hemmed in the narrow interval of 200-300 years the longest – a century before the beginning of the new era, or possibly a century or two after. Too great a distance between the hypothetical dating and the boundaries of this interval begins to contradict the entire Scaligerian

concept of “ancient” Egyptian history and chronology rather explicitly.

However, it turns out that this period has got absolutely nothing to do with the astronomical datings of the Egyptian zodiacs, since a calculating astronomer has no leeway at all in order to try and make the datings fit, since one and the same horoscope can only recur after prolonged intervals of time and happen once or twice a millennium. Some planetary combinations can only recur over the course of several thousand years; therefore, making a given zodiac fit the short time interval specified by historians proved too hard, no matter how lenient the criteria for “fitting”. All these complications arose from the fact that the interval was specified wrongly.

The result was that the Egyptologists basically gave upon the idea of dating the Egyptian zodiacs by their astronomical content. Discussing the symbolic content of the Egyptian zodiacs, they try to present it as “astronomical fantasies” of ancient artists, often not even trying to decipher and date the rediscovered Egyptian zodiac.

A vivid example is [1291], a work by famous specialists in the field of studying the astronomical texts of ancient Egypt – O. Neugebauer, R. A. Parker and D. Pingree. In their analysis of the zodiacs from the ceilings of two ancient Egyptian sepulchres belonging to Petosiris and Petubastis, the authors of [1291] write the following, for instance: “The positioning of the planets seems to be inspired by Mithraism” ([1291], p. 100). In other words, they reject the idea that the zodiacs contain real horoscopes, which may be dated – there isn’t a single mention of such a possibility anywhere in [1291]. Nevertheless, the two zodiacs of Petosiris considered in said work contain horoscopes, which can be dated astronomically. It is just one of the three zodiacs that contains no horoscope and therefore no ciphered date – that of Petubastis, qv in fig. 12.22.

Let us emphasize that it isn’t any random planetary dislocation against the background of zodiacal constellations that can be treated as a horoscope, which can really manifest on the celestial sphere. Planetary motion is subject to certain laws. For example, Venus and Mercury as seen from the Earth cannot be located too far away from the Sun, and hence from each other as well.

A fantasy artist distributing planets across constellations randomly is most likely to break these laws and draw an unreal fantasy horoscope. However, Egyptian zodiacs, and, particularly, the zodiacs of Petosiris considered in [1291], contain real horoscopes. Why would the authors of [1291] have to present us with vague ruminations on Mithraism affecting the planetary symbols on the Zodiacs instead of analyzing their astronomical content? Could it be due to the fact that they didn’t even hope to come up with a solution that would correspond to the Scaligerian chronology? Indeed, neither the zodiac of Petosiris nor any other Egyptian zodiacs have such solutions.

Let us take a look at what is written on the subject of dating Egyptian zodiacs astronomically in the description of the British Museum's Egyptian collection published in 1924, for instance ([1050:1]). We find nothing at all. The authors report nothing about the astronomical datings of the zodiacs found on these coffins when they tell us about the alleged dates when the "ancient" Egyptian sarcophagi from the collection of the British Museum were manufactured, as if these horoscopes didn't matter at all. Each and every dating we find in [1050:1] is given out of considerations that have got absolutely nothing to do with astronomical dating.

For example, when the authors of [1050:1] describe an allegedly "mind-bogglingly ancient" wooden coffin from Egypt, they tell us that "the face resembles the face of the ordinary stone Sidonian sarcophagus, of which those of Tabnith and Eshmunazar, King of Sidon, B.C. 360 ... are typical examples, and for this reason the date of the coffin is supposed to lie between B.C. 500 and B.C. 350" ([1050:1], page 133).

However, right here in [1050:1] we find the following description of the artwork that decorates the coffin lid – it depicts "numerous astronomical texts and pictures ... Here we have figures of the gods of the constellations, and of the planets, Signs of the Zodiac ..." ([1050:1], page 133). In other words, what we have before us is a zodiac with a horoscope, yet the issue of dating this horoscope astronomically is ignored altogether. This is very typical. Not a single Egyptian zodiac out of those mentioned in [1050:1] was dated astronomically or so much as represented. There isn't a single word about such datings anywhere in the very detailed description of the British Museum's Egyptian collection ([1050:1] – [1050:3]), despite the fact that the actual presence of the zodiacs is accurately pointed out.

A vivid example of the abovementioned situation with the datings of Egyptian zodiacs is given by the history of the astronomical dating of the two zodiacs from the Dendera temple. We already mentioned one of them above – the Round Zodiac. This is what N. A. Morozov wrote in re the zodiacs from Dendera: "The first Egyptologists dated the Temple of Dendera to fifteen thousand years before Christ, no less; their children dated it to three thousand years before the new era, and their grandchildren had to admit that the Rectangular Zodiac dates to the reign of Tiberius (14-36 A.D.), and the Round Zodiac – to the reign of Nero (before 60 A.D.). When they tried to prove all these datings by astronomical calculations, the results obtained were negative.

The consecutive works of Dupuis, Laplace, Fourier, Letron, Holm, Bio and other later researchers demonstrated that the horoscopes in question cannot predate the III century A.D. One had to either date the imperial Roman reigns to a different epoch, also ascribing a different geographical location to it, or, alternatively, to declare the horoscopes pure fantasy. The Egyptologists were reluctant to revise the tradition and opted for the latter despite the fact that the veracity of both horoscopes is blatantly obvious" ([544], Volume 6, page 651).

After an attentive study of these zodiacs, N. A. Morozov makes the following conclusion:

“Should all of the above to be artistic fantasy, it is very difficult to explain why both Mercury and Venus occupy their rightful position near the Sun in both zodiacs rather than winding up somewhere else, in a location convenient for the artists, but perfectly impossible? Why would one draw such a fantasy horoscope in the first place? Nonsense! This horoscope isn’t “fantasy” in any way – it is perfectly real ...” ([544], Volume 6, page 653).

We shall come back to N. A. Morozov’s analysis of the Dendera zodiacs in Chapter 17 of Chron3 and tell the reader about it in more detail. Morozov had been the first to suggest dating the Egyptian zodiacs by their astronomical content regardless of the Scaligerian chronology. All the researchers who preceded Morozov tried their hardest to come up with a solution that would lie in the a priori specified late B.C. – early A.D. interval, which would either prove impossible or next to impossible, requiring all sorts of approximations and arbitrary measures to become more or less fitting.

Whether or not it is a coincidence, but all the earnest attempts of the Egyptologists to use astronomy for the dating of Egyptian zodiacs ceased de facto after the publication of N. A. Morozov’s works where he proves the impossibility of dating the Egyptian zodiacs the way Egyptologists want them to be dated – all the resultant datings are mediaeval ([544], Volume 6). This contradicts the consensual chronology of Egypt.

It has to be said that N. A. Morozov’s works on the astronomical dating of the zodiacs contained a number of minor flaws, which will be analyzed in detail below. However, there were a lot less of those in Morozov’s work than in any of the ones that preceded it, since the authors of the latter would do everything they could in order to make the resultant datings correspond to the Scaligerian chronology of Egypt. The works of Morozov prove that once we become a little more demanding precision-wise, the astronomical datings irreversibly shift forwards, into the Middle Ages.

We therefore have to repeat our question – is it a chance occurrence that the activity of the Egyptologists in the field of dating the Egyptian zodiacs astronomically receded greatly after the publication of Morozov’s works? Nowadays they do their best to evade astronomy while discussing Egyptian zodiacs and to change the subject of the conversation as soon as possible. The solution of an actual problem formulated as deciphering the astronomical content of the zodiacs and their meticulous dating is substituted by an obfuscating discussion of ancient Egyptian religion, which is the safest option for Scaligerian chronology. The matter is presented in such a light that even if the Egyptian zodiac symbols bear any relation to astronomy at all, they are extremely naïve and fantastical ([1291] and [320]).

However, our research (which follows in the footsteps of N. A. Morozov's research, for instance) demonstrates that the Scaligerian chronology rests upon a foundation of thin air, and is most likely to be highly erroneous, qv in Chron1 and Chron2. Therefore, N. A. Morozov's approach to the dating of Egyptian zodiacs without accounting for the Scaligerian chronology appears to be a perfectly correct one. However, this approach runs into a new hindrance, and a significant one. It becomes manifest as soon as we expand the time interval of acceptable datings to make it span a millennium or more – the historical epoch that comprises the “antiquity” and the Middle Ages, in other words. The resulting dates are very ambiguous. The reason is as follows.

Once we reject the a priori set narrow time interval for the horoscope datings, we must take into account every astronomical solution on the entire historical interval length, or roughly two thousand years, which is a long enough time interval allowing for multiple recurrence of many zodiacs. This spawns several valid solutions for every zodiac, complicating the dating as a result, since it is perfectly unclear how a single correct dating could be identified amidst a number of variants.

It has to be said that if we had to consider a shorter timeframe of 2-3 centuries, the probability of several possible solutions for a single zodiac manifesting within an interval this brief would be very low. Therefore, a correctly specified short interval would be most likely to yield a single possible solution for each zodiac. However, should the interval turn out to be specified incorrectly, there won't be any fitting solutions in most cases, and this is precisely what we see to be the case with the Scaligerian time interval for Egyptian horoscopes for which we find no satisfactory solutions.

However, even if we're fortunate and the horoscope of our zodiac proved successful enough to possess a single possible solution on the entire historical interval, the problem remains. The matter is that all attempts to decipher Egyptian zodiacs are still afflicted by ambiguity, even in cases when the symbols can be deciphered unequivocally and reliably.

One must point out that a great number of Egyptian zodiacs can be deciphered with no ambiguity whatsoever. The names of the planets are given in writing on some of them; these inscriptions can be read in order to realize what planet exactly this or the other zodiacal symbol stands for. Some of the planetary figures recur on different zodiacs and can therefore be told apart securely when compared to each other. Below we shall describe this procedure in more detail.

Nevertheless, deciphering the Egyptian zodiacs always results in ambiguities of some sort concerning a planet or two, for instance. There are many reasons for this – sometimes it happens due to the fact that the symbol for a given planet isn't known to us from other zodiacs, or because the planetary symbol in question is new and wasn't encountered earlier; the condition of the symbol may also be poor enough to render it completely unidentifiable. It is also possible that a zodiac might not specify a planet's position explicitly enough to identify this planet – there are

certain other reasons as well. For certain zodiacs that utilize complex, convoluted or extremely abstract symbols one has to go through all possible identification versions of the planetary figures, which results in dozens of possible ways to decipher such a zodiac, with several hundred possible solutions. In other cases there are just two or three variants. However, whether or not there are multiple ways to decipher a given zodiac, none of them are free from ambiguity. Even if the general picture is clear, certain variations are still possible, which leads to several solution possibilities.

3.

OUR NEW APPROACH TO THE DATING OF EGYPTIAN ZODIACS

The abovementioned problems are instantly solved by the new method of deciphering and dating the Egyptian zodiacs as proposed by the authors. Namely, we suggest the formal approach that permits a decipherment of the zodiac itself as well as the additional information, which is usually inherent therein. This extra information usually suffices for us to reject all the unnecessary solutions and define the date for a given zodiac quite unambiguously.

Let us emphasize that the solution turns out unambiguous even if we are to consider a certain vagueness of the primary horoscope, as well as the secondary information that it contains. Furthermore, even if the primary horoscope was deciphered with errors for some reason, the secondary information it contains is most likely to render the incorrectly deciphered version void of solution since when we have too many astronomical conditions to account for, their chance combination upon the real celestial sphere becomes highly improbable, even considering the multitude of possible interpretations that arise when we attempt to decipher the Egyptian zodiac.

A detailed description of our method is given in the subsequent sections. Bear in mind that the method in question allows us to work with all possible options of deciphering the Egyptian zodiacs, which the previous approach did not permit. The volume of necessary calculations will naturally grow, since one has to perform them for several horoscope variants for each zodiac. Each one of those can generate a whole series of acceptable solutions on the historical interval. The total number of solutions for a single zodiac can approach and even exceed a hundred. Each one of them needs to be tested for correspondence with the zodiac's secondary astronomical data.

This procedure is impossible without modern computers and state-of-the-art astronomical software. Furthermore, we had to develop a separate computer program for this purpose. It is called HOROS and serves the purpose of searching all the dates from the historical interval for real manifestations of given planet dispositions in zodiacal constellations (horoscopes). The zodiacal belt dispositions of planet in relation to each other are also considered. Since there can be several

ways of reading data from a zodiac, this software accounts for possible ambiguity in the distribution of planets across the constellations as well as the mutual planetary order. See Annexes 2, 3 and 4 for a description of the HOROS software, and also Chron3, Chapter 16.

For approximated calculations we used the simple and convenient application called Turbo-Sky and developed by A. Volynkin, a Muscovite astronomer. It was employed to estimate the visibility conditions for the calculated dates from the Egyptian zodiacs – in particular, the luminosity of planets for a given time moment, which is very important in order to assess whether or not the planet in question can be observed with the naked eye. Let us mention that the luminosity of a planet as seen from the Earth is largely dependent on the distance between said planet and the Sun, which can oscillate wildly over the course of time. See Chron3, Chapter 16, for more information.

4.

THE FUNERAL CHARACTER OF ZODIACS IN EGYPT

“Most of the surviving artefacts [from Ancient Egypt – Auth.], as well as the inscriptions found upon them ... are of a religious character. Out of the papyri that had reached our day, about 9/10 happen to have religious content ... all this material lacks diversity, since it deals with the funereal rites that had existed at the time” ([965], page 101).

Let us enquire why the ancient Egyptians would draw zodiacs with ciphered dates? Although this issue doesn't bear any direct relation to the problem of dating the Egyptian zodiacs astronomically that we're considering presently, it is related to it implicitly.

Indeed, let us suppose that we managed to discover the astronomical dating of some old Egyptian zodiac. What could this dating possibly stand for? If a certain zodiac was discovered upon the ceiling of an “ancient” Egyptian temple, could the date ciphered therein stand for the approximate date of this temple's construction? A propos, this is exactly how N. A. Morozov suggested to interpret the astronomical datings of the Dendera zodiacs. He was of the opinion that they contained “the date when the construction of these parts of the building began, or, perhaps, the time they were made open for the public” ([544], Volume 6, page 653). However, our opinion differs from Morozov's.

Let us pay attention to the following circumstance. The “ancient” Egyptian zodiacs are almost always explicitly linked to burials. Let us peruse the description of the British Museum's Egyptian collection, for instance ([1050:1], [1050:2] and [1050:3]). Nearly all of the Egyptian zodiacs mentioned in these descriptions are drawn upon the inside of the “ancient” Egyptian coffin lids. The zodiacs cover the mummy, in a way; they are drawn so as to be as close to the mummy as

possible. Therefore, the dating ciphered in such a zodiac is most likely to bear direct relation to the deceased, being the year of his birth, or death, for instance – or both, if there are several horoscopes in a zodiac (which is the case sometimes).

There are several “ancient” Egyptian sarcophagi made of wood in the collection of the British Museum with zodiacs drawn upon them. Four of them are mentioned in the description of the third room containing the Egyptian collection ([1050:1], pages 126 and 133). We see one such sarcophagus in fig. 12.25. It is covered with a curved wooden lid with decorations; a similar coffin sans lid can be seen in fig. 12.26. A closer look tells us that these “ancient” Egyptian coffins were made of smooth and well-planed planks of wood. Furthermore, the planks are mortised together – the woodwork method in question might as well be modern (see fig. 12.27). Such coffins are unlikely to have been manufactured in absence of iron axes, planes and chisels – yet we are told that the “ancient” Egyptian makers of these coffins had nothing but copper tools at their disposal. The decorations can be found both on the inside and the outside of Egyptian coffins, qv in fig. 12.27.

In their description of a typical “ancient” Egyptian coffin, the authors of the Egyptian collection’s description ([1050:1]) inform us that the inside of a coffin’s lid would usually be decorated with a drawing of the goddess Nuit symbolizing the celestial sphere as well as the twelve signs of the “Greek Zodiac” ([1050:1], page 32). In other words, the sarcophagi were decorated with Egyptian zodiacs. It is just one of the horoscopes mentioned in [1050:1]-[1050:3] that was drawn on a piece of glass and not a coffin – and one without a horoscope at that, since it only contains the twelve constellation symbols ([1050:2], page 88).

Thus, we see that nearly all of the Egyptian zodiacs kept in the Egyptian collection of the British museum are zodiacs drawn for burials upon the inside of lids covering the “ancient” Egyptian coffins. Let us note that most of the Egyptian zodiacs that we were alluding to above are also related to funeral rites. Brugsch’s horoscope is drawn on a coffin lid, and the horoscopes of Athribis – upon the ceiling of a cave used for burials. Zodiacs in figs. 12.1 and 12.3 come from the ceilings of the sepulchres in the Valley of Kings near Luxor. The zodiacs of Petosiris and Petubastis are also drawn upon ceilings of crypts.

One gets a distinct impression that the Egyptian zodiacs were part of the funeral rites. It would make sense to assume that they were used for recording the dates related to the deceased – the dates of his birth and death and, possibly, some other ones considered important.

But why would these dates have to be ciphered in a horoscope and not written normally? The “ancient” Egyptians who drew the horoscopes upon the ceilings of their sepulchres must have been well-versed in chronological issues already, realizing that the usual everyday method of date transcription (counted from the beginning of some reign, or according to some era) is far from

eternal; some new reference point for the beginning of an era may eventually be introduced, and the old one forgotten. Or, alternatively, the letters and numbers used for transcribing a date might eventually alter to a great extent, which would render the usual dating incomprehensible for the descendants. Therefore, another method of transcribing the dates for the dead was required – an “eternal” method, as it were. The horoscope was chosen as such a method, or the distribution of planets across zodiacal constellations. Astronomy must have been evolved to a sufficient extent by that time for people to realise that the recurrence of a zodiac on a celestial sphere is a very rare occurrence indeed; another implication is that one could really use the method in question in order to transcribe a date. Such a transcription would be “eternal as the sky itself”.

Thus, the astronomical dating of a zodiac drawn upon the lid of an Egyptian coffin, or upon the ceiling of an Egyptian burial cave (sepulchre) can really be considered as the approximate burial date. Naturally, one should not exclude the possibility that the date ciphered in the funereal zodiac had absolutely nothing to do with the birth or the death of the deceased and was related to some famous predecessor of his – the founder of his lineage, perhaps, with the zodiac calculated for his epoch in reverse. However, such cases must have been rather rare if they took place at all, and so the date of the horoscopes found on most Egyptian sepulchres can be considered to relate to either the birth or the death of the deceased; it is thus the approximate dating of the burial. On the other hand, if it isn't a sepulchre that the horoscope is drawn upon, but rather a temple, it would be unlikely to refer to this temple's construction date. Let us expound this idea.

The date of a temple's construction as well as the circumstances related thereto in general don't usually occupy a crucial place in the murals of said temple, let alone ceiling artwork. The events depicted in temples with the utmost care and attention are usually the ones that the temple had been built to commemorate; they must have been old enough by the time of the temple's construction, since temples are usually built to commemorate ancient events and decorated accordingly – even in cases when the temple is built to commemorate a more or less recent event.

The zodiacs discovered in the “ancient” Egyptian temples of Dendera and Esna are large reliefs carved in stone and placed on the ceiling of the temples' central chambers where they could be seen by everyone. If we are to make a comparison with the Russian temples, for instance, the Egyptian zodiacs will correspond to the artwork under the dome, which never tells the tale of the temple's construction.

Therefore, the most plausible assumption is that the datings on the zodiacs found in Egyptian temples relate to the life of the saint that the temple in question was built to commemorate and indicate the day of this saint's death, or other important events related to this character.

For instance, if the ancient Egyptian temple was dedicated to the Nativity of Christ, a zodiac with Christ's birth date could easily be painted on the ceiling of this temple. The builders of the temple didn't have to remember the disposition of the planets for the day of the Nativity; the planetary disposition for the required date (horoscope) is most likely to have been calculated in reverse, which is a rather easy task due to the fact that planetary positions are given very roughly; it suffices for a given planet to be within the confines of a zodiacal constellation. Therefore the calculation of a horoscope didn't require anything more esoteric than the knowledge of Ptolemy's planetary theory. This task was perfectly feasible for the mediaeval and "ancient" astronomers.

Therefore, the dating of a zodiac from an Egyptian temple as opposed to a zodiac from a sepulchre cannot serve for the dating of the actual temple. Nevertheless, it does serve to provide the bottom line of the latter. It is obvious that the temple could not have been built earlier than the date contained in its zodiac. However, it could have been built later than that date, and probably a great deal later as well – several centuries later, perhaps.

5. REPRESENTATIONS OF THE EGYPTIAN ZODIACS AS USED BY THE AUTHORS

The analysis of symbols used in Egyptian zodiacs as well as deciphering them shall require attention to the tiniest details. According to our research, small and seemingly insignificant details of a zodiac, as well as the mutual disposition of the symbols upon it, often turns out to be of paramount importance, capable of affecting how the zodiac in question is deciphered. Therefore it is vital for the purposes of astronomical dating that the representations of the zodiacs be as detailed and as clear as possible. The best option is high-resolution colour photographs. Unfortunately, so much as procuring photograph turned out impossible in a number of cases. Finding quality photographs of certain Egyptian zodiacs, even famous ones, proved a very difficult endeavour.

Could this be a chance occurrence? Above we already mentioned the fact that modern Egyptologists are prone to treating Egyptian zodiacs as astronomical fantasy. At the same time, one finds modern publications with detailed and high-quality representations of the zodiacs to be next to nonexistent.

In other words, there are almost no publications in existence that would permit to date these zodiacs astronomically. Even if one manages to find published photographs of the zodiacs, they are either of very poor quality, or only contain fragments of zodiacs. Exceptions do exist, but they are few and far between.

Could we be facing a case of "extreme care" about the integrity of the Scaligerian chronology from the part of the Egyptologists, which could explain their reluctance to publish materials that represent a potential basis for non-Scaligerian datings? After all, in the XIX and the beginning of

the XX century, when the Egyptologists had still cherished the hope of confirm the Scaligerian chronology of Egypt with the aid of astronomical dating, they got to publish a great many high-quality and detailed prints of Egyptian zodiacs – see [1100], [1340:1] and [1054]. We studied all of these prints, and they shall be reproduced below.

Very high-quality and detailed reproductions of several Egyptian zodiacs are contained in the Napoleonic description of Egypt ([1100]). It was published in France in the beginning of the XIX century in the wake of the Napoleonic expedition to Egypt that had taken place in 1798-1801. We were using a modern reprint ([1100]). In our research we have used all the painted, drawn and photographic copies of the Egyptian zodiacs as listed below.

1) The Round Zodiac of Dendera, also known as “The Zodiac of Osiris” ([1062]). It is a ceiling relief carved in stone, qv in fig. 12.8.

The Napoleonic album contains a drawn copy of this zodiac, and also a shaded drawing (see [1100], A. Vol. IV; Pl. 21). All the symbols on the zodiac have been copied, including small details. The artists endeavoured to attain photographic precision, and they almost succeeded. Comparing a drawn copy of the Round Zodiac of Dendera to the photographs of the original made in the Louvre in the year 2000 demonstrate the drawn copy to be all but free of errors. The existing minute discrepancies only concern some details pertaining to mutual planetary disposition or certain finer points of writing hieroglyphs. There aren't many of these, although some of them proved to be important.

In general, our comparison demonstrates that one can trust the illustrations from the Napoleonic album – insofar as the rectangular zodiacs are concerned, that is, since in their case the details of mutual figure disposition are insignificant for the purposes of deciphering the zodiacs, seeing as how all the figures are presented in a row. As for the round zodiacs, there is only one such item in the Napoleonic description; namely, the Round Zodiac of Dendera. Fortunately, we have modern photographs of this zodiac, and they answer all the questions that may arise in this respect.

The Round Zodiac of Dendera has survived in its entirety. There had been no losses, chips, chiselled-off figures etc when the drawn copy was made. According to modern photograph, the zodiac remains in excellent condition.

2) The Long or Rectangular Zodiac of Dendera is a ceiling relief carved in stone. It is a zodiac of the rectangular type, which means that all of its outlines are rectangular, and the figures are lined up in rows.

There is a shaded copy and a drawn copy of the Long Zodiac likewise the Round (see [1100], A. Vol. IV, Pl. 20). In [1100] one also sees a drawing of the entire ceiling where the Long Zodiac was found. The actual Long Zodiac is part of a large ceiling decoration ([1100], A. Vol. IV, Pl. 18).

We have already pointed out the fact that copying rectangular zodiacs is an endeavour that has less strict precision criteria than making copies of round zodiacs. The artist copying a round zodiac is highly likely to make a mistake in the distribution of figures across the entire field, even if this artist has knowledge of astronomy due to incomplete understanding of the Egyptian figures' astronomical meaning and ignorance of finer details concerning their mutual disposition. A slight shift in the position of a figure as related to that of other figures surrounding it might result in the loss of an important detail of the astronomical description. Below we shall cite some such examples. In the rectangular zodiacs, a slight shift of a figure's position in relation to other figures does not affect the astronomical meaning of the picture. Furthermore, each of the figures only has two neighbours, and so the mutual disposition of figures is easier to copy.

Thus, the quality of the Long Zodiac's copies in the Napoleonic album ([1100]) is high enough for the purposes of analysing and dating the zodiac in question. We shall reproduce these copies below. The Long Zodiac of Dendera also survived in its entirety. There are no traces of damage on the copies from the Napoleonic edition.

3) The zodiac from the Greater Temple of Esna. A ceiling relief carved in stone. [1100] contains a shaded copy and a drawn copy of the zodiac, qv in [1100], A. Vol. IV, Pl. 79.

The zodiac from the Greater Temple of Esna is of the rectangular type; therefore, everything that has been said about the Long Zodiac of Dendera above applies to this zodiac as well.

According to the drawing in the Napoleonic edition ([1100]), the zodiac had been in a very good condition when it was copied, with no missing details. The copy in [1100] is a detailed and an accurate one. However, the hieroglyphic inscriptions on the plaques weren't copied – or had possibly already been lost by the time the copy was made.

4) The zodiac from the Lesser Temple of Esna. A ceiling relief carved in stone. [1100] also contains a drawn and a shaded copy of the zodiac. A part of the zodiac had been chiselled off, which is how it was drawn by Napoleon's artists. The remaining part is in good condition.

5) The zodiac from the ceiling of the sepulchre in the Valley of the Kings near Luxor. In the Napoleonic description as given in [1100], the sepulchre is called "*1er tombeau des Rois à l'Ouest*". [1100] also contains a detailed copy of the zodiac in colour, qv in fig. 12.3. The zodiac is of the rectangular type without too many small details. The drawing from [1100] suffices for the purpose of analysing the zodiac and dating it astronomically.

- 6) Modern drawn copies of the Round Zodiac of Dendera and its fragments made from the original of the zodiac kept in the Louvre ([1062]).
- 7) 30 photographs of the Round Zodiac of Dendera that Professor Y. V. Tatarinov (MSU) had made for us in the Louvre in the year 2000 ([1062]).
- 8) Photographed fragments of the Round Zodiac of Dendera from the *Art and History of Egypt* by Alberto Carlo Carpiceci ([370], page 165).
- 9) Photographed fragment of the Round Zodiac of Dendera from the *Life and Death of the Pharaoh Tutankhamen* by Christiane Desroches-Noblecourt ([1101], page 255).
- 10) A drawn copy of the zodiac discovered by H. Brugsch on an “ancient” Egyptian coffin. Published by H. Brugsch in 1862 ([1054]). Brugsch’s drawn copy is reproduced by N. A. Morozov in [544], Volume 5, page 696.
- 11) A drawn copy of the horoscopes of Athribis discovered by Flinders Petrie on the ceiling of an Egyptian burial cave in 1901 which he published in the 14th volume of the *British School of Archaeology in Egypt*, which is whence N. A. Morozov borrowed it ([544], Volume 6, pages 728 and 739. See also [1340:1].
- 12) Zodiacs from the ceilings of the Egyptian sepulchres of Petosiris and Petubastis. Black and white photographs and colour photographs of some fragments taken from the publication by Neugebauer, Parker and Pingrie ([1291]).
- 13) A copy of the Long Zodiac of Dendera published by Baudet and reproduced by N. A. Morozov in ([544], Volume 6, inset after page 672).