

The new dating of the astronomical horoscope as described in the Apocalypse

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1. THE PROPOSED RESEARCH METHOD

Let us attempt to date ancient artefacts containing astronomical or astrological symbolism in the following natural manner: we shall study astronomical references contained in a number of ancient documents with the aid of the *mediaeval* system of astrological symbols. Many mediaeval books on astrology, for instance, identify planets with *chariots or with horses drawing these chariots* across the celestial sphere. Planetary trajectories were probably perceived as equine leaps.

Our method revolves around the comparison of the studied text with similar mediaeval texts containing both astrological symbols and their *interpretations* in terms that are comprehensible to us. In other words, we propose to read old astrological records with the aid of a mediaeval astrological “dictionary” of sorts, one that identified chariots or horses with planets. Of course, the applicability of the method will be substantiated in this way only if the use of such a dictionary should help us with obtaining intelligible results that can be confirmed by other independent procedures of dating of old documents.

N. A. Morozov had been the first one to apply this procedure to several Biblical books that contained apparent astronomical or astrological symbolism. The

dates enumerated in this introduction were obtained by Morozov. After the appearance of his works on this topic ([542] and [543]) many specialists persistently but unsuccessfully attempted to find errors in his calculations – however, the correctness of his interpretation of Biblical texts with the aid of a mediaeval “astrological dictionary” defied doubts as a rule. Morozov’s reading of astrological texts was at first perceived by historians as completely natural and containing no aberrations.

N. A. Morozov had also been a pioneer in his assumption that the author of the Biblical Apocalypse coded nothing intentionally, but only described what he actually saw on the celestial sphere using the astronomical language of his time ([542] and [544], Volume 1, pages 3-70).

We can leap ahead for a short instance in order to tell the reader that Morozov’s dating of the Apocalypse to the fourth century A.D. does not in fact concur with the explicit data contained in the text of the Apocalypse one hundred per cent. Being erroneously convinced of the correctness of the Scaligerian chronology after the sixth century A.D., Morozov stopped at the first, not entirely successful, early mediaeval solution, having deliberately rejected the much better astronomical solution from the end of the fifteenth century A.D. – one fitting *perfectly*, as unprejudiced analysis shows.

2. GENERAL INFORMATION ABOUT THE APOCALYPSE AND THE TIME OF ITS CREATION

The authors cite the Apocalypse from the 1898, 1912, and 1968 Russian editions of the Bible ([67]). The translation uses the New International Version.

The Apocalypse, also called the Book of Revelation, is the twenty-seventh and last book of the New Testament. It is also the last book of the contemporary canon of the Bible. The Apocalypse is considered an integral part of the New Testament. However, in mediaeval Russia the Apocalypse was not included in the New Testament manuscripts as a rule. As we shall demonstrate in the chapters related to the Slavic Bible manuscripts in CHRON6, Slavic manuscripts of the Apocalypse are exceptionally rare – for instance, there is only one known manuscript of the Apocalypse dating from the IX–XIII centuries, whereas there are 158 known manuscripts of the remaining books of the New Testament dating from the same period. Furthermore, even as recently as the XVII century, references to the Apocalypse and the Revelation of St. John the Divine apparently could indicate entirely different books. (See Appendix 2 to CHRON6.)

This means that many uncertainties are closely related to the history of the Apocalypse, and primarily with its dating. Proposed dates are very diverse, pointing at the disagreement amidst the historians. For example, Vandenberg van Eysing dated the Apocalypse to 140 A.D., A. Y. Lentsman to 68–69 A.D., A. Robertson to 93–95 A.D., Garnak and E. Fisher to not earlier than 136 A.D., and so forth. (See the survey in [765].)

I. T. Senderlend wrote that “dating the Book of Revelation to this epoch [the end of first century A.D. – A. F.] or indeed any other epoch at all [sic! – A. F.] is a task of *tremendous complexity*” ([765], page 135).

Furthermore, in the opinion of V. P. Rozhitsyn and M. P. Zhakov ([732]), the creation of the Apocalypse was completed in the II–IV centuries A.D., most likely in the IV century! This opinion is in no way congruous with the Scaliger–Petavius chronology.

The Apocalypse itself doesn’t contain a single explicit chronological indication of the epoch when it was written. No actual historical figures have been identified as definitely living in the epoch of the cre-

ation of the Apocalypse. No absolute dates whatsoever have been given in the work itself. The Apocalypse is commonly considered to be *the last* written book of New Testament; however, F. H. Baur, for one, has categorically asserted that the Apocalypse is not the last, but the “*earliest* writing of the New Testament” ([489], page 127). A. P. Kazhdan and P. I. Kovalev had also been of the opinion that the Apocalypse was the *first* book of the New Testament, and not the *last* one ([765], page 119).

Furthermore, some researchers categorically reject to credit the Apocalypse to John, who had allegedly written a Gospel and three Epistles. Generally, it is assumed that no exact information about the author of the Apocalypse remains in existence ([448], page 117).

G. M. Lifshitz noted that the author of the Apocalypse is quite familiar with astronomy: the images of the dragon, beasts, horses, and so forth that he describes resemble the figures of the constellations in the celestial sphere, which are similarly designated on the mediaeval star charts ([489], pages 235–236).

However, all these considerations had already been expressed by N. A. Morozov in the beginning of the XX century. Apparently his line of reasoning produced a strong impression on at least some of the abovementioned authors, and they actually reiterated his assertions without referring to him, which is very typical for such researchers.

M. M. Kublanov sums up: “The reasons for this abundance of contradictory hypotheses on questions of chronology are explained primarily by the scarcity of reliable evidence. The ancients did not leave us any reliable data in this respect. Under the prevailing circumstances, *the only means for the datings of these writings are the writings themselves*... The establishment of a reliable chronology of the New Testament still remains an open issue” ([448], page 120).

So, let us finally turn to the Apocalypse itself. *Its astronomical nature becomes immediately evident, especially when comparing it with the ancient celestial charts.* (See the mediaeval maps allegedly dating from the XVI century, for instance – figs 3.1, 3.2, 3.3, and 3.4.)

Apparently, some time after the Apocalypse was written, its explicit astronomical meaning was forgotten. Even if some professional astronomer noted



Fig. 3.1. Star chart of the Northern Hemisphere done by A. Dürer (1471-1528), allegedly in 1527. Taken from [90], page 8.

the similarity of figures on the ancient maps with the descriptions of the Apocalypse, he perceived this as coincidental, because he wasn't able to free himself from the indoctrination of Scaligerian notions. Today's Bible historians cannot conceive of any astronomical connotations in the Biblical texts. There may be a unique possibility, as we shall now demon-

strate, of *dating* some fragments of the Bible *astro-nomically*. If this be the case, though, we shall come up with dates that *do not correspond* with the ones the "tradition" insists upon *at all*.

The Apocalypse contains the famous prophecy about the Doomsday, or the Judgement Day. This prophecy is in immediate relation to the symbolic



Fig. 3.2. Star chart of the Southern Hemisphere done by A. Dürer (1471-1528), allegedly in 1527. Taken from [90], page 9.

description of what the author observed on the celestial sphere. This was still remembered by the authors of the illustrations to the Apocalypse who had lived around the XVI century. We give one such example on fig. 3.5. As we have already noted, the inability of the latter day commentators to comprehend the astronomical symbolism of the Apocalypse

is directly connected with the loss of knowledge about the correct chronology and with the distortions introduced by the subsequent historians in the XVI-XVIII century. It could also be there was an unspoken general taboo on what concerned such a dangerous subject, which resulted in the misdating of the Apocalypse. One way or another, the understanding

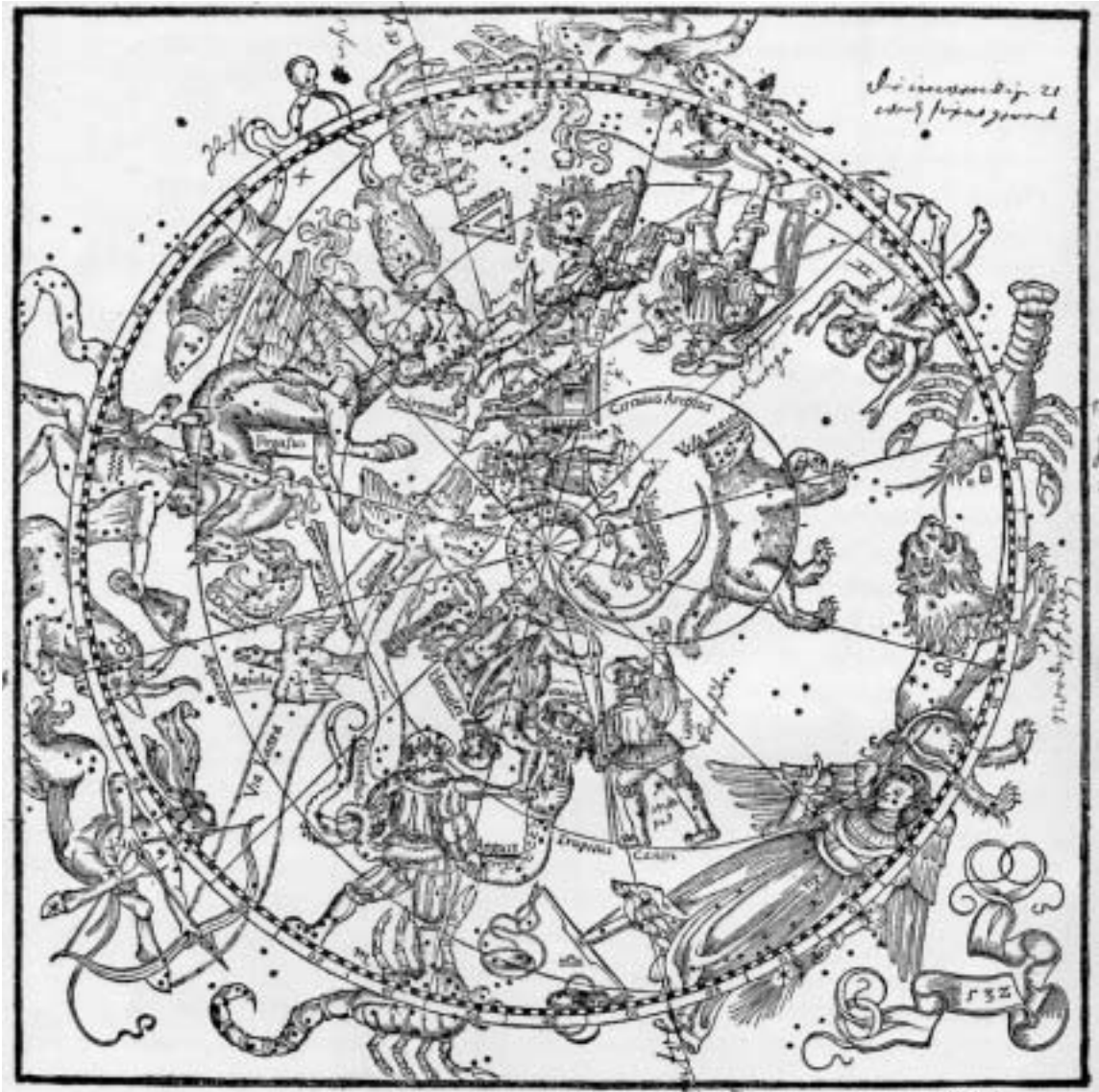


Fig. 3.3. Northern Hemisphere constellations on a star chart from Ptolemy's *Almagest*, allegedly published in 1551. Pay attention to the fact that some figures are wearing *mediaeval* attire. Taken from *Claudii Ptolemaei Pelusiensis Alexandrini omnia quae extant opera*, 1551 ([1073]). The book archive of the Pulkovo Observatory (St. Petersburg). Also see [543], the inset between pages 216-217.

of the astronomical descriptions that the Apocalypse contains got lost at some point. The Apocalypse had lost its distinctive astronomical hue in the eyes of the readers. However, its “astronomical component” is not simply exceptionally important – it alone suffices for the dating of the book itself.

Let us turn to the astronomical fragments of the

Apocalypse. *The main idea of our study consists in the comparison of the Apocalypse with the mediaeval astronomical maps. Such a comparison reveals many parallels and even direct coincidences between the two. This allows for the confident determination of the astronomical horoscope as penned out by the author of the Apocalypse.*

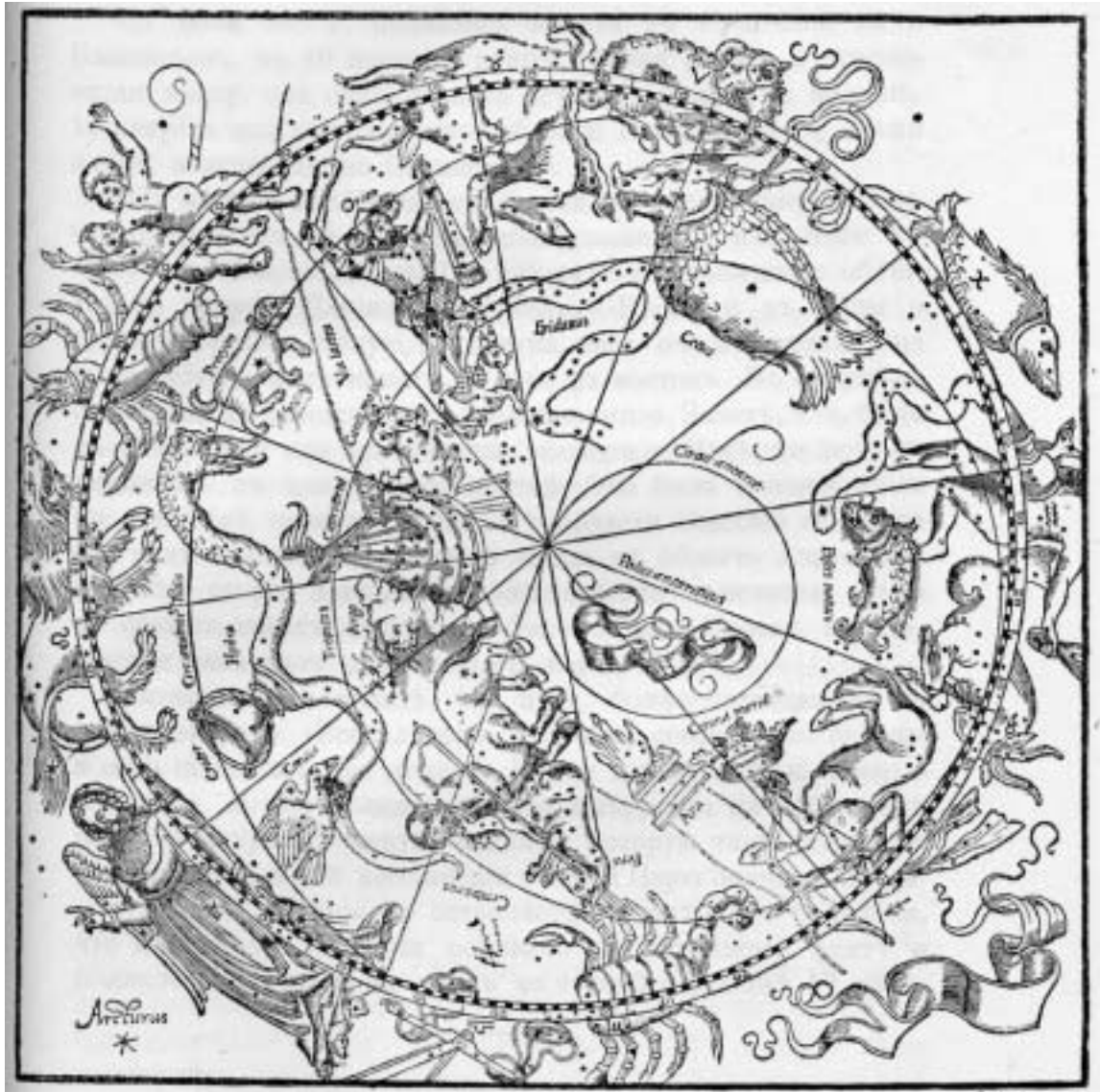


Fig. 3.4. Southern Hemisphere constellations on a star chart from Ptolemy's *Almagest*, allegedly published in 1551. Taken from *Claudii Ptolemaei Pelusiensis Alexandrini omnia quae extant opera*, 1551 ([1073]). The book archive of the Pulkovo Observatory (St. Petersburg). Also see [543], the inset between pages 216-217. Note that some figures are wearing mediaeval attire.

We propose that the readers divert their attention to a star chart that has the stars pointed out in some manner. Even a contemporary map of the sky should do, but a mediaeval star chart would be better – the one by Albrecht Dürer, for instance, which we have provided on figs. 3.1 and 3.2, or the map from the *Almagest* that one sees on figs. 3.4 and 3.3.

3. URSA MAJOR AND THE THRONE

The Apocalypse says: “John, To the seven churches in the province of Asia: Grace and peace to you from him who is, and who was, and who is to come, and from the seven spirits opposite his throne” (AP 1:4–5).



Fig. 3.5. A drawing from a manuscript of the Apocalypse dating from the XVI century. The author of the miniature emphasizes that the events described occur against a starlit sky. The manuscript is kept in the State Library of Russia, Moscow, folio 98, number 1844, sheet 27, reverse. Taken from [745], Volume 8, page 446.

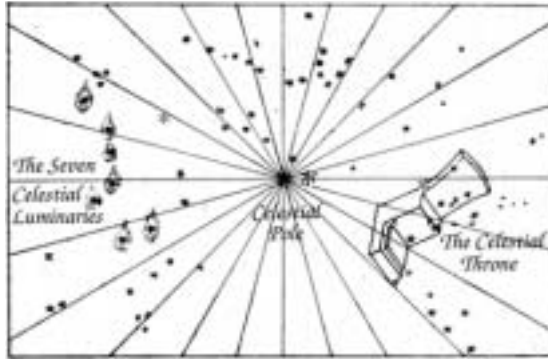


Fig. 3.6. The Throne constellation, known as Cassiopeia nowadays, and the constellation of the Seven Souls, presently Ursa Major, near the pole. Taken from [542], page 37.

In France, the constellation of Ursa Major is still called The Chariot of Souls. This is how this constellation used to be drawn, q.v. in the mediaeval book by Apianus ([1013]). This ancient figure can be seen below – see CHRONI, chapter 4:3.7.)

The Throne: Ursa Major is right in front of this well-known constellation. (See the star chart fragment given on fig. 3.6. Also, the Greek text of the Apocalypse makes references to the “Throne” [tronos].)

4. THE EVENTS TOOK PLACE ON THE ISLE OF PATMOS

The Apocalypse says: “From the *throne* came flashes of lightning, rumblings and peals of thunder. Before the throne, *seven lamps* were blazing. . . Also *before the throne* there was *what looked like a sea of glass, clear as crystal*” (AP 4:5–6).

Thus, seven fiery icon-lamps are situated before the throne on which God sits in glory. The “sea of glass, similar to crystal” apparently is the sky as observed by the author of the Apocalypse.

The Apocalypse says: “I, John, . . . was on the island of Patmos” (AP 1:9).

The observation point is defined explicitly – the island of Patmos in the Mediterranean. It is also emphasized throughout the entire Apocalypse that the main arena of the events described is the *celestial sphere*.

5. THE CONSTELLATIONS OF CASSIOPEIA AND THE THRONE WERE DRAWN AS CHRIST SITTING ON HIS THRONE IN THE MIDDLE AGES

The Apocalypse says: “After this I looked, and there before me was a door standing open in heaven. . . and there before me was *a throne in heaven with someone sitting on it*. And the one who sat there had the appearance of *jasper and carnelian*” (AP 4:1–3).

The person sitting on the throne can be seen on almost every mediaeval star chart – in the *Zodiaque expliqué* ([544], Volume 1, page 81, ill. 36), for instance, or on the star charts of A. Dürer ([544], Volume 4, page 204), on the map of Al-Sufi ([544], Volume 4, page 250, ill. 49), and so forth. Figures 3.7 and 3.8 provide one such image.



Fig. 3.7. The constellation of Cassiopeia from an ancient star chart. Taken from [543], page 70, ill. 30.



Fig. 3.8. The Throne constellation with a human figure sitting on it. Taken from a XVI century tractate titled *Astrognosia*. Book archive of the Pulkovo Observatory. Also see [544], Volume 1, page 221, ill. 60.



Fig. 3.9. The constellation of Cassiopeia from a book by Th. Radinus titled *Sideralis Abyssus*, dated 1551. Book archive of the Pulkovo Observatory. Also see [543], page 267, ill. 139.

All of these maps depict Cassiopeia enthroned.

The enthroned figure can be seen on many star charts of the XVI century, usually in the centre of the Milky Way. The Apocalypse indicates that there is a rainbow that encircles the throne: “A rainbow, resembling an emerald, encircled the throne” (AP 4:3). The rainbow is a sufficiently precise image for the luminous Milky Way that spans the night sky like an arch.

A straightforward comparison of the description of the “enthroned person” with a *gemstone* (we are told that it “had the appearance of jasper and carnelian”) strengthens the impression that the images of the Apocalypse are taken from the celestial sphere. Indeed, the comparison of stars with luminous gems is perfectly understandable and natural.

The identification of the constellation of Cassiopeia with Christ, which the Apocalypse actually refers to, was sometimes explicitly depicted on mediaeval maps. For example, the book of Radinus ([1361]) contains a picture of a throne with the *crucified* Cassiopeia upon it. The back of the throne serves as a cross, and the hands of the figure are *pinioned to it*. This is obviously a version of the *Christian crucifix*. (See fig. 3.9.)

The figure of a king on a throne can also be seen on the Egyptian star charts ([1162] and [1077]). On figs. 3.10 and 3.11 one sees Egyptian maps making it evident that the Egyptian symbolism of images is amazingly close to the European, meaning they both belong to the same school.

Therefore, *the Apocalypses contains references to the constellation of Cassiopeia, which was actually perceived as the “stellar image” of Christ (the King) enthroned in the Middle Ages.*

6. THE MILKY WAY

The Apocalypse refers to the fact that “a rainbow, resembling an emerald, encircled the throne.”(AP 4:3) Emerald is a bluish-green gemstone. One sees a “rainbow” encircling the constellation of the Throne on all mediaeval and contemporary star charts. The constellation of the Throne, with “a person enthroned” is always surrounded by the luminous strip of the *Milky Way* ([1162], [1077] and [1361]).



Fig. 3.10. Egyptian Star chart of the Northern Hemisphere. Taken from *Firmamentum Firmianum* by Corbinianus, dated 1731 ([1077]). Book archive of the Pulkovo Observatory. Also see [543], page 276, ill. 143.



Fig. 3.11. Egyptian Star chart of the Southern Hemisphere. Taken from *Firmamentum Firmianum* by Corbinianus, dated 1731 ([1077]). Book archive of the Pulkovo Observatory. Also see [543], page 277, ill. 144.



Fig. 3.12. Ancient astronomy. Taken from *Astra* by Z. Bornman, dating from 1596 ([1045]). Book archive of the Pulkovo Observatory. Also see [543], page 12, ill. 3.

7. TWENTY-FOUR SIDEREAL HOURS AND THE CONSTELLATION OF THE NORTHERN CROWN

The Apocalypse says: “Surrounding the throne were *twenty-four* other thrones, and seated on them were *twenty-four* elders. They were dressed in white and had crowns of gold on their heads” (AP 4:4).

Any complete astronomy textbook points out that in the days of yore the sky was divided into twenty-four wing-shaped stripes, that is, into twenty-four meridional sectors which converge at the poles of the celestial sphere. (See [542], page 44, or 544, Volume 1, page 7, ill. 6, for instance). These sectors are also called *sidereal hours*, or *direct stellar ascension hours*. The twenty-four hours define the celestial coordinate system, which can clearly be seen in the mediaeval image of the celestial globe in Zacharias Bornman’s book (fig. 3.12).

Thus, each “elder” of the Apocalypse apparently is a star hour in the equatorial system of coordinates, which is the division standard for the celestial sphere in astronomy.

The white clothing of the “elders” simply represents the white colour of the stars in the sky. The golden crowns apparently refer to the constellation of the *Northern Crown*, situated close to the *zenith*, that is, *exactly above the heads* of all twenty-four “elders”, or hours, or sectors (fig. 3.13).

8. LEO, TAURUS, SAGITTARIUS, PEGASUS

The Apocalypse says: “Also before the throne there was what looked like a sea of glass, clear as crystal. In the centre, around the throne, were four living creatures, and they were covered with eyes, in front and in back” (AP 4:6–7).

This is a description of the celestial sphere which surrounds the constellation of the Throne and is strewn with stars (or “eyes”). The initially obscure reference to a place “around the throne” becomes intelligible: the actual constellation of the Throne is being referred to, as well as the smaller stars scattered all across the background.

But what does “... were four living creatures, and they were covered with eyes...” mean? This becomes



Fig. 3.13. The Crown (or Diadem) constellation near the pole. Fragment of a chart dating from 1700. Taken from [1160], table 10.1, page 304.

clear from a casual glance at the star chart. Moreover, in the following passage of the Apocalypse it is clearly said that: “the first living creature was like a *lion*, the second was like an *ox*, the third *had a face like a man*, the fourth was *like a flying eagle*” (AP 4:7).

Lion (Leo) is a zodiacal constellation visited by the sun before the beginning of autumn. (See, for example, the mediaeval maps by Dürer and Grienberger ([1162]). See also figs. 3.4, 3.3 and 3.14)



Fig. 3.14. The Leo constellation on a star chart from a book by Griemberger ([1162]). Book archive of the Pulkovo Observatory. Also see [542], page 45, ill. 18.



Fig. 3.15. The Taurus constellation on the star chart from a book by Griemberger ([1162]). Book archive of the Pulkovo Observatory. Also see [542], page 45, ill. 19.



Fig. 3.16. The Sagittarius constellation on the star chart from a book by Griemberger ([1162]). Book archive of the Pulkovo Observatory. Also see [542], page 46, ill. 20.

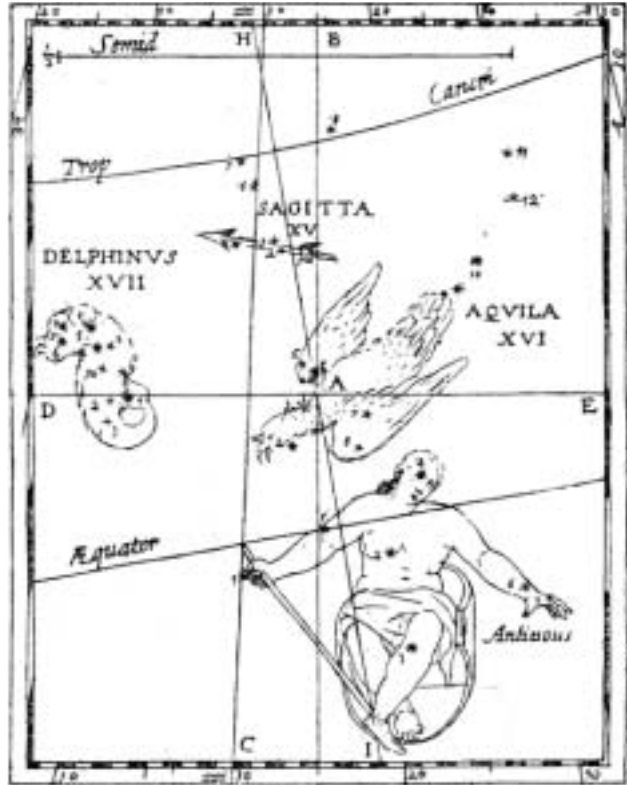


Fig. 3.17 Three constellations: The Eagle, The Dolphin and Antinoos, as seen on the star chart from a book by Griemberger ([1162]). Book archive of the Pulkovo Observatory. Also see [542], page 47, ill. 22.

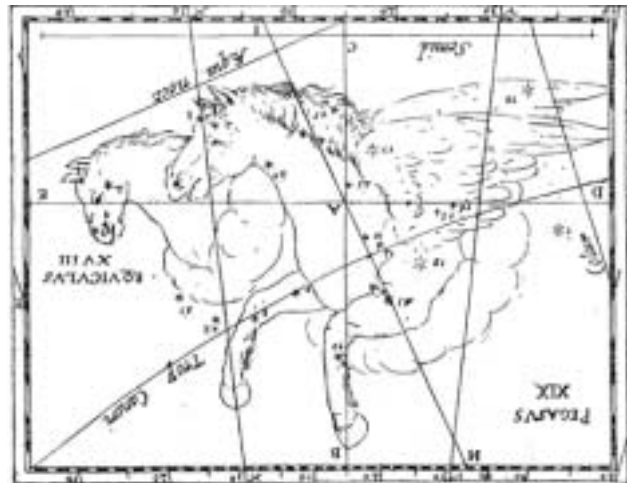


Fig. 3.18. The Pegasus constellation on the star chart from a book by Griemberger ([1162]). Book archive of the Pulkovo Observatory. Also see [542], page 46, ill. 21.

Ox (Taurus) is a zodiacal constellation visited by the sun before the beginning of summer. (Look at the same maps of Dürer and Grienberger, as well as fig. 3.15)

The animal with a human face (Centaur) is obviously a reference to the well-known zodiacal constellation of Sagittarius visited by the sun in the beginning of winter. (See fig. 3.16.)

The animal “like a flying eagle isn’t in fact the Eagle, although such a constellation exists (see fig. 3.17.) Most likely, this is *the famous Pegasus*, the winged animal that completes the number of constellations in the Apocalypse indicated above. The sun visits the constellation of Pegasus before the beginning of spring. (See fig. 3.18.) Formally, Pegasus is not a zodiacal constellation, but an equatorial one; however, Pegasus almost touches the ecliptic between the zodiacal constellations of Pisces and Aquarius. The word even exists in the Greek text of the Apocalypse, where it refers to a mammal rather than a bird ([542]).

Thus, the Apocalypse clearly enumerates the four main constellations along the ecliptic: the zodiac constellations of Leo, Taurus, Sagittarius, and the “almost zodiacal” Pegasus.

The selection of four well-known constellations in the apexes of the square on the ecliptic is a standard mediaeval astronomical method. Apparently, the four constellations (perhaps some others) were similarly set in the angles of the quadrangular zodiac from the Thebes horoscope of Brugsch (see CHRON3, part 2.) Similar *quadrangular zodiacs* were also drawn in mediaeval India ([543], page 115).

Thus, four constellations which denote the seasons form a square or a cross. But since there are exactly twenty-four star sectors (or wings) proceeding from the pole, each one of these animal constellations has exactly six sectors of direct ascension, that is, they have six “wings” around them. In other words, each animal constellation is located in the region that is covered by these six sector-wings on the celestial sphere.

It is notable that *all of this is absolutely accurately described in the Apocalypse*, in which we read that “*each of the four living creatures had six wings and was covered with eyes all around, even under its wings.*” (AP 4:8). The “eyes” here are the stars. By the way, the Greek text formulates this as “inside and around” ([542]).

These “animals covered with eyes inside and

around” are most probably constellations, and so the “eyes” in question should be of a stellar nature. Indeed, they are drawn in precisely this form on any mediaeval star chart (see Dürer’s maps in figs. 3.1 and 3.2, for instance, as well as the map from the *Almagest* on figs. 3.4 and 3.3.)

9. THE DAILY ROTATION OF THE NORTHERN CROWN

In the northern moderate zone of the terrestrial globe, the upper parts of the sectors, or the “wings”, never set; however, the lower parts, or the “knees” of the “elders” (sectors) first descend below the horizon, then rise above it again. Therefore, it looks like each sidereal hour rises from its knees on the eastern part of the horizon and then goes down on its knees in the west. They were thus perceived as worshipping the centre of rotation, the north pole of the sky and the constellation of the Throne near it.

Once again, *all of this is accurately described in the Apocalypse*. Actually, the Apocalypse says: “The twenty-four elders fall down before him who sits on the throne, and worship him who lives for ever and ever” (AP 4:10).

In the process of everyday rotation in the Mediterranean latitudes, the constellation of the Northern Crown first rises into the zenith, then descends into the northern part of the horizon. What we have in mind is a local zenith for the latitude of the island of Patmos.

We shan’t continue with the enumeration of other constellations and stars mentioned in the Apocalypse, because *the presence of astronomical symbolism in the Apocalypse has already become perfectly clear.* (See also [542] and [544]).

10. EQUINE PLANETARY IMAGES IN MEDIAEVAL ASTRONOMY

We shall now relate several facts extremely important in what concerns the datings. The first thing that attracted the attention of astronomers to the planets was their rapid movement. Their displacement is very uneven to the observer’s eye. The so-

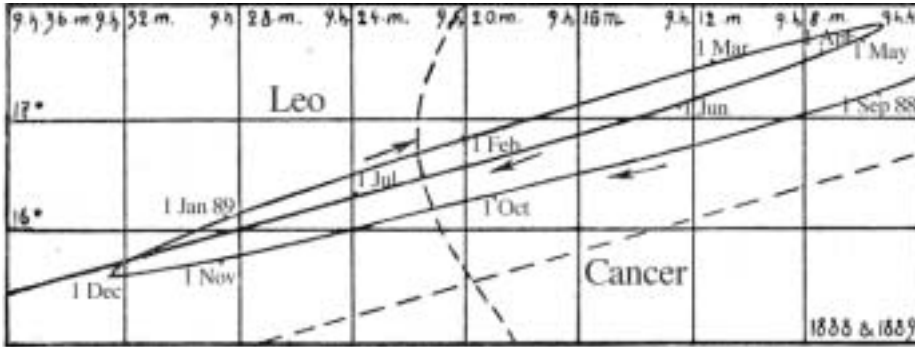


Fig. 3.19. Looping trajectory of Saturn between Cancer and Leo in 1888 and 1889. Taken from [542], page 12, ill. 4.

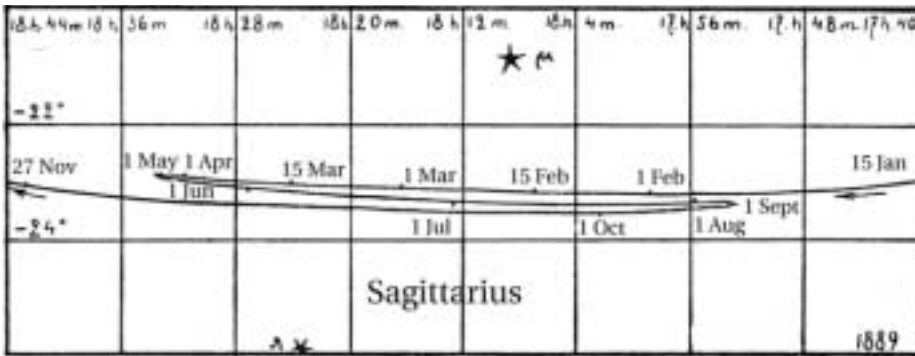


Fig. 3.20. Looping trajectory of Jupiter in Sagittarius in 1889. Taken from [542], page 12, ill. 5.

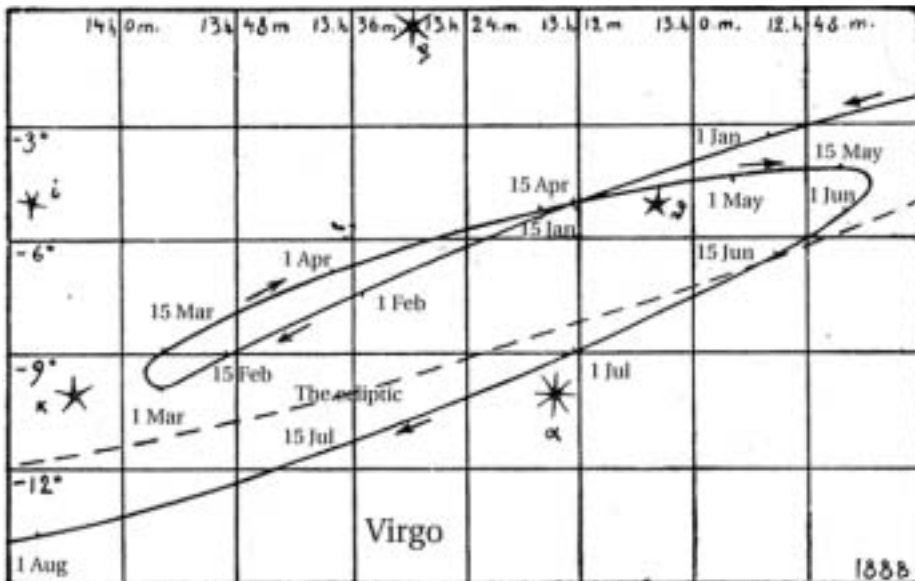


Fig. 3.21. Looping trajectory of Mars in Virgo in 1888. Taken from [542], page 13, ill. 6.



Fig. 3.22. Ancient Gaulish coins as seen on the illustrations to John Blake's *Astronomical Myths* dating from 1887. Also see [542], page 14, ills. 8, 9.

called *outer planets* – the ones *outside the Earth's orbit* – are described as moving in regular loops. Examples of such loops for Saturn and Jupiter can be seen in figs. 3.19 and 3.20; for Mars – in figure 3.21. Planets stop, begin retrograde movement, and then *appear to rush forwards yet again*. This apparently gave birth to comparisons with *horses galloping through the crystal firmament*. It is not surprising that astronomy and astrology appealed to this vivid image.

Ancient Gaulish coins bearing images of the equine planets are depicted on fig. 3.22 (see *Astronomical Myths* by John Blake, 1887.) One of them depicts *a horse with a rider* (the letter S) leaping over the urn of the constellation of Aquarius. This constellation is frequently depicted in the form of an urn or a person bearing an urn and pouring water from it, q.v. in the mediaeval book of Albumasar, for instance ([1004]).

On the second coin we see an *equine planet* carrying the constellation of Cancer on its back. The horse leaps over the constellation of Capricorn. (See fig. 3.22.)

These old coins clearly indicate the custom of at least some of the mediaeval astronomers to identify planets with *horses*.

Further development of this symbolism naturally led to the use of the images of planets in the form of horses harnessed into chariots. The solar image in particular was widely used in the Middle Ages and used to be included in the planetary seven.

Horses carting the sun are represented in the astrological book by Ioanne Tesnierio dating from 1562 ([1440] and fig. 3.23), the astrological work by Leopoldi, allegedly published in 1489 ([1247] and fig. 3.24), and the 1515 book by Albumasar ([1004] and figs. 3.25 and 3.26).

Horses driving the planet Mars in the chariot are shown in the 1562 book of Ioanne Tesnierio ([1440] and fig. 3.23), with Mars referred to by its astrological sign, and in the 1515 book by Albumasar ([1004] and fig. 3.27).

Sometimes such books depicted actual horses on chariots, thus identifying chariots with horses. The chariot of Jupiter, for instance, with a galloping centaur drawn on its gigantic wheels, can be seen in the book by Albumasar [1004] (fig. 3.27).

The concept would evolve. Sometimes horses would draw entire constellations. In the book by Bacharach dating from 1562 ([1021]), horses draw the constellation of Auriga. A similar figure can also be seen in the *Astrology* by Radinus (fig. 3.28).

Astronomers ascribed such value to the jumps of the planets that they devised a special symbol of a halted chariot in order to refer to the moments the planets stop before beginning their movement, either forwards or in retrograde. The mediaeval book by Albumasar, for instance ([1004]) depicts the halted chariots of all the planets: Mercury, Venus, Mars, Jupiter, and Saturn (figs. 3.25 and 3.29).

Sometimes, in lieu of horses, the chariots were harnessed to fantasy animals – griffins, eagles, and the like. Similar “horses” draw the planets in the mediaeval books by Albumasar ([1004]) and Ioanne Tesnierio ([1440] and figs. 3.23 and 3.30).

It is well known that in some languages the days of the week were identified with planets in a so-called “planetary week.” On the other hand, the days of the week were frequently depicted as horses. When the equine planet passed between the constellations or through them, the constellations were referred to as “saddling” it, thus transforming into the riders of this horse.

But let us return to the Apocalypse.

11. JUPITER IS IN SAGITTARIUS

The Apocalypse says: “I looked, and there before me was a white horse. Its rider held a bow, and he was given a crown, and he rode out as a conqueror bent on conquest” (AP 6:2).

This apparently describes a bright equine planet carrying the glorious rider, or the constellation with

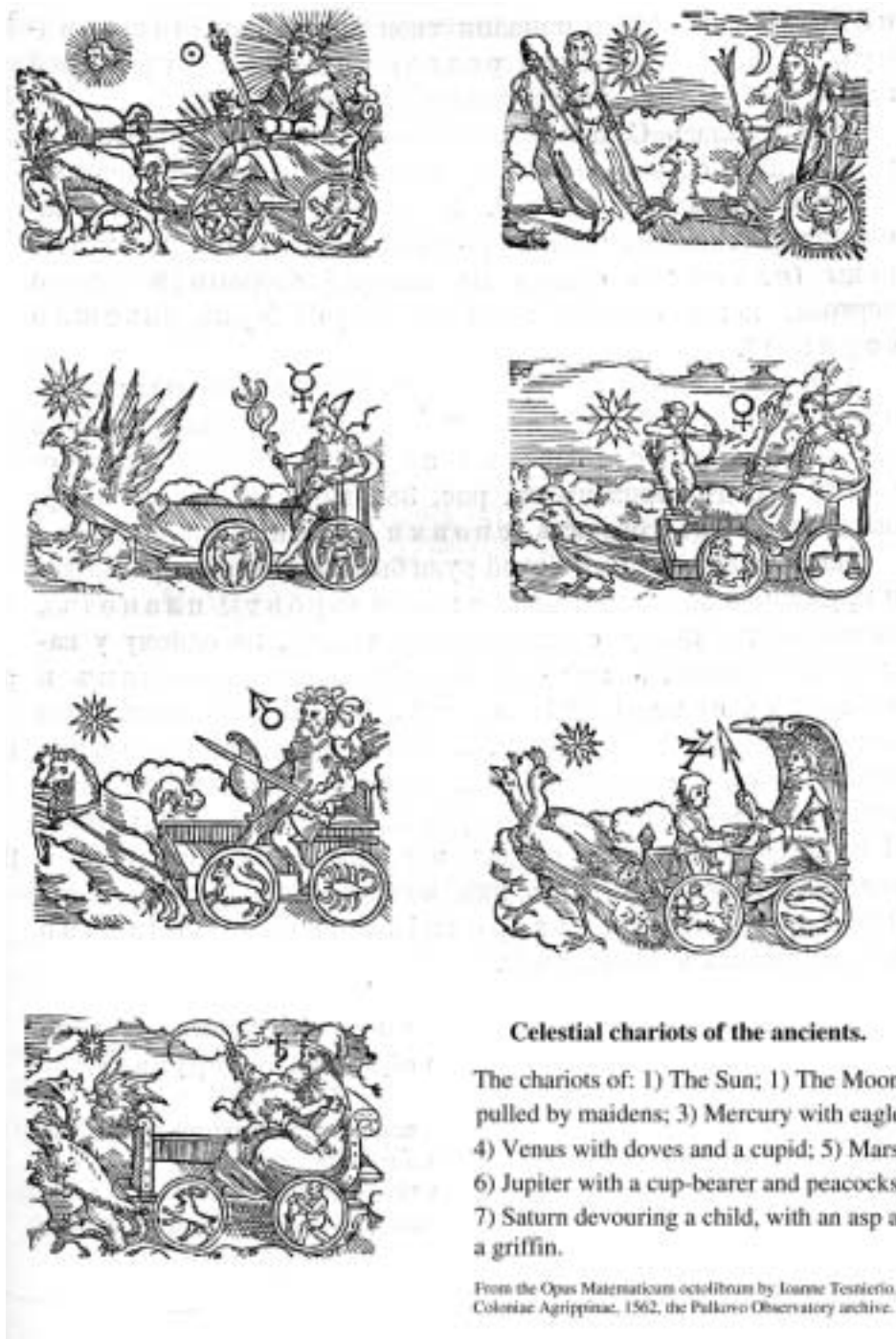


Fig. 3.23. Mediaeval pictures of the chariots of the Sun, the Moon, Mercury, Venus, Mars, Jupiter and Saturn. Taken from the *Opus Mathematicum octolibrum* by Ioanne Testnerio ([1440]). Coloniae Agrippinae, 1562. Book archive of the Pulkovo Observatory. Also see [543], page 71, ills. 31-37.

the bow. There is only one such constellation in the zodiac – Sagittarius (fig. 3.16).

The horse is said to be white. The Greek text renders this as “dazzling-white” or “shining” ([542]). The combination of the characteristic “conqueror bent on conquest” and the fact that this is the first horse to ride out most likely refers to Jupiter.

Another dazzling-white planet is Venus; however, it cannot be here, since the text of the Apocalypse (12:1) indicates the sun to be in Virgo, in which case Venus, which never goes too far away from the sun, can in no way be in Sagittarius. We are thus given a direct reference to the fact that Jupiter was in Sagittarius.

12. MARS IS BENEATH PERSEUS IN EITHER GEMINI OR TAURUS

The Apocalypse says: “And there went out another horse that was red [the Greek text renders this as follows: “Then another horse came out, a fiery red one (see [542] – A. F.)]. Its rider was given power to take peace from the earth and to make men slay each other. To him was given a large sword” (AP. 6:4).

What we see here is the description of a red equine planet. There is only one such planet – Mars. There is



Fig. 3.24. A mediaeval picture of the solar chariot. Taken from *Leopoldi compilation de astorum scientia*, 1489 ([1247]). Book archive of the Pulkovo Observatory. Also see [543], page 169, ill. 89.



Fig. 3.25. Mediaeval pictures of the chariots of the Sun, Mercury, Venus and the Moon. Taken from Albumasar’s *De Astru Scientia*, 1515. Book archive of the Pulkovo Observatory. Also see [543], page 240, ills. 117-120.

Chariot of the Sun



Chariot of the Moon



Chariot of Mercury



Chariot of Venus



Fig. 3.26. Mediaeval pictures of the chariots of the Sun, the Moon, Mercury and Venus. Taken from Albumasar's *De Astru Sciencia*, 1515. Book archive of the Pulkovo Observatory. Also see [543], page 156, ills. 78-81.

Chariot of Mars



Chariot of Jupiter



Chariot of Saturn



Fig. 3.27. Mediaeval pictures of the chariots of Mars, Jupiter and Saturn. Taken from Albumasar's *De Astru Sciencia*, 1515. Book archive of the Pulkovo Observatory. Also see [543], page 157, ills. 82-85.

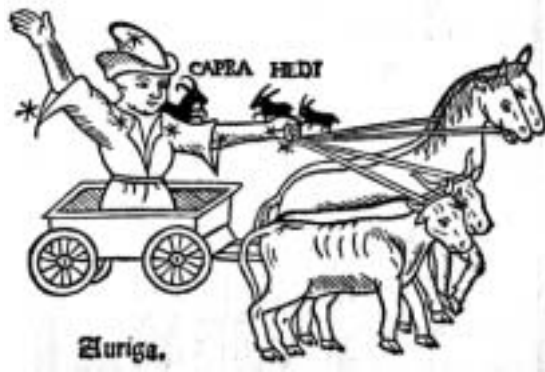


Fig. 3.28. Horses dragging the Auriga constellation. From a book by Radinus dated 1511. Taken from [1361]. Also see [543], page 243, ill. 125.

also only one constellation with a sword – Perseus. Thus, Perseus is described in the Apocalypse as the rider of Mars. Consequently, Mars is located in the zodiac in either Gemini or Taurus, with Perseus above (see the fragment of a mediaeval star chart on fig. 3.31.) This is the map from Ptolemy’s *Almagest*. N. A. Morozov proposes to consider this to be an indication that the zodiacal constellation of Aries was located beneath Perseus ([542]). However, it is only in such a case that the word “beneath” could be understood in relation to the ecliptic, that is, the constellation of Perseus were projected onto the ecliptic from its pole. But in such a case Perseus shall be suspended over Mars in an unnatural position – on his back. This can be observed on the same mediaeval map, fig. 3.31.

This description most probably refers to the zodiacal constellations located under the feet of Perseus. These can either be Taurus or Gemini. Perseus seems to be standing on them. But in case with Aries he lies on his back, with his feet directed upwards. Furthermore, it is important to consider the position of the local horizon of the observer. Indeed, when the observer writes that Mars is located beneath Perseus – that is, Perseus was visible above Mars – this most likely means that their position is given in relation to the local horizon. It is natural that one should search for such an astronomical solution, in which the observer would be able to see Perseus above Mars considering the relation to the local horizon – for instance, some location in the Mediterranean region.

This was well understood by N. A. Morozov.



Fig. 3.29. Mediaeval pictures of the chariots of Mars, Jupiter and Saturn. Taken from Albumasar’s *De Astru Sciencia*, 1515. Book archive of the Pulkovo Observatory. Also see [543], page 241, ills. 121-123.



Fig. 3.30. A mediaeval picture of Saturn's chariot. Taken from the book titled *Leopoldi compilatio de astrorum scientia*, 1489 ([1247]). Book archive of the Pulkovo Observatory. Also see [543], page 181, ill. 92.

During his consideration of one of the solutions, namely, the solution of 1486 A.D., he did not note any aberrations concerning Mars. But on the date he indicated, 1 October 1486, Mars was located in Gemini and not Aries. We should thus understand that Mars must be searched in either Gemini or Taurus.

13. MERCURY IS IN LIBRA

The Apocalypse says: "I looked, and there before me was a black horse. Its rider was holding a pair of scales in his hand. Then I heard what sounded like a voice among the four living creatures, saying, 'A quart of wheat for a day's wages, and three quarts of barley for a day's wages, and do not damage the oil and the wine!'" (AP 6:5-6).

Apparently this is Mercury, the faintest of all of the primary planets. Only Mercury, Venus, Mars, Jupiter, and Saturn were considered primary in antiquity.

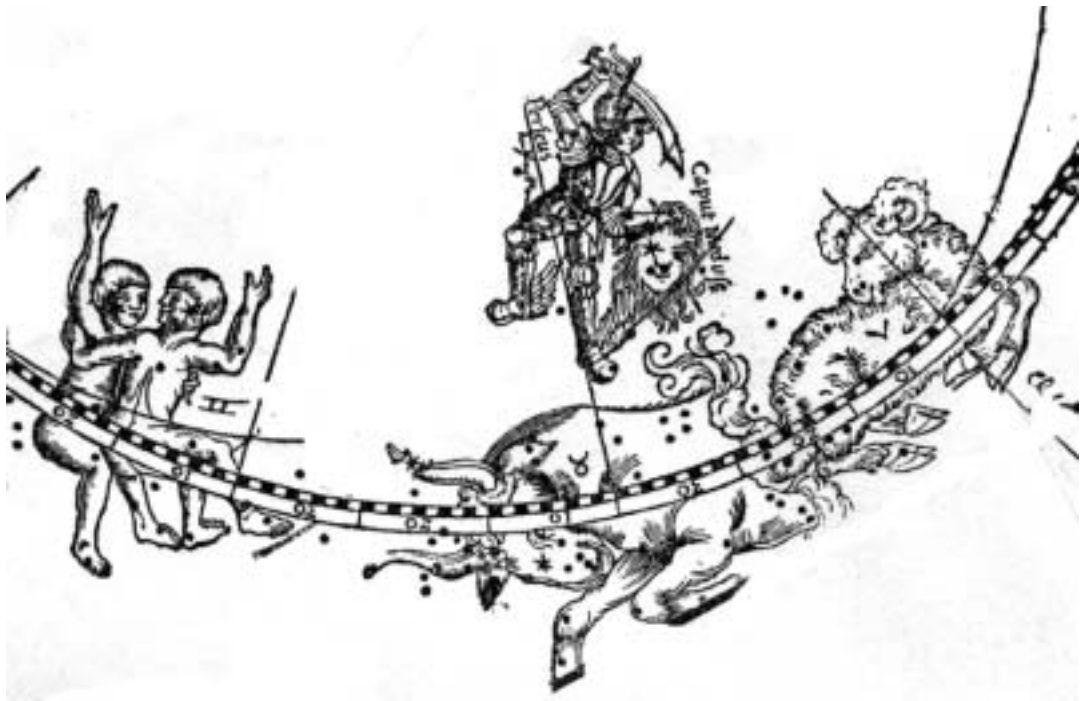


Fig. 3.31. Constellations of Perseus, Gemini and Taurus on a star chart from Ptolemy's *Almagest*. A close-up of a fragment of a map. We have removed all other constellations so as not to make the illustration look too cumbersome. Taken from the *Pelusiensis Alexandrini omnia quae extant opera* by Claudius Ptolemy. Published in 1551 ([1073]). Book archive of the Pulkovo Observatory. Also see [543], the inset between pages 216-217.



Fig. 3.32. Planet disposition for 1 October 1486. It is distinctly visible that all the planets are located in *exactly the same* constellations as indicated by the Apocalypse.

Mercury is truly the “invisible” planet. Furthermore, due to its location close to the sun, Mercury is only rarely visible due to the intensity of sunshine. Therefore, errors were frequently made determining the position of Mercury in the Middle Ages.

The synodal translation says “a quart on the scale

in thy hand”. According to the Greek translation, the rider holds a scale in his hand ([542]). The entire verse 6 distinctly speaks about trade. Even the prices of wheat and the barley are given. Mercury was considered the patron of trade.

Thus, Mercury is indicated in Libra.

14. SATURN IS IN SCORPIO

The Apocalypse says: “I looked, and there before me was a pale horse. Its rider was named Death, and Hades was following close behind him. They were given power over a fourth of the earth to kill by sword, famine and plague, and by the wild beasts of the earth” (AP 6:8).

The Greek text provides the rendering “deathly pale, greenish” ([542]). Most probably, this refers to the ominous planet Saturn. The rider on it, named Death is, apparently, Scorpio. In the Middle Ages Saturn entering Scorpio was considered an omen of great afflictions to come.

The Greek text renders another part of the passage as “They were given power,” which corresponds with this pair of death symbols even better ([544], Volume 1, pages 46–47, ill. 27).

N. A. Morozov was not the first one to identify four of the famous horses of the Apocalypse with planets. E. Renan put this hypothesis forth a long before Morozov ([725], page 353). Renan considered that:

- red horse = Mars (this is correct),
- black = Mercury (this is also correct),
- white = Moon (this is incorrect)
- pale = Jupiter (also incorrect).

Renan did not provide any proof for the last two identifications, and, as we can see, they actually do not correspond to the description given in the Apocalypse. However, Renan did not even attempt to date the Apocalypse on the basis of this astronomical information.

15. THE SUN IS IN VIRGO WITH THE MOON UNDERNEATH THE FEET OF THE LATTER

The Apocalypse says: “A great and wondrous sign appeared in heaven: a woman clothed with the sun, with the moon under her feet and a crown of twelve stars on her head” (AP 12:1).

This apparently is the picture of the celestial sphere in its usual mediaeval imagery. The sun is named as being in Virgo. Let us point out that Virgo is the only female constellation on the ecliptic. The moon is lo-

cated at the feet of Virgo. Directly above the head of Virgo, towards the zenith, we see the constellation of Coma Berenices or the Twelve Stars. On any celestial chart one can see the well-known globular cluster, the Diadem, or the Crown. It is referred to as 5024/M5e by the contemporary numeration.

The Apocalypse refers to a crown of twelve stars. It is interesting that the standard designation for globular clusters on star charts is specifically a crown of precisely twelve stars in a circle. (See the maps in [293], for instance).

Thus, the sun is in Virgo and the moon at the feet of Virgo.

16. VENUS IS IN LEO

The Apocalypse proceeds to tell us that “To him who overcomes... I will also give him the morning star” (Ap. 2:26, 2:28).

The morning star, as is well known, a mediaeval name for Venus. But in zodiacal constellations “he who overcomes” is, of course, the constellation of Leo. This follows directly from the passage “See, the Lion of the tribe of Judah, the Root of David, has triumphed. He is able to open the scroll and its seven seals” (Ap. 5:5). The text of the Apocalypse clearly indicates that “he who overcomes” is Leo.

17. THE ASTRONOMICAL DATING OF THE APOCALYPSE BY THE HOROSCOPE IT CONTAINS

The Apocalypse apparently contains the descriptions of the stars in the sky. They give us the following horoscope:

1. Jupiter in Sagittarius,
2. Mars in Gemini or Taurus (N. A. Morozov included Aries here as well),
3. Saturn in Scorpio,
4. Mercury in Libra,
5. The sun in Virgo,
6. The moon under the feet of Virgo,
7. Venus in Leo.

For a rough astronomical calculation, even three of these basic planets would suffice: Jupiter, Mars,

and Saturn. The sun moves rapidly and makes a complete zodiacal revolution in a year. Therefore it is only useful in determining the month. Mercury is usually poorly visible. (See above.) Therefore, errors were frequently made in determining its position in the Middle Ages.

- **THE ASSERTION OF N. A. MOROZOV** ([542] and [544], Volume 1, pages 48–50)

N. A. Morozov asserted that the three basic planets of Jupiter, Mars, and Saturn were sufficient for dating the Apocalypse to not earlier than the fourth century A.D., because the indicated horoscope, that is, the arrangement of planets, was only true for 395, 632, 1249, and 1486 A.D.

N. A. Morozov thought that 395 A.D. was the best solution, but in this solution Mars is located above Aries, which, as we have noted, is not very fitting. Morozov was satisfied with this answer, because he thought the Apocalypse could not have been written after the fourth century A.D. But his result was cautiously formulated in this manner: “If the Apocalypse was written during the first four centuries of the Christian era, this happened in 395 A.D.” ([542]).

However, nowadays, after the new research into the chronology of antiquity, we understand that Morozov had no real point in limiting himself to the first four centuries of the new era.

After freeing ourselves from these limitations, we can see two additional solutions: a 1249 solution and 1 October, 1486. The solution of 1249 is worse because Mercury, which in this case is in Virgo, is nearer to Leo in that year.

- **MAIN ASSERTION** (A. T. Fomenko and G. V. Nosovskiy)

The solution of 1 October 1486 ideally satisfies all conditions, as indicated in the Apocalypse:

- Jupiter is in Sagittarius,
- Saturn is in Scorpio,
- Mars is in Gemini, close to the boundary with Aries, and directly at the feet of Perseus,
- Mercury is in Libra,
- The sun is in Virgo,
- The moon is under the feet of Virgo, and
- Venus is in Leo.

The arrangement of the planets on 1 October 1486 (shown in figure 3.32) provides clear evidence that all planets are found exactly in the constellations indi-

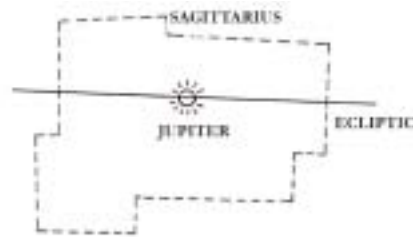


Fig. 3.33. On 1 October 1486 Jupiter was actually in Sagittarius.

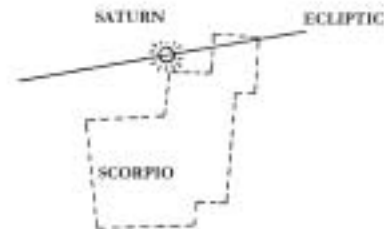


Fig. 3.34. On 1 October 1486 Saturn was actually in Scorpio.

cated in the Apocalypse. We verified this astronomical result, using the Turbo-Sky software, which is modern, simple, and convenient for those approximated calculations. The result is shown in figures 3.33 to 3.39. We can see the application give us the year 1486 as the astronomical solution. See also fig. 3.40.

The visibility conditions of the planets on the night of 1–2 October 1486 was verified for the Mediterranean by using an observation point in the vicinity of the Bosphorus as an example.

It turns out that on 1 October 1486 the sun set at 17:30 local time, that is, at 15:30 GMT.

The crescent of the new moon was visible after sunset until 19:00 local time, after which the Moon set at the local horizon.

Saturn was visible until 20:00 local time.

Jupiter was visible until 21:45 local time.

Mars did not become visible immediately, because it was located below the horizon. It ascended at 21:05 local time and was visible the entire night.

At this time Mercury was located at almost the maximum distance from the sun for the terrestrial observer, almost in the maximum elongation, and had a brightness of $M = +0.7$. Consequently, it was located in almost the best visibility conditions from the Earth.

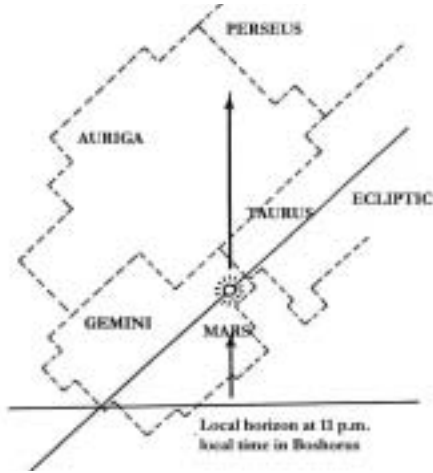


Fig. 3.35. On 1 October 1486 Mars was actually in Gemini, close to the Taurus border, right under Perseus.

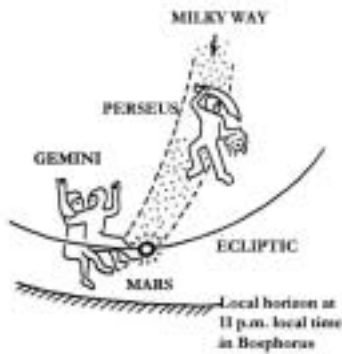


Fig. 3.36. The location of Mars in Gemini, close to Taurus, right under the feet of Perseus, on 1 October 1486.

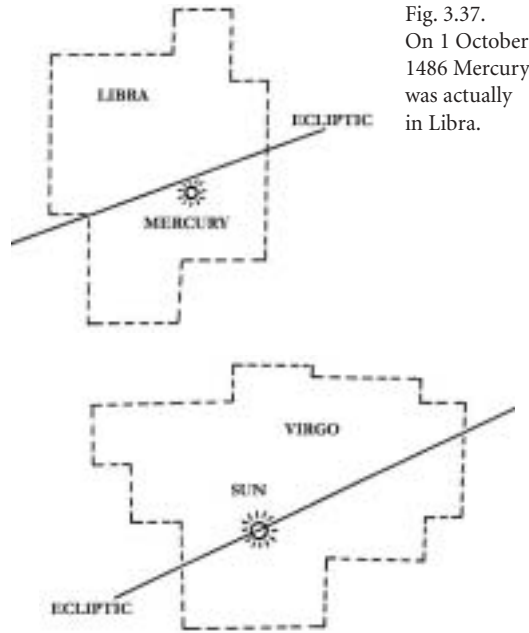


Fig. 3.37. On 1 October 1486 Mercury was actually in Libra.

Fig. 3.38. On 1 October 1486 the Sun was actually in Virgo.

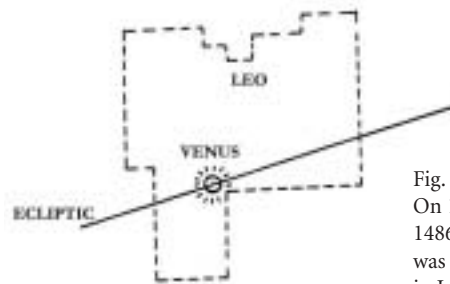


Fig. 3.39. On 1 October 1486 Venus was actually in Leo.

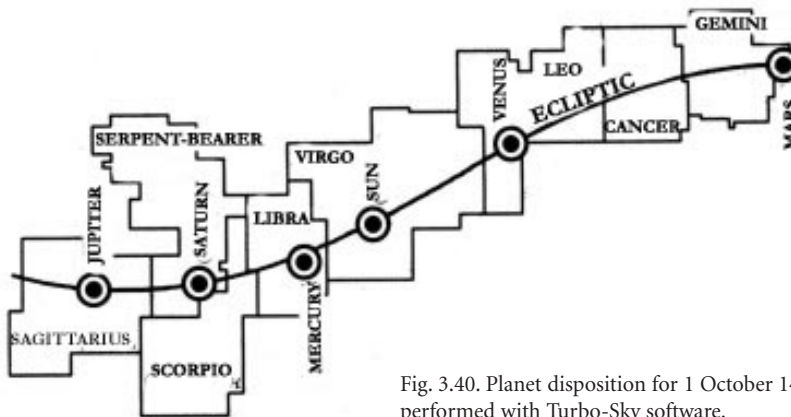


Fig. 3.40. Planet disposition for 1 October 1486. Calculations performed with Turbo-Sky software.

Mercury was actually visible until 20:15 local time, after which it went under the local horizon.

Venus ascended at 3:00 local time that night, and was perfectly visible up until sunrise.

All of this data was received from the calculations performed with the aid of the Turbo-Sky software, which is convenient for approximate computing.

We re-emphasize that the solution of 1 October 1486 is ideal from all points of view. The arrangement of the planets for 1 October 1486 A.D. is reflected in the Apocalypse with surprising accuracy, as a matter of fact.

It is evident, as one can see on fig. 3.35, that the mediaeval observer was quite correct about Perseus riding Mars: “Its rider was given power to take peace from the earth and to make men slay each other. To him was given a large sword” (AP 6:4). At this time Mars was actually located directly underneath the feet of Perseus. This can clearly be seen on fig. 3.36, which shows a fragment of a mediaeval map from Ptolemy’s *Almagest* with the position of Mars for the 1 October 1486 pointed out. Mars was in Gemini, right under the feet of Perseus. And compared to the line of the local horizon in the environs of Bosphorus, for 23:00 local time, Mars was exactly under Perseus. Finally, the brightly luminous strip of the Milky Way passes precisely through the constellations of Perseus and Gemini in the nocturnal sky. That is where Mars had been located on that date, and the Milky Way seemingly bound together the constellations of Gemini and Perseus, as well as the planet Mars (fig. 3.36). The mediaeval observer pointed out this remarkable event.

But why did the observer indicate Mars in combination with the constellation of Perseus rather than Gemini? Indeed, Perseus is not a zodiacal constellation, whereas Gemini is. The reason the observer did this apparently owes to the fact that the author of the Apocalypse described the forthcoming Doomsday, that is, a very dramatic event. Therefore, he selected the symbols maximally pertinent to the spirit of the great catastrophe.

The first primary planet (Jupiter) proved to be in Sagittarius, that is, in the “martial constellation,” depicted with bow and arrows.

The second primary planet (Saturn) proved to be in Scorpio, that is, in a terrifying, mortally dangerous constellation.

The third primary planet (Mars) proved to be in Gemini, that is, in the “peaceful constellation.” But directly above it at this moment was Perseus, the martial constellation with the sword, held in his hands and used for beheading the Gorgon Medusa with her serpent hair and stare that turned all living things to stone (fig. 3.36). Furthermore, Mars himself, as it is commonly known, was considered the God of War. It is therefore quite clear that the author of the Apocalypse selected Perseus with the Sword due to its perfect correspondence with the eschatological scenario.

One begins to understand why Mars is referred to in the Greek text of the Apocalypse as interpreted by N. A. Morozov as having “gone beyond, to the other side”, qv above and in [542]. Fig. 3.32 demonstrates clearly that on the 1 October 1486 Mars had really been in visible opposition to the other planets which were all grouped in Scorpio. A terrestrial observer would see Jupiter, Saturn, the moon, Mercury and the sun near one side of the celestial dome, and Mars drawn to its other side, qv on fig. 3.32.

Why did Morozov reject the solutions of 1249 and 1486 A.D.? Morozov’s answer is simple and sincere. He frankly explained: “Hardly anyone would dare to say in this respect that the Apocalypse could have been written on 14 September 1249” ([544], Volume 1, page 53). He did not even consider 1486 as a possible solution.

However, nowadays, more than seventy years after N. A. Morozov, and relying on new results obtained from our books on the new chronology, among other things, one can confidently claim the Apocalypse to have been written precisely in 1486, that is, during epoch of the Ottoman=Ataman conquest. See CHRON6 for more details.

Why is 1486 the most congruous dating for the writing of the Apocalypse in our reconstruction? As it is well known, the Apocalypse is primarily concerned with all matters related to Doomsday. “The Apocalypse and its visions (apart from the first three chapters)... is an image of the final hour of the World... or the Eschaton, and it must serve as a manual for the Revelations” ([845], Book 3, Volume 11, page 511). But that year, when the entire mediaeval Christian world anticipated Doomsday in terror, is well known to history. This is 1492 A.D., which was year 7000 from Adam of the Byzantine era. According

to the tradition of the epoch, Doomsday was supposed to fall on this year precisely.

The Apocalypse is thus concerned with the advent of the Judgement Day, expected in 1492 A.D. The first lines of the Apocalypse state explicitly: “Because the time is near” (AP 1:3). That should mean the proximity of the year 1492 A.D., or the year 7000 since Adam. Note that it was in 1492, that Columbus set out to sea, in the age of Doomsday expectations.

Therefore, our independent astronomical dating of the Apocalypse to 1486 A.D. – that is, 6994 years from Adam – corresponds ideally with the content of the book. The Apocalypse was written only six years before the expected End of the World in the fifteenth century.

Dating the Apocalypse to the end of the fifteenth century also corresponds ideally with our formal mathematical result as discussed in CHRON1, Chapter 5:9.3. The result lies in the fact that chronologically the Apocalypse must not be considered the last book of the Bible canon, but, rather, one of the first books of the Old Testament. That is, the Apocalypse chronologically occurs simultaneously with the Pentateuch of Moses and not with the Gospels. Let us recall that the contemporary Bible begins precisely with the Pentateuch of Moses.

In other words, the Apocalypse is chronologically incorrectly placed in the Bible next to the Gospels. It was written much later than the Gospels. The Gospels, according to our reconstruction, describe the events of XI century. See more details below.

18. OUR RECONSTRUCTION OF THE INITIAL CONTENT OF THE APOCALYPSE

The Apocalypse predicts Judgement Day masking the prediction with astronomical symbolism. However, it is possible that this symbolism was obscured in the subsequent editions of the XVI-XVII centuries. An astronomical horoscope is encrypted in the Apocalypse, and provides for the possibility of dating it. The date of the horoscope is 1 October 1486, which ideally corresponds to the expected mediaeval date of the Judgement Day in 1492, which is explained well by our reconstruction.

The Apocalypse was most likely written at the end

of the fifteenth century A.D., several years before what the entire mediaeval Christian world perceived as the impending Judgement Day in the year 7.000 since Adam, or 1492 A.D. Deep fear of this event is vividly reflected in the Apocalypse.

The consensual opinion that the Apocalypse was written by the Apostle John, the author of the fourth Gospel, is apparently incorrect, because the Gospels were most likely written in the XI-XII century, that is, earlier than the XV century. On the contrary, the assertion of many old church writers that the Apostle John, and Johann, the author of the Apocalypse, are different persons, is confirmed by our independent astronomical dating of the Book of Revelation. Thus, the Gospels and the Apocalypse were written in significantly different epochs.

We have already pointed out that the epoch of the Apocalypse apparently coincides with the epoch of the Pentateuch. As we demonstrate in CHRON6, this is the time of the Ottoman=Ataman conquest of the XV century A.D., that is, the “Biblical Exodus” under the leadership of Moses and Aaron – Leo-Lion. The Apocalypse is correct in referring to him as “he who overcomes”. The constellation of Leo, “is adorned with the morning star,” or Venus. The identification of “he who overcomes” mentioned in the Apocalypse with Leo – Aaron or Moses – is also proved by the following verse: “To him who overcomes, I will give some of the hidden manna. I will also give him a white stone with a new name written on it, known only to him who receives it” (Ap.2:17). Let us recall that manna is described in the Biblical book of Exodus, which, as we will show in CHRON6, tells of the Ottoman = Ataman conquest of the XV century. But in the white stone – with the “new name” traced on it – we can easily recognize the stone tablets of Moses on which the new law, or Deuteronomy, was written.

After having astronomically dated the Apocalypse to the end of the XV century, it is interesting to evaluate the mediaeval illustrations to this Biblical text from an entirely new point of view. A mediaeval XVI century picture of the Apocalypse can be seen on fig. 3.41 ([745], Volume 8, page 442). We see a rider who is shooting a musket (figure 3.42). The lock of the musket is quite visible. The rider pulls the trigger, and the barrel disgorges fire. The powder horn can be seen attached to the barrel. The word “Death”



Fig. 3.41. A mediaeval illustration from the Biblical Apocalypse. XVI century. The Lenin State Library, folio 98, no. 1844, sheet 24. One sees a rider firing a musket and the fire of a shot coming from the barrel. Taken from [745], Volume 8, page 442.



Fig. 3.42. Fragment of an illustration from the Biblical Apocalypse. Death is riding a horse and firing a musket. Taken from [745], Volume 8, page 442.

is written above the rider. We see that mediaeval artists reflected the realities of the epoch when the Apocalypse was written in their illustrations. It is well known that firearms, muskets, and guns were already widely used on the XV century battlefields. For example, in the Constantinople siege of 1453, the Ottomans used heavy artillery ([240]).

Another XVI century illustration from the Apocalypse ([745], Volume 8, page 451 and fig. 3.43) shows the destruction made by an angel “blowing into the pipe” from which a fountain of flame escapes. This very probably depicts a mediaeval gun, shooting with either cannonballs or case-shot. The mediaeval artist depicted the flame of a large explosion where the ball landed. Apparently, in the Middle Ages guns were sometimes referred to and depicted as pipes belching fire and smoke. This tradition of depicting guns on the illustrations to the Apocalypse survived until as re-

cently as the XVIII century. Figure 3.44 provides an illustration from the *Commented Apocalypse* of 1799 ([745], Volume 9, page 485). On the whole, the subject is the same as that of the XVI century illustration – an angel “blowing into a pipe” disgorging fire. We also see the flames rising from the explosion of the missile at a distance. A gunshot is even better visible in the mediaeval illustration to the Apocalypse which one sees on fig. 3.45 (see [745], Volume 9, page 486). Above we can see the “pipe,” into which the angel blows. The flame escapes the pipe, and we see a far-away explosion of the projectile hitting the ground.

From the XV century and on, guns invoked terror in Europe. The appearance of such terrifying images on the illustrations to the recently written Apocalypse was therefore completely natural. All of this, albeit indirectly, confirms our astronomical dating of the Apocalypse to the end of the fifteenth century.



Fig. 3.43. A mediaeval illustration from the Biblical Apocalypse. XVI century. The Lenin State Library, folio 98, no. 1844, sheet 33. The angel is “blowing a horn” which disgorges a bright fiery flare. Probably a representation of a mediaeval cannon in action. Taken from [745], Volume 8, page 451.



Fig. 3.44. A mediaeval illustration from the Biblical *Commented Apocalypse*, 1799. The State Library of Russia, folio 247, no. 802, sheet 61, reverse. We see the subject that we're already familiar with: a horn-shaped cannon firing a shot. One also sees the explosion of the cannonball. Taken from [745], Volume 9, page 485.



Fig. 3.45. A mediaeval illustration from the Biblical *Commented Apocalypse*, 1799. The State Library of Russia, folio 247, no. 802, sheet 61, reverse. The same subject. Gunfire, the “grenade” falling and exploding. Taken from [745], Volume 9, page 486.