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The Scythian Dionysius Exiguus and His Invention of Anno Domini

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Abstract

Almost the whole world uses the style of counting the years - currently 2016 - that was invented by the Scythian monk Dionysius Exiguus. He was part of a group of Scythian monks, including Joannes Maxentius, who played an influential role in Christian theological disputes between the 4th and 6th centuries. The name "Scythian" comes from Scythia Minor, the Western Black Sea region around the mouth of the Danube, and Thrace, the classical name of the modern region of Romania and Bulgaria, at the time a Roman province.

Only a few things are known about Dionysius' life or origin. In his youth he may have been influenced by the religions and myths of his birthplace, e.g. Thrace was named after Thrax, a son of Aries. Some astral belief is still evident in astronomical symbols on the tombstones (stecaks) in Bosnia, from the Bogomil people who immigrated from the Black Sea region during eviction by the Byzantine empire.

The Roman statesman Cassiodorus collecting important literature from authors of antiquity and saving it for the medieval period, described Dionysius as his friend and fellow-student.

Dionysius Exiguus is the author of the Collectio Dionysiana, and of numerous canons of many councils and synods. One of his works, which is part of the "Patrologia Latina," is still powerfully influential today. Dionysius invented the Anno Domini count (A.D.) by establishing a new Easter calculation, which he dedicated in 525 to a historically unidentified Bishop Petronius. Dionysius called his Easter table CYCLUS DECEMNOVENNALIS DIONYSII (19-year cycle of Dionysius)

How he arrived at the number of years from the incarnation, which is different than all previous chronologies, is a mystery that is going to be unraveled now. The years also conflict with Gospel reports and King Herod's death, which was at least in 4 BC. Dionysius dated the years from the incarnation of Christ at the former vernal equinox at 25 March. Dennis states that the ending of Cyril's Easter cycle in Diocletian's year 247 is the reason to start a new Easter cycle in the following year (532 AD).

Yet there are several reasons why and how Dionysius designed Anno Domini in this way.
The immediate cause was the looming "calendrical end of the world" due to the arrival of Anno Mundi 6000 in the chronology of Africanus, which dated Christ's birth to AM 5500.

Influencing the invention of A.D. was the ancient cosmological doctrine attributing the origin, beginning, and end of the time to an alignment of all the classical planets, which induced Dionysius to investigate and calculate a future conjunction of all planets and to determine the beginning date for Anno Domini 2000 years before this conjunction. The interpretations of the Gospel and the Revelation of St. John, as well as the early medieval rate of precession, were central to the theme. The planetary massing in May 2000 was the focused date of the end of the world, according to the calculations of Dionysius Exiguus.
This theory is confirmed with many quotations and images.

Key words: Anno Domini, Dionysius Exiguus, Early Christianity, Planetary Alignments, End-of-the-World-Plot, Gospel, Apocalypse, Precession, Great Year.

A huge number of scholars studied the emergence of our current way of counting the years, called Anno Domini (A.D.), or since Christ's birth. They all agree, up until the previous Pope Benedict XVI (Ratzinger 2012), that the years are not in harmony with historical reports and the Gospel accounts (Ferrari D'Occhieppo 1994). A.D. was introduced by Dionysius Exiguus (Dennis the Humble or Little), a Scythian monk, who was born probably in the Bycantine Province Scythia Minor of the Diocese Thrace, now Dobruja. To this proto-Bulgarian's heritage almost the whole globe owes the way of counting the years. Dionysius published in 525 (Krusch 1938) a new Easter cycle called CYCLUS DECEMNOVENNALIS DIONYSII (Schwartz 1905). He gives, however, no information on how he invented A.D. Until now no scholar gave a reasonable explanation for how this chronological discrepancy aroused.

This article explains methodologically how and why Dionysius established A.D. using interdisciplinary application of astronomy, mythology, cosmological doctrines of antiquity, and interpretation of religion.

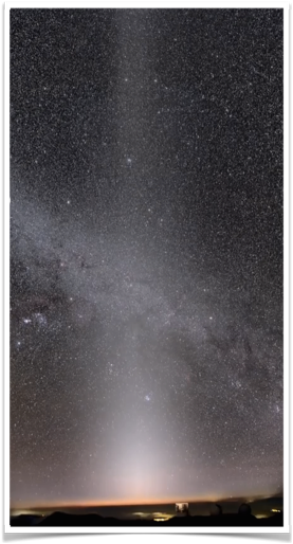
LIFE OF DIONYSIUS EXIGUUS

We do not know much of Dionysius Exiguus. He probably was born in Scythia minor, the Eastern Black Sea region, an area roughly corresponding to today's Dobruja, with a part in Romania, a part in Bulgaria or Thrace. He was educated in the Monastery Mabbug, near Hierapolis and studied later in Constantinople. (Peitz 1960)

Figure 1: Major towns and colonies in Scythia Minor. Shoreline ca. 1 CE[1]

During his youth Dionysius may be in contact with pre-Christian cults of his homeland Thrace. In Mithraism, Orphic Mysteries, Dionysian cults and the mysteries of Eleusis astronomical phenomena play a major role: In this different belief systems of the afterworld at special moments of the year the doors of heaven stood open and the souls of the dead could travel from one planet to the other along a beam of light - the zodiacal light - like on a ladder into heaven, where they arrived at the white band of Milky Way, the path of the souls (Beke Latura 2012, 2014).

Figure 2: The zodiacal light intersecting Milky Way



[1] https://en.wikipedia.org/wiki/Scythia_Minor#/media/File:Scythia_Minor_map-en.svg

After the death of Pope Gelasius I. in 496, he came to Rome, where he stayed in the abbey St. Anastasia at the Palatine. The monks of this abbey were the leaders of the Papal office at that time, and thus Dionysius had access to all documents of the papal archive. The abbey of St. Anastasia, whose abbot was also the chief of the Papal office, became the first and most prominent of all Roman monasteries and enjoyed great popularity, being also the provenance of the "Liber Pontificalis", the "Liber Diurnus Romanorum Pontificum", the "Donatio Constantini", a forged imperial decree, and the Symmachean forgeries.

As canonicus, Dennis the Little collected, arranged, and translated from Greek into Latin synods of Rome, Greece, Africa, Spain, and Gallica, as well as letters of numerous popes. There exist two editions of canons of the Synods of Nicaea, Ancyra, Neocaesarea, Gangra, Antiochia, Laodicea, Constantinople, Chalcedon, Sardika, and Carthago, called "Collectio Dionysiana". From Cassidorus' "Institutiones" we know that he was his friend and most learned in Greek and Latin. Flavius Magnus Aurelius Cassiodorus was a Roman statesman and writer, serving in the administration of Theoderic the Great, king of the Ostrogoths, whose faith was Arianism (O'Donnel 1979) In his retirement, Cassiodorus founded two monasteries on his family estates, the Vivarium and Mons Castellius, near Squillace on the shores of the Ionian Sea. (Hodgkin 2008)

Figure 2: The Vivarium monastery with the fishpond. Bamberg, Staatsbibliothek, Ms. Patr. 61, fol. 29v[2]

[2] Public domain according to CC-PD. Author unknown.
https://commons.wikimedia.org/wiki/File:Bamberg.Cassiodor_Vivarium.jpg

The great merit of Cassiodorus, that which shows his deep insight into the needs of his age and entitles him to the eternal gratitude of Europe to save the great treasures of Pagan literature. Here and by Cassiodorus - if not before in Constantinople or during his youth - Dionysius came in contact with the pre-Christian weltanschauung of classical antiquity, which influenced also his composition of A.D.

Some of the pre-Christian astrological heritage with which Dionysius during his youth may have come in contact are still found in Bosnia and Herzegovina. So-called Stecak (as shown in figure 3) are tombstones with astral symbols of Bogomils, a heretic movement based upon Manichean and Zoroastrian ideas, who were related to Paulicians. The Bogumils were banished by the Byzantine Empire and emigrated from the Black Sea region the former homeland of Dionysius Exiguus. The recently found treasure of Preslav with the number seven prominent in its design shows as well allusion to the seven planets of antiquity. (Hadzibegovic 2010)

Figure 3: Stecaks of Bosnia and Herzegovina, Tombstone of Bogumils.[3]

[3] Zalkida Hadzibegovic, Astronomical Heritage in Bosnia and Herzegovina: Late Medieval Tombstones and Astral Motifs as Their Decoration http://seac-2010.vhs-gilching.org/plaintext/conferences/programme/index.html

Figure 4: Treasure of Preslav, Bulgaria 8tth cent. Rosette of bronze, with seven astral runes (left), golden necklet with seven enameled lokets (right)

DOCTRINES, EVENTS AND OTHER INFLUENCES

There existed several issues that influenced Dionysius' invention of A.D.:

Controversy over a correct date for Easter

The pretext for a new yearly count

The arrival of Anno Mundi 6000

The doctrine of the Great Year

Astrological and planetary allegories in the Gospels

End-time prediction of the Revelation of St. John

The change of the constellations of the equinoxes and their rate of precession

CONTROVERSY OVER OF A CORRECT DATE FOR EASTER

Among the bishops of Constantinople, Alexandria, Rome and leaders of several other Christian cults, such as Quartodecimans or Arians, there existed over the many centuries a severe controversy over the date of Easter (Geerlings 1999), because of the different doctrines of lunisolar cycles, calendrical systems, and different interpretations of the Gospels. (Mosshammer 2009). The Romans used 84-year tables to date Easter on a Sunday, the Quartodecimans celebrated it on 14th Nisan.

The new Easter Computus of Dionysius was one of many attempts to solve this problem. Dionysius choose the Alexandrian (Metonic) style, where the Sun's and Moon's positions repeat after 19 years of 356 days. The leap day every 4 years extends this cycle to 76 years. The use of the seven-day week 7 results in a period of 532 years, wherein Easter would periodically repeat on the same date of the Julian calendar (Bär 2011)

THE PRETEXT FOR A NEW YEARLY COUNT

Dionysius used an Easter-table of St. Cyril, which counted the years since Diocletian. He wanted to continue this table for another 95 consecutive years, but used a different yearly count: Dionysius identified the year following the 247th year of Diocletian with the year 532 A.D. As a pretext Dionysius explained that his reason to introduce his new annual cycle was to avoid counting the years after Diocletian:

...Because the blessed Cyril began his first cycle in the 153rd year of Diocletian and ended his last cycle in the 247th year of Diocletian, we have to start in the 248th year of this man, who was a tyrant rather than emperor. However, we did not want to preserve the memory of an impious persecutor of Christians in our cycles, but chose rather to mark the times with the years from the incarnation of our Lord Jesus Christ, so that the commencement of our hope will appear more familiar to us and the origin of the redemption of mankind, that is the Passion of our Redeemer, will shine in a more glorious way. (Declercq 2000).

The reasons for choosing to number the years contain severe inconsistencies, because the A.D.-years count from the incarnation and not from the crucification, what should "shine in a more glorious way". Yet Dionysius points to the redemption, that is promised to occur at the redeemer's return at the end of time (Rothwangl 2004).

THE ARRIVAL OF ANNO MUNDI 6000

Yet, another reason at that time caused the invention of A.D.: The calendrical end-time, because of the imminent arrival of the cosmic year 6000 in the first Christian chronology, called Anno Mundi (AM).

The concept of Anno Mundi (AM) was an invention in second century by Julius Sextus Africanus, based on the six-day-creation and the idea that one day of God equals 1000 years of mankind (Wallraff 2006). Thus the world would last 6000 years. AM corresponds further to a quotation in the New Testament stating that Christ appears in the last hour.

[I John 2:18]: *Children, it is the last hour; and as you have heard that antichrist is coming, so now many antichrists have come; therefore we know that it is the last hour.*

Consequently, in the AM count, the date of Christ's birth was adjusted in the middle of the sixth millennium to the year AM 5500, because it corresponded with the 11th hour of the available 12 hours of the day.

(6000 : 12 * 11 = 5500).

Even the dimensions of the Ark of the Covenant was used as an analogy for the 5,500 years [Exodus 25:10]. It tells that the Ark was 2 1/2 cubits long, 1 1/2 cubits wide, and 1 1/2 cubits high. Irion (Hieron) of the court of Constantinople and Hippolytus both interpreted these dimensions, amounting to 5 1/2 cubits, as symbolic of 5,500 years.

The AM method profoundly influenced early Byzantine and Roman Christian chronology, as shown in the chronicles of Hippolytus in Rome, Sulpicius Severus, Panodoros, and others. Out of this concept arose the Alexandrian method of Annianos, who lived in the year that the patriarch Theophilus died (412 CE).

The Anno Mundi chronological systems became very popular in the first Christian centuries, but created a huge problem: End-of-the-world fever, caused by a looming Seventh Day that equated with the end of the 6000-year period and corresponded to a date some 500 years after Christ's purported birth.

At the turn of the fourth to fifth centuries, i.e. precisely the moment when the barbarian invasions may have stirred up apocalyptic anxieties, the North African bishop Julius Hilarianus, for instance, wrote a treatise ‘On the Duration of the World,’ in which he calculates 5530 years from creation to the Passion of Christ, and 369 years from that event until the consulate of Caesarius and Atticus (AD 397); there remain, so he concludes, 101 years to go before the Resurrection of the dead (Declercq 2000).

This world’s expiration date as predicted by the AM system was preached by a number of bishops. A century later, this surely caused problems of credibility when the prophesied end was imminent! What to do? A new Bible-connected chronology was needed in order to head off hysterical civil and religious disturbance.

There were three strategies available to combat the fear caused by this time concept and avert Chiliasm, Millenarianism, and eschatological fever:

First: Shift the era of creation to the past in order to show that the dreaded year AM 6000 had long passed, as the chronicler John Malalas did by identifying the year 6000 with the passion of Christ. This had the consequence that the Seventh Day had already begun, which surely was inconvenient for Church authorities, since it erased the motivating and punitive effect of the Last Judgment on believers.

Second: Rejuvenate the age of the world and delay the year AM 6000 into the future, which was the method of the fourth century chronicler Eusebius. Influenced by Jerome, Eusebius delayed the birth date of Christ by three centuries to AM 5199. According to this popular world-year-count, the year 6000 would occur around 800 CE again, which was the reason for the Venerable Bede in the ninth century CE to favor Anno Domini (Wallis 1999).

Third: Start a new counting of the years from another fictitious point in time: Christ's incarnation. Dionysius Exiguus made the most popular attempt at this when he created a new temporal hinge point for counting the years: Anni ab incarnatione Domini Iesu Christi (The years since the incarnation of Jesus Christ).

Yet, influenced by current perceptions Dionysius in fact postponed the return of Christ again into the far future.

THE DOCTRINE OF THE GREAT YEAR

The doctrine of the Great Year (GY) (Staehlin 1960) is based upon the idea of the return of everything to the original state (Waerden 1952). Accoding to this idea, the planets generate time, and as the planets repeat their movement, then time and all events would repeat (Calatay 1996).

Eudemos, Aristotle's disciple at the Lykaion at Athens, illustrates this idea vividly:

There is a common multiple of all orbital times, the large year; at its expiration all planets are again in the same place. If one believes the Pythagoreans, then I will return also in the future, as everything after its number returns, and I will tell you here again fairy tales, holding this stick in my hand, while you will sit likewise before me. Likewise everything else will repeat itself.

Heraclitus Stoicus equates the Olympic Symposium of Gods after the creation of mankind by the Titan Prometheus to a conjunction of the seven naked-eye planets:

Some people want the conjunction of the seven planets in one zodiacal sign to be referred to by these words of Homer, and also the universal destruction, whenever this should happen. He (Homer) alludes to the confusion of the universe when he brings together Apollo, i.e., the Sun and Artemis, whom we identify with the Moon, as well as the stars of Aphrodite, Ares, Hermes and Zeus. (Heraclitus Stoicus, Quaestiones homericae, 53)

According to Seneca the astrologer Berossos (of 3rd cent. BC) describes such an end time situation very impressively placing all planets in a straight line:

Berossos, who interpreted the prophecies of Bel, attributed... the end of the world and its aftermath to the movements of the planets. He maintains that the Earth will burn whenever all the planets, which have different orbits, converge... and are so arranged in the same path that a straight line can pass through all their orbs and there will be a further great flood, when the planets so converge in Capricorn. (Seneca, Naturales Questiones 3.29.1) (Verbrugghe and Wickersham 2001)

We find an almost perfect pictorial representation of Berossos' idea of the planets aligned in a straight line (Schnabel 1968) on coins of Roman emperor Constantine showing a planetary alignment on a military standard.

Figure 5: Roman Coin of Contanine with standard. **Figure 6 :** Geocetric system

These iconographies symbolize the heavenly power of the GY-doctrine, wich gave priests, kings, and rulers to their followers the impression to be in harmony with the cosmos since the beginning until the end.

The huge list of authors of the GY-doctrine shows its circulation until 6th century:

5th century BC: Pythagoras, Heraclitus Stoicus

4th century BC: Plato, Aristotle

3rd century BC: Berossos, Eudemos

2nd century BC: Posidonios, Alexander Polyhistor, Juba

1st century BC: Cicero, Diodourus Alexandrinus, Ps.Epikurus Lucretius, Vetusta Placita, Varro, Dydimus, Hyginus, Vitruvius, Eudoros Diodorus Siculus

1st century CE: Papirius, Fabianus, Polyhistor interpolatus, Seneca, Plinius, Josephus, Pamphilius

2nd centrury CE: Aetios, Ps. Plutarchos, Theophilos Tatianos, Diogenaios, Ailianos Nikomachos

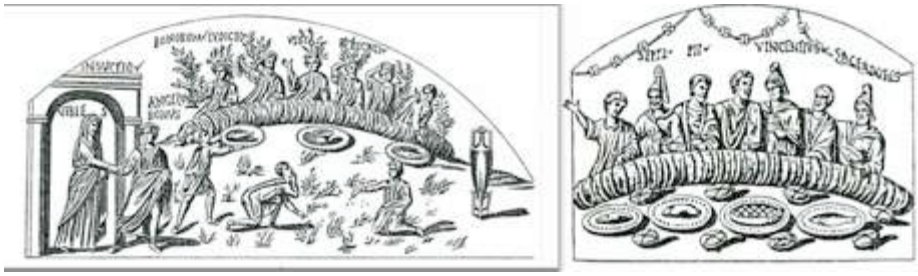
3rd centrury CE: Kleomedes, Macrobius, Censorinus, Abydenos, Hippolytos, Africanus, Clemens Alexandrinus, Athenios, Origen

4th centrury CE: Anonym. Aratum isagoga, Eusebios, Augustinus, Hesychios

5th centrury CE: Stobaios, Isodoros, Kyrillos, Panodoros, Helladios, Nemesius
6th centrury CE: Palchos, Versio latina barbara, Scholastica Germanici, Verso Armeniaca, Synkellos, Agathias, Photios, Philoponus

We find iconographic ideas of the heavenly symposium as an allusion to the beyond in pre-Christian funeral scenes, such as the sepulcher of Vincentius in Rome (Nilsson 1988).

Figure 7: Wall painting of funeral of Vicentius in catacomb, Rome. Vincentius during introduction (left), and as one of the seven sacerdotes in the beyond (right).



In many variations we find the same idea e.g. in the seven Sages, the seven Rishis during the deluge in India, and the seven Sleepers of Ephesus, which is found also in the Qur'an as Al Kahf, the legend of the cave (Surah 18, verse 9-26). The Christian legend of the seven Sleepers tells that in year 251 Emperor Decius martyred seven Christians by walling them inside a cave. After 200 (or 372) years they resurrected.

From Nemesius, a Christian writer of about 400 CE, we have a witness that the alignment of the seven planets was imagined at the resurrection of Christ at the end of the world:

According to the Stoics the conflagration and the destruction of all beings is generated, after stated periods of time, by the planets, when they come back,... Then, from the start the world is restored anew. ... There will be again Socrates and Plato and every man, with their friend and fellow-citizen. ... Christians imagine the Resurrection by way of this restoration,... Christ's words instruct that the Resurrection will take place once and not periodically.

For this quote by Nemesius we find confirmation in several graffiti in early Christian catacombs of Rome, which is usually called the Meal of the Seven (Pillinger 2011) echoing the Olympic symposium of Gods (the alignment of the seven planets) at the beginning of mankind, but also portraying such a situation in the afterlife.

Figure 8: Early Christian funeral graffiti in the Catacombs of Callixtus Rome. The Meal of the Seven, a Christian imagination of the afterworld.[4]

An echo of the GY-idea is found in Grimm's fairy tale of the Seven from Swabia, who chase with one spear a monster in the shape of a hare. Their names point us to the days of the week and thus to the planets. Another example is the fairy tale "Courageous Tailor" also called "Seven with One Stroke," who finally conquers a giant.

Another powerful Greek legend evidently vivid in Dionysius' former homeland which shows an allusion to the seven planets is "Seven Against Thebes" a play in an Oedipus-themed trilogy produced by Aeschylus. It remembers the battle of Oedipus sons on the "seven-gated Thebes". A golden rhyton of the treasure excavated in 1949 Panagyurishte, Bulgaria, shows skilfully decorated scenes of this legend.

[4] Public domain http://commons.wikimedia.org/wiki/File:Agape_feast_05.jpg

Figure 9: Golden rhyton of the Treasue of Panagyurishte, showing scenes of the legend "seven against Thebes[5]

ASTROLOGICAL AND PLANETARY ALLEGORIES IN THE GOSPEL

Like an allegory the Gospel of John 21:1-4 tells that Jesus came back after his crucifixion and appeared to seven (!) of his disciples. These had taken up their former occupation as fishermen at Lake Tiberias, but with little success, because they had caught nothing in their nets. Jesus stood on the shore and told them to throw the net on the other side of the boat, after which they caught 153 fish. After eating some fish, Jesus gave Peter three times the missionary order: *feed my lambs and pasture my sheep*.

[5] https://en.wikipedia.org/wiki/Panagyurishte_Treasure#/media/File:Sofia_-_Panagyurishte_Thracian_Gold_Treasure_(Amphora).jpg

Figure 10: Seven disciples of Jesus fishing, Duccio di Buoninsegna.[6]

A similar story is told by Luke 5:1-10 about the event at Lake Gennesaret, where seven (!) of Jesus' disciples had caught nothing all night. Jesus gave the advice to put the net into deep water and they caught such a large number of fish that their nets began to break. Then Jesus says: *From now on you will fish for men*.

As an astrological allusion these words indicate the shift from the age of Aries to the new age of Pisces.

The comparison of this parable with the Hindu myth of the deluge with Manu and the seven Rishis, which as well represent the seven planets, makes evident the mythic shift of an age, if seven of such characters converge.

[6] http://images.zeno.org/Kunstwerke/I/big/1390036a.jpg

Figure 11: Manu and the seven Rishis at the deluge[7]

We find in the Gospels another pictorial description of an alignment of all planets in the end-time in the parable of Matthew's marriage scene, where five wise and five foolish virgins with lamps wait for the bridegroom. The marriage is a classic ancient metaphor for an alignment of sun and moon, at new moon, or in particular even observable during a solar eclipse, when the other five planets can be aligned and be visible and shine like the lamps of the wise virgins, making evident an close massing of all planets, or are not shining (like the foolish virgins with unlighted lamps).

No one knows either the day or the hour wherein the Son of Man cometh... At that time the kingdom of heaven will be like ten virgins who took their lamps and went out to meet the bridegroom. Five of them were foolish and five were wise. The foolish ones took their lamps but did not take any oil with them. [Mt 25:1-13]

We can conclude that the GY-doctrine is based upon the ancient assumption, what as well as the Bible and Plato told, i.e., that the movements of the Sun, of the Moon and of the planets are responsible for the existence and the calculation of the time. Due to their cyclical periods, the cosmological idea of the cyclical quality of time and its theory of the eternal return (in Greek: apokatastasis pantoon) was born.

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[7] http://commons.wikimedia.org/wiki/File:The_fish_avatara_of_V ishnu_saves_Manu_during_the_great_deluge.jpg

END-TIME PREDICTION OF THE REVELATION

Franz Boll says about the astrological and astro-logical context of the Apocalypse of John of Patmos that the text tells of the starry sky and must have extraordinary meaning at the cusp of a new aeon or age (Boll 1914). Revelation invoking the seven cities equates clearly the seven stars with the lamps or deities of the seven cities.

[Rev 1:11]: *Write what you see in a book and send it to the seven churches, to Ephesus and to Smyrna and to Pergamon and to Thyatira and to Sardis and to Philadel- phia and to Laodicea.*

[Rev 1:20]: *As for the mystery of the seven stars which you saw in my right hand, and the seven golden lamp stands, the seven stars are the angels of the seven churches and the seven lamp stands are the seven churches."*

The angels of the seven addressed cities are easy to identify as the deities or gods of the seven planets (i.e., golden lamps) such as in Ephesus, which once was the main sanctuary of Artemis, goddess of the moon; Pergamon with its famous altar of Zeus relates to planet Jupiter and so on. The introductory invocation to the seven cities of the Apocalypse is a hint to the doctrine of the Great Year and to an alignment of all planets at the end of time.

Figure 12: The seven churches invoked by the Apocalypse of John of Patmos

Yet the Revelation gives us also another hint how to calculate this event:

[Rev 13:18]: *This calls for wisdom: let him who has understanding reckon the number of the beast, for it is the number of a human, its number is six hundred and sixty-six.*

The follwing chapter will present the solution how to interpret the ominous number as rate precession for each decan, sizing 10° of the whole zodiac.

THE SHIFT OF THE EQUINOCTIAL CONSTELLATIONS AND THEIR RATE OF PRECESSION

Earth's axis describes, due to a gyroscopic movement, a double cone in the shape of an hourglass, pointing with its center to the poles of the ecliptic. During about 26,000 years the axis of the Earth describes a circle among the stars, centered on the Northern and Southern ecliptic poles.

The wobble of Earth's axis has the effect that the eqinoxes and solstices shift slowly against constellations with the result that before a decisive moment of the year, i.e., at the dawn of the day of vernal equinox during about two millennia one constellation after the next announces New Year's Day in spring. The new year of many ancient cultures start with the vernal equinox, such as the Persian calendar, which begins with Nauroz (meaning new day) but also the beginning of Dionysius' Anno Domini, is 25th of March, the former feast of Christ's incarnation (now Annunciation) at day of former vernal equinox. Also the Latin names of the months, September, October, November, and December make sense only if you start with March, the month of the vernal equinox.

Due to the gyroscopic wobble of the Earth about every 1500 or 2500 years, depending on the size of the constellations, each succeeding constellation not only announces the New Year's Day on the equinox, but identifies also the temporal orientation and icon of the age. The change of these so-called heliacal rising constellations of the first spring day seemingly was noted by a change in worship handed down in myths and idols (Dechend and Santillana 1977).

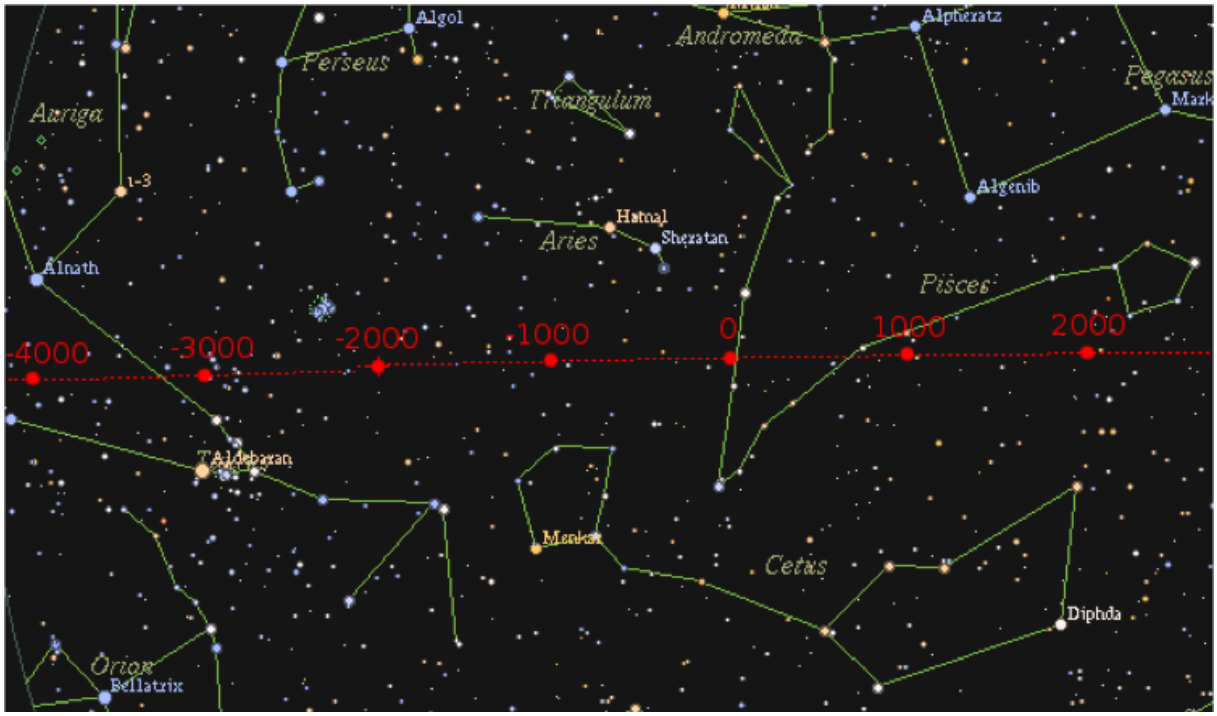
Some 5,500 year ago, when Taurus (bull) was at the heliacal rising constellation, we find bull symbolism in different myths and cults of Europe (the myth of king Minos), Middle East (Baal of Mesopotamia and Golden Calf of Bible), and Egypt (Apis bull).

Some 3,500 years ago the vernal equinox constellation Aries (ram) announced the age of Aries and is reflected the myth of the Argonauts, searching for the Golden Fleece, the wool of a winged ram. Thus Moses appears with horns of a ram, condemning the former bull worship, belittled as the Golden Calf.

Other expressions of this change were the ram-like Amun in Egypt and the Mithrean religion with Mithras slaughtering the celestial bull (Beck 2006) and the myth of Theseus killing the Minotaur, a perversion of the Minoan bull (Strohm 2008).

Some 2000 years ago, fish symbols represented the current equinox constellation Pisces (fish), embodied in the first Christian symbols. An acronym for Jesus was the Latinized Greek word for fish: ICHTHYS. Another Christian symbol is the sacrificed lamb, which looks like a parallel to the slaughtered bull after the age of Taurus.

Figure 13: The point of vernal equinox, as it moves over millennia from one zodiacal constellation to the next



If we look now before dawn of vernal equinox to the Eastern horizon of the sky, we can observe with the next helical vernal equinox constellation the beginning of a new age of precession: Aquarius (waterbearer).

One of the first to calculate how fast the constellations shift against the equinoxes and solstices was Hipparchos, of whom Ptolemy reported:

On the variability of the solstices and equinoxes Hipparchos compared lunar eclipses of his time with such in former times of Timocharis [approx. 150 years before] and came to the result that the star Spica was 8° apart from the signs of autumn equinox, but at Timocharis' time almost 6° distant (Ptolemäus 1963).

This report as well as calculations of Ptolemy himself, show both could have known better of an approximate rate of 75y/1° but instead used and handed down a rate of 100y/1°, giving 3000y each 30°, which was used in the Western civilization until the time before Kepler.

Because the correct rate is about 71.6y/1° (2148y/30°) soon mediaeval astronomers of the Middle East (Hartner 1979) realized that Ptolemy's rate was wrong and used a faster rate estimating only 2000y for 30° which equals 66y/1°. Some of them are:

Early Indian Brahmin rate (Bennedik 2007)

Theon of Alexandria (4th Cent.) a changing rate (trepidation) of 66 y/1

Tables of the Shah (Zij-i Shah, 6th Cent.) (Burckhardt and Waerden 1969)

Al-Khwarizmi, al zij Sindhind (9th Cent.)

Tabulae probatae or az-Zig al-mumtan (9th Cent.)

Al-Battani, called Albategnius, al-Zij (ca. 880)

al-Sufi, also called Azophi (ca. 965)

Al Biruni (973-1048), al Canon al Masud

Arabian fixed star cataloque of 1st Oct. 1112 CE

Libros del Saber of Alfons of Kastilla (1252- 1284)

Judah ben Verga of Lissabon (ca. 1470) (Goldstein 2001)

Apart of mythic handed down values of precession with the rate 666 y/10° one of the earliest such value we find in India. The French astronomer Guillaume Joseph Hyacinthe Jean-Baptiste LE GENTIL de la Galaisiere was in India to observe the Venus transits of 1761 and 1769 (de La Galaisière 1789).

From this journey, he produced a report with material about the ancient trading connection and scientific exchanges that occurred between Arabia and India. Le Gentil gives an account of precession and the Indian calculation of the age of the world, claiming that he had discussed the matter with an Indian Brahmin, who kept his knowledge secret from the common people. The Brahmin said that Indian astronomy was improved and renewed under the king Salivaganam 1691 years ago (calculated from the year 1769 CE, this would be 78 CE). The Brahmins use a period of 60 years and its multiple for chronology, and the stars precede in the following way:

Each year 54 arcsec.

In 60 years 54 min.

In 3600 (60*60) years 54 degree.

Any step between this periods differs by a factor 60, and the rate of precession conform to 66 y/1°, 666 y/10°, 2000 y/30°, or 24,000 years for the precession's cycle as a whole. The Brahmins use 4,320,000 years as a value for the duration of the world and divide it into four ages. The current Indian age, the Kali Yuga would last 432,000 years. In sexagesimal system (base 60) it results in 2*60*60*60, thus written in this sexagesimal system it gives 2.0.0.0. For an ignorant, who misinterprets this number system as decimal, it could easily result in 2000 years, as already van der Waerden indicates. Another assertion of the Brahmin was that in 1762 CE, 4863 years of the fourth age, the Kali Yuga (Calyougan) had passed. By this calculation, the Kali Yuga started in -3101 (3102 BCE), the year Aryabhata of Kusumpara reports and as Berossos asserts as being the date of the deluge. This strongly suggests the ancient transfer of astronomical and chronological knowledge between Inda and Greece. The Brahmin asserts also that 20,400 years before the beginning of the Kali Yuga, a conjunction of all the planets had occurred. This is very interesting because 20,400 = 24,000 – 3,600! As shown above, 3600 years also represents exactly the precessional shift (by the Brahmin value) of 54°. 24,000 / 3,600 gives the same relation as a result, namely 20/3, as the ominous number 666. The adjustment of the Indian Yuga system is thus based upon both the Great Year doctrine with the return of the alignment of all planets, and the Brahmin constant of precession 666 y/10°.

Further Indian rate of the shift of the colure we find with Pingree, who reports of Bhaskara (around 600 CE), that he know from earlier times a value of about 1° in 60 years. Pingree supplies Indian sources as Varahamira and Haridatta, which cite the shift of the equinoxes 27° in 1800, what is 1° in 66.6 years or 30° in 2000 years. (Pingree 1972)[8]

Another transfer of knowledge from India to the Mediterranean at the end of antiquity is ascertained by the 9th century patriarch Photius of Constantinople, as well as by Cedrenus in the 11th century: During the reign of Constantine in 4th century, Metrodorus, who created a 532-year-period Easter cycle, visited India to study philosophy with the Brahmins.

In ancient Egypt and medieval calendars and astronomy were known also *decans*. They are 36 groups of stars (small constellations) and divide every of the twelfe zodical signs into three parts of each 10°. Thus they rose consecutively on the horizon throughout each earth rotation. The rising of each *decan* marked the beginning of a new decanal "hour" of the night and because a new decan also appears helically every ten days (that is, every ten days, a new decanic star group reappears in the eastern sky at dawn right before the Sun rises, after a

[8] http://jha.sagepub.com/content/3/1/27.extract

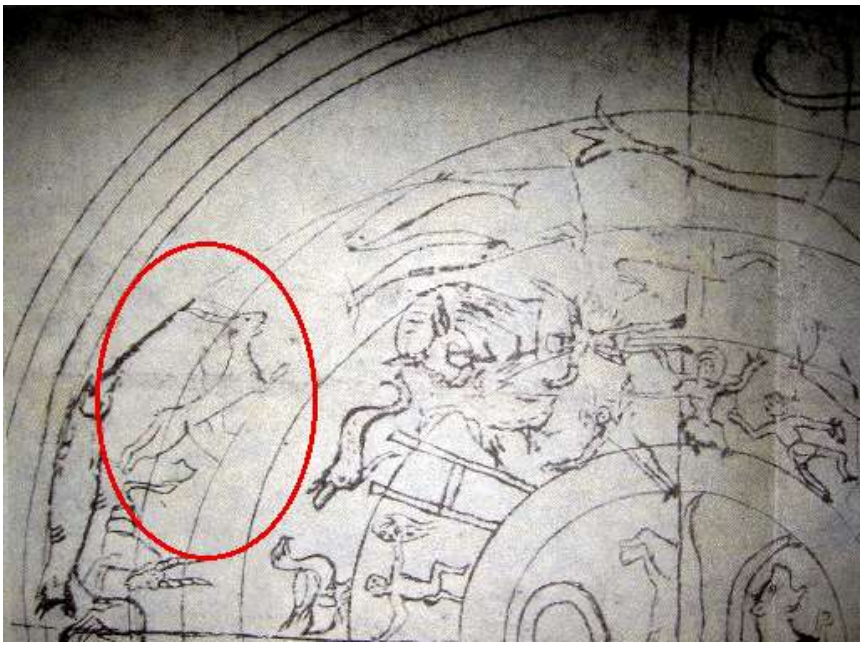
period of being obscured by the Sun's light), the ancient Greeks called them *dekanoi* or "tenths". The Testament of Solomon is a Old Testament pseudepigraphical work ascribed to King Solomon, written in the Greek language, in the early 1st millennium CE. The 36 decans appear there as demons with various names. In the Egyptian and medieval zodiacs the images of the decans are represented as humans.

Because each of the 36 decans encompasses 10° it is easy to identify that the ominous Number of the Beast represents the rate of precession that results in 666 years each decan.

It seems that a medieval star map from about 800 CE expresses the imminent threatening new age with the image of the horned beast of Apocalypse, showing this beast at the position between Pisces and Capricorn, where usually is found Aquarius. (Haffner 1997)

The illustrator of this medieval commentary of Aratos seemed to be influenced by John of Patmos and identifying the future vernal equinox constellation Aquarius with the horned Beast of Revelation.

Figure 14: Illustration of constellations. Commentary of Germanicus on the Phenomena of Aratos. Codex Basiliensis of about 800 CE.

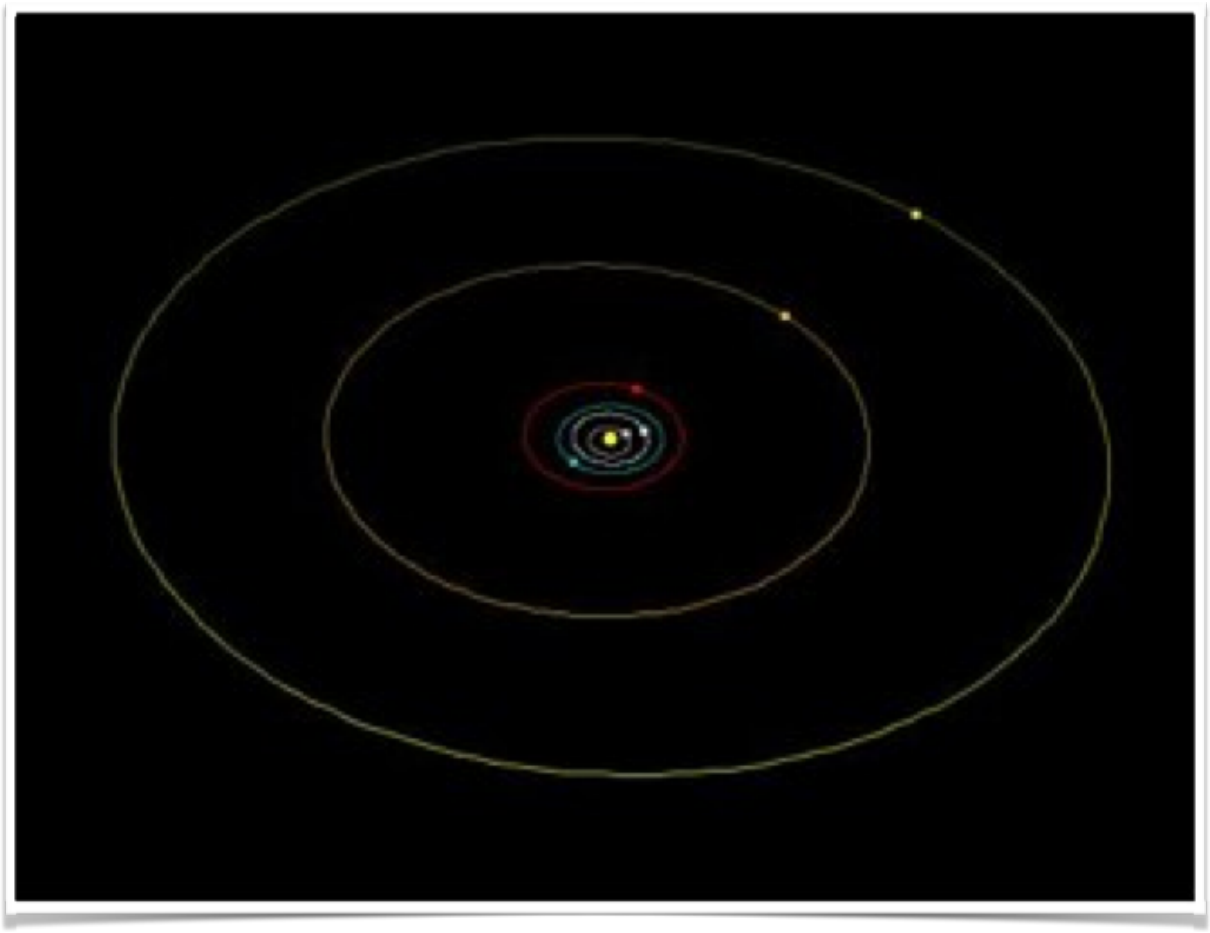


ARGUMENT AND RESULT

Dionysius searched for an alignment of all planets in order to find Christ's second coming, the main topic of early and modern Christian belief. It is a matter of fact that in May 2000 a salient massing of the classical planets occurred:

The position of the classical planets on 5-May-2000
JDN 2451670. Right Ascension: Moon 3h 55m; Sun 2h 51m; Mercury 2h 34m; Venus 2h 14m; Mars 3h 55m; Jupiter 3h 0m; Saturn 3h 11m.

Figure 15: Graphic of the planetary positions on May 5th, 2000



This planetary massing did not occur by chance in year 2000 of all years! The claim of this article is the thesis, that the appearance and temporal coincidence of this planetary event with the calendrical second millennium was calculated and planned. It is not of random origin but based upon the plan of Dionysius, who forecast this alignment with commensurable planetary periods known to him and dated it together with another astronomical phenomenon: precession.

Dionysius searched for an alignment of all planets in order to find Christ's second coming, the main topic of early and current Christian belief. After having found such a planetary massing 1500 years in the future he assumed he had found the date of the Last Day at the end of the age of Pisces. Then, 2000 years before this calculated alignment, he dated the

beginning of his Anno Domini years according the value of precession of 2000 year each 30° at the vernal equinox (the former feast day of incarnation of Christ). He must have sought to be in harmony with the beginning of the Age of Pisces and the first symbol of Christians (ICHTHYS). In addition, he searched for a solution for the calendrical end of the world caused by the occurrence of Anno Mundi 6000 during his lifetime. He postponed by his AD-adjustment this end-of-the-age into the far future: AD 2000.

In the year 2000 of all years a planetary massing took place, within a span of 26°. Such a massing, where all planets are in prograde motion is very rare. p (6000y, 30°) = 0,026

Yet, Dionysius gives us no hint of how he performed his calculation. No doubt he could have done it, just like his contemporary Aryabhata of Kusumpara (Clark 1930), who calculated the start of the Kali Yuga some 3600 years backwards from his lifetime to a conjunction of all planets on 17 February 3102 BC. Interestingly, Abu Mashar dated at the very same year the deluge of Noah (Pingree 1968, Waerden 1980).

Dionysius' reckoning could have been based on the known common multiple planetary periods, shown also in the so-called goal year texts (Hunger 2006), the periods of the inscription of Keskinthos (Jones 2006), or the knowledge that enabled the construction of the Antikythera mechanism.

CONCLUSION

The invention of Anno Domini was based upon an end-time-plan with the correct calculation of a forecast massing of the classical seven planets. Yet the dating of Christ's expected return at the end of the world was calculated with a wrong value of precession. Anno Domini is based upon a now unrealistic cosmological concept, which postulates that the world would end at the planetary alignment of May 2000 with the second coming of Christ.

However, the orientation towards a massing of all planets has worldwide parallels in timekeeping such as in the Kali Yuga or the Deluge in 3102 BCE, or the Zhuanxu dynasty and its calendar in 1953 BC.

An astronomical project in the Austrian Alps has actualized this idea in the Planetary Trail "Heaven upon Earth." Models in the scale of 1:1 billion show in size and distance the massing of the classical planets, but include the modern planets Uranus and Neptune. The next such alignment, will occur exactly at vernal equinox in 659 years (20-03-2675).

Figure 16: Map of the postions of the planets models at Planetary Trail “Heaven upon Earth”, in Rettenegg/Austria

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