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THE PERCEPTION OF TIME

INTRODUCTION

“One of the notable achievements of 12th century scholarship was that that it made use of oral testimony and oral tradition.

Another great undertaking of 12th century historians, perhaps the most difficult, was the mastery of time. After a hundred years of progress, the entire West finally agreed to arrange every year in one continuous sequence from the birth of Christ, and every date, without exception, finally began to be viewed with that same Christmas as its reference point – regardless of doubts or hesitations. Then, after universal agreement in principle had been established with respect to the “Christian Era,” historians had to resolve another complex problem: establishing how many years from the birth of Christ there had been for all the various events the texts reported and how to arrange on one and the same chronological scale facts for which neither written sources nor human memory reported any precise date. Experts on church calendars, virtuosos in the area of chronology, and 12th century monks coped with this problem so successfully that even today it arouses amazement in us.” (Bernard Guenee, *Histoire et culture historique dans l'occident medieval*. Moscow : Yazyki Slavyanskoy Kul'tury [Languages of Slavic Culture], 2002, page 409).

“In half a century of vigorous activity, Benedictine scholars salvaged, considering their capabilities, everything from the past that could be salvaged. It so happened that their successors did not find any incentive for new investigations in this area. They simply continued to talk about their own time. The 12th century historians were above all researchers. The 13th century historians were, first of all, witnesses” (ibid., page 412).

It is possible that much more profound information about mankind's perception of the concept of TIME is hiding beneath these lines by the prominent modern French historian, Bernard Guenee. And information about the essence of chronology as well.

Two completely different matters are understood by the term “chronology.” (1) Chronology as the succession of events in time, and (2) Chronology as the science of the measurement of time. Within this, “historical chronology” is a subordinate historical discipline which studies the methods used to fix the years and the calendars of various peoples and states, and to establish the dates of historic events and historic sources.

A chronology (1) is a retrospective reconstruction. I.e., since the only point from which time can be reckoned (the present) is continually changing, the result is necessarily relative. Such is the nature of historical chronology.

A chronology (2) is a natural-scientific discipline, since it is based on the measurement of oscillating, rotating, recurring natural cycles. From this latter we have astronomical chronology.

TIMES AND TIDES

Observation of the surrounding environment does not provide any absolute "point at which time began." Counting time from the "Big Bang" is just as conventional as, let us say, from "the Creation." But observation of the environment does allow the correlation of events with natural cycles. Such observations are the basis of the numerous calendar variants from long before the appearance of an actual chronology (1).

Which natural cycles have mankind been observing? The shortest – the daily cycle -- the rising and the setting of the sun. But this cycle, from the point of view of an observer on Earth, is uneven: the length of the day varies with the observer's latitude.

Second, the cycle of the tides (connected, as we now know, with the moon, although they didn't know this earlier.) Thus, although *tide*, in English, primarily refers to the ocean level (as in "high tide"), it still survives as a connotation of time in *Yuletide* ("Christmas Time"). In both Swedish and Norwegian, *tid* is "time;" in Dutch, *tij* = "flood" while *tijd* = "time;" "flood" in German is *zeit*, and so on.

The somewhat more prolonged lunar (monthly) cycle is most convenient because it allows the counting of two-week (English *fortnightly*) intervals between the first and third quarters (the "waxing" and "waning") of the moon, and also, with respect to the full moon and new moon, the determination of a weekly cycle, the connection between the daily and monthly cycles.

Still longer is the yearly cycle, subdivided into seasons. This is established only later with the aid of devices which enable the determination of the equinox (and consequently, the solstice). This, then, relates to the seasonal flooding of rivers (for example, the Nile), and to the onset of the monsoon season in the tropics.

The "Metonic Cycle" (19 years) and the "Solar Cycle" (28 years) are the next stages in the comprehension of the natural cycles. These allow a local, but still more generally usable measurement of time against the background of the starry sky. Observation of the planets is a qualifying factor of the second order relative to these fundamental cycles. (Weather conditions are a complicating factor, but do not exclude observations of the heavenly bodies.)

All the cycles mentioned can be observed in the course of one human life. But none of them creates any *need* by man for some kind of *open-ended* chronology (1) inasmuch as, from an everyday point of view, one or another of them suffices.

The only irreversible process which may induce man to adopt an open-ended chronology is life itself. Only two dates are found on gravestones: birth and death. All of the intervening biography is secondary. True, a definite continuity of generations exists which is realized in descendants, but none of them (not even with the cyclical gene of protozoa) is a precise replica of their ancestor. And over the course of a lifetime, people confront situations in which the everyday counting of time is difficult ("a prisoner in solitary confinement without windows"). But sunset even beyond the Arctic Circle is not so fatal for man as for a one-day butterfly.

The most ancient words which reflect a unit of time are absolutely characteristic of the relativity of "open-ended time" for man.

I think hardly anyone will fail to see the clear connection between, let us say, the English Year, the German Jahr and the Russian Yar(a) (= spring. Compare also the Greco-Roman Ora : "hour, time," and finally, era!). But even the word denoting a year in

the Russian language ("god") began to designate a "year" only in the 16th century. Before that, this word connoted the idea of a "holiday," a "good (= suitable) time" (as the Serbs have it now). The Ukrainian "godina" means "hour" (in Russian, "chas"), but the Czech "chas" means simply "time." English week and German Woche mean "week," whereas the Russian derivative word ("vek") initially meant "an elapsing period" (compare for example the "40 years is a woman's lifespan"), but now it also is "100 years." That is, initially some definite period is implied, and therefore, in Ukrainian we have rik (plural roki, derived from "srok"), which, again, now means "year," and so on. The Greek "chronos" still also means "time," "year," and "duration" (compare also the Russian "krug", and even English "ring" - from ancient "hring"). The number of such word-correspondences reflecting the widespread conception of a defined, concrete period of time demonstrates that this notion has been established, in historical terms, fairly recently.

In this connection, we turn our attention to the fact that the Greek word ENH meant the "last day of the MONTH." ENIAYTOC (which has persisted down to the present) means "year, a large time interval, a cycle, a period." But the Latin word ANN(US) = year and the Greek ENH - are twin brothers! The implication of this is that, in times past, they more than likely counted by months (lunar, of course).

Up until the end of the 12th century, Englishmen ostensibly used the "Julian calendar" which began on January 1st. However, they did not HAVE either a word for "calendar" (which was coined around 1205, just when the previous mythical calendar disappeared), or the "Julian" concept on which to base it (which came along only in 1592).

In the 13th century, for some unknown reason, Englishmen reverted to the pagan year, which began in March 25th. This continued up to 1751. In 1367 they borrowed the word "almanac" from ARABIC-SPANISH, and there was the calendar - literally: almanac = Old Greek "almeniachon" = Old Russian "olmanakh", all of them stemming from the same root "ma(n)" - "a month, the Moon ". So by this term was NOT understood a YEAR, but as a MONTH!

In French, the word "almanac" has been known since 1391, and initially it also had reference to the LUNAR calendar. (The word "calendrier" was coined in 1372; in the 12th century there was only the Greek-Roman "kalendier"). All of this goes to show that, up until the 13th century in Europe, no calendar similar to the present one had ever existed.

But look at what is written in the "Old Indian" Laws of Manu (64 - 66) about time: "18 nimeshes (a nimesh is the time of an eye-blinking) make a kashtkha, 30 kashtkhas are in a kala; a mukhurta consists of 30 kalas; and this many mukhurtas make day and night ..."

"...ancestors assumed that a day and a night comprised a month, divided into two halves: a day for working (light) and a night for sleeping (darkness)." Commentators assure us that that this is a matter of the lunar month. One can see from it that the time of blinking equals approximately to 0.09 seconds. But this could not have been quantified before the invention of the first chronometer (by Huygens in 1657) ... And the first translation of "The Laws of Manu" from Sanskrit into English was published by W. Jones in 1794...

Here, for example, is what the Central Asian historian al-Biruni (traditionally dated to the 11th century) writes: “They say that when a warning of a flood came to Tahmuras (and this happened 231 years before the flood), he gave an order to select in his kingdom a place with wholesome air and earth. The people did not find a place more worthy of such a name than Isfahan. Then Tahmuras ordered the preservation of all knowledge and the placing of it in the safest place. This is confirmed by the fact that in our time in Jay, [near] the city of Isfahan, they have discovered hills in which they, when they excavated them, found facilities, full of stacks of wooden bast called “tuz” with which they cover the swords and shields. The bast was covered with some kind of characters, and no one knew anything about these characters or what in particular was inscribed.”

It is obvious that it is possible to warn someone about a catastrophe approaching in 231 years. But to expect that this will result in practical action to avoid grave consequences has repeatedly been exposed as a vain hope even in our time. Even if someone serious listens attentively and begins to plan for *a future far removed from his immediate descendants*, eventually only an insignificant minority of them will heed his warning - even if he creates excitement artificially. But, let us say, he predicts an event 231 months beforehand (that is, approximately 19 years). This is a completely realistic period to prepare for a *predicted fate -- both in the present and by the generation which immediately follows*. And this does not require bringing in such a religious notion as “prophecy.”

Those OLDEN times ended when annual reckoning replaced monthly reckoning. When, then, was this able to happen?

To designate the calendar year, besides ENIATOC, the Greeks also have other words: XPONOC which has already been mentioned, and ETOC (the same as in the Russian “summer”) for the designation of years in the plural. The existence of several words for one and the same concept (according to Emile Benveniste) indicates that in the past they had somewhat different meanings. (It is thought by some that in the works of Homer the words ENIATOC and ETOC were used as synonyms. At the same time however, there is some ambiguity as to whether ENIAUTOC was connected with ENH-AUTOC – “this period, that same period” [compare also *he = that*] or, one could say, directly with ENH-ETOC, that period = year.)

Both of these correspond to the idea of “the end of the counting.” But it is important that the word ENH has an additional meaning, not connected, at first glance, with the first: “the day after tomorrow.” We shall add that for the designation of a month there is the all-European MHN(AC). On consideration of the Russian “month” in the meaning of the “crescent of the moon,” MHN takes on the meaning “rise of the moon after the new moon,” in contrast to ENH – “the day before the death of the moon,” that is, “the end of counting,” “the end of the period.” Therefore the sense of “the day after tomorrow” was most likely, originally, “the night after the new moon.”

We point out that, up to this point, not one religious motivation in the aforesaid has been adduced. There has been no need to do so.

Now we shall examine the evolution of such “historic” notions as “century” and “millennium,” which have no direct relationship to life or to the natural cycles. (It should be obvious that these concepts could not even have been formulated until after the adoption of a universal decimal counting system).

The Latin word *saeculum* is translated as “sort, generation, a human lifetime” and as “century.” Note that this word was, initially, in no way connected with the concept of “one hundred” (a number). A human lifetime and the succession of generations, as we have seen, is directly connected with the notion of a “life cycle,” in which connection the word “cycle” is considered everywhere to have been adopted from the Greek *kyklos* “circle.”

In this context it is somewhat logical to examine this “Greek” circle in comparison with the Slavic “kolo” = *circle* (cf. also with Eng. “coil”). (Cf. “se kolo” with the Rumanian *secol* “century,” Italian *secolo*, Portuguese *seculo*, French *siecle*, Spanish *siglo*, and also the Spanish *sequelo* = *consequence*). In other words, it is a GENERATION – the cycle of life repeating itself in a new generation. A generation, according to “Constantine’s Indiction,” is 15 years (thus the recurring taxation on inheritance in its *indicated* order). But for the Chinese and the Aztecs (!), the duration of one generation is 20 years (three generations comprising a 60-year calendar cycle) (we note in passing that if the Chinese calendar is indeed connected with the conjunction of Jupiter and Saturn, then it could not have been created earlier than 1323).

For comparison: at present, the replacement of one generation by another in the military happens over the course of approximately twelve to fifteen years. (Even in the Osman military, 500 years ago, the progression from new recruit to veteran took 2 generations. I.e., 25 to 30 years). In a civil service system today, the progression of a competent employee from an entry-level to an administrative-level position normally requires around 15 years. Not only does life span play a role in the determination of an average generation’s duration, but also the onset of fertility (at 14 – 18 years). Then follows a period of personality formation, the mastering a profession and the establishing a family (at around age 30). The most productive, “adult,” period is from approximately the 30th to 45th years ; “maturity” is from ages 45 to 60, retirement is somewhere from ages 60-75, and further there is only the gerontological for those who have lived this long. But on average, one generation is replaced by the next in close to that same 15-year “indiction” – an arbitrary term, to be sure, but one validated by *experience*.

“Constantine’s Decree” is, per se, a consolidation of statistical data which had been compiled by the time of its appearance. And what is more, this is not a religious, but a fully secular concept. This “worldly” cycle, this “secular periodicity,” is the expression of an idea which was probably well known even previous to the era of religious demarcation and during the attempts to establish a universal CHURCH calendar -- all the way up to the Gregorian “reform” of 1583. In other words: up until about the end of the traditional 15th century, it is more than possible that NO ONE reckoned time in centuries at all.

The word “seculaire” (the spelling since 1611) in the French language assumed the meaning of “centuries” for the first time in the form “seculaire” in 1549. Before this, the word “centenaire” (from 1370) was used in the meaning of “centuries.” The latter is derived from “hundred” (*cent*) and “a hundred” (*centain*). Note here that “seculaire,” as also “siecle” (century, epoch, the present) is not! This is direct evidence that the introduction of the concept of “century” as a chronological measurement is connected not only with the religiously-based calendar reform, but also directly with “secularization” (*secularisation*, from 1567), that is, with the establishment also of new “worldly” (in French, *seculier*, from 1260) laws.

Here is what the historian Apollon Grigor'evich Kuz'min writes ("The Beginning of Rus": Moscow, Veche Publishers [2003] page 201): "We note that the literal meaning of the word "vek" in ancient times is the age of an object, a phenomenon, or a man. This is well known and confirmed by a large number of sources (Sreznevskiy, etc.)... This word was most often used to designate the span of one generation. The PRIMARY meaning of the Latin word corresponding to the Slavic *vek*, *saeculum*, is exactly a "GENERATION," "a HUMAN age" (Anan'ev et al., The Complete Latin Dictionary. 1862, page 761)." Further, Kuz'min surveys Russian sources in which it follows, from their contexts, that "vechi" = generations and not centuries. (The same is the case, for example, also in the "ancient" Icelandic "*old*," meaning "generation, time, century" (compare with Russian *leto* = summer.)

Even more amusing is that the English *century* is borrowed from the French, but *centurie* never meant "century" in French, only a military unit – "a hundred"! Compare then the "Roman century" (noted for the first time in 1284). And the time of the appearance of the English "century," which stands by itself as the designation of a hundred years, is direct evidence as to the time of the introduction of counting by centuries – simultaneously with the French *seculaire*, and with the appearance of the notions of *Trecento*, *Quattrocento* and the like. The most probable time of the origin of the *idea* of counting by centuries is not before the end of the 15th century, and, most likely, in the first half of the 16th century.

One demonstration of this is that, at this very time, Mattheus Flacius Illiricus (1520-75, a.k.a. Flacius Illyricus, Mathias Flach Francowicz, Mattheus Flacius, Mateush Vlashich) organized "the School of the Centuriators." Born in Illyria (Albona, Istria, in present day Croatia). Flacius was a Slavic follower of Luther and Melancton, and the leader of the so-called "Magdeburgian Centuriators," the school which aspired to present the entire history of the church subdivided into centuries. In particular, he was the author of the book "The Second, Divided into Separate Centuries, History of the Church" (*Historia ecclesiastica secundum singulas centurias*).

The Magdeburgian Centuriators, led by Flacius, wrote and published their first Histories rather quickly. The initial three volumes were published in Basel in 1559, and twelve had been finished within ten years.

But it took them the whole of five more years to write the history of the "13th" century. And not only was the history of the final (at that time) "14-16th" centuries not published in anything like a timely manner, it had still not appeared even 50 years later. (It is presumed to have been completed by Flacius' associate Wiegand by 1574 – on the eve of Rome's final determination with respect to the adoption of the Gregorian calendar reform).

It is important to note that the current meaning of "century" (*saeculum*) as "100 years" is axiomatic; that is, not requiring (and even not having) proof. Yet this supposed "meaning" of the word *saeculum* is claimed to have somehow or other disappeared for more than a thousand years after its purported establishment ! There is really no objective reason why anyone should continue to take this allegation seriously. And there can't be.

What is more, the existence of the meaning "century" for *saeculum* is simply inconceivable without the PRECEEDING notion "decade" in a denary system. The numeral 100 in a denary system occupies a unique and definite place in the hierarchy of

the system relative to the base 10. The very word *dekada* “decade,” which designates “decade,” was noted for the first time only in 1385.

(The legendary “decennalia,” supposedly introduced by Augustus and which came to light only in 1540, has no relationship to the continuous reckoning of time).

If one looks at the traditional dates enumerated above, then the oldest of them is 1260. This hardly is an accidental coincidence, as will be shown.

Even the Greek notion of “chilieterida” as “millennium” is traced back no further than to this same period. Etymologists are trying to connect the Greek “chilia” (= 1,000) with the word “chera, cheri” (*hand*), having in mind that one can regard the ten fingers as the “end (limit) of counting.” We note, however, that the word “chilia” is in no way connected with the common Indo-European word “hundred” (Greek *hekato*). Similarly, the Greek “miriada” (= 10,000) designates simply “many,” and the Old Russian “t’ma” 10,000. And the Latin *mille* was originally simply “many” as well; only later does it come to mean “one thousand.” In the Balto-Slavic-German linguistic sphere the situation is completely different, inasmuch as the compound word “tysyacha” (English *thousand*, German *tausend* and the like) initially designates “a rich hundred,” that is a “great hundred.” Here, in contrast to the Greek and Romance languages, the reflection of a denary system of counting to a thousand is completely clear.

Chilia: the origin of this Greek word is just as vague in Greek as it is obvious in Arabic. The broad idea of guile (CHILIA) was used, in particular, to designate techniques which we at the present time would assign to the category of applied mathematics and technology. *Ilm al-khial* – the “science of skillful techniques” (literally “the science of guile” -- *author’s note*) is found in medieval classifications of the sciences... To outwit God – and some medieval Moslems posed such a problem to themselves... (“A Comparative Study of Civilizations : a Reader.” Moscow, Aspect Press, 2001, pages 289-290). Aristotle, Omar Khayyam, Iskhak as-???Sabani, Ibn Ketiba ad-Dinuri and Ibn al-Arabi developed “ilm al-khial.” (“Al-Mundji,” Beirut, 2000). And the cabalists of Judaism (in The Zohar) posed exactly this same problem to themselves. Each group developed its own version of it simultaneously. In the 16th century this was even picked up by the Protestant mystics (Jakob Boehme, e.g.).

At the same time, the word “chilia” is fully analogous with the Baltic-Slavic-German words which reflect, in addition to a particular interval, a cycle: Ukrainian *khvilina* “minute,” Czech *chvile*, Polish *chwila*; Lithuanian *valanda* “a time interval,” English *while*, Dutch *wijl*, German *weile*; Swedish *vila* “a rest, repose, to lie, to rest,” Norse *hvil* (rest) and *hvile* “to rest;” English *while*, *whilst* “for the time being, meanwhile,” Dutch *wijl*, German *weil* (also wave), Ukrainian *khvilya*, Byelorussian *khvalya*, Bulgarian *v’lna*, Czech *vlna*, Latvian *vilnis*, Dutch *zwalp*, German *welle*, Swedish *svall*, Norwegian *svalk*, English *swell* “choppiness, surge” and so on. We note still further that in the Book of Psalms there is referenced, side-by-side, “millennium” as derived from “chilia” (90:5) and “flood” (90:6). We draw additional attention to the fact that the word “wave” is now also used as a reference to time.

But what did “millennium” mean before the appearance of an open-ended chronology? From what idea already in existence did the Biblicists derive their notion of one day of creation having been a millennium (1,000 years)? Or, following the *ilm al-khial*, now one might just as plausibly interpret one “day of creation” as a billion years, bringing the physicists into it for good measure. Such arbitrariness is of the same kind as

“Render unto Caesar what is Caesar's, and unto God what is God's." (Very well then, and unto the locksmith what is the locksmith's!)

CATASTROPHES AND THE AGE OF MONOTHEISM

What really happened in 1259-1260 is known today only to the one Lord God, but there is real physical and chemical evidence of extraordinary NATURAL events at this time. The historians tell us that, in expectation of the end of the world, people who had gone mad fled into the woods and committed suicide.

Evidence of a catastrophic event is found everywhere in Arctic and Antarctic glacial core samples in the form of exceptionally pronounced and keen (in the assessment of time) acidic and sulfate spikes when samples of native ice from this year are analysed. For 5,000 years before this, and afterward, up until now nothing like this has been found.

Vulcanologists think this was a huge eruptive event, the discharge of which was transported from the source throughout the whole world. (Langway C.C.Jr., Clausen H.B., Hammer C.U.: An Inter-Hemispheric Time-Marker in Ice Cores from Greenland and Antarctica /Ann. Glaciol., 10, 1988, p. 102-108). In which connection, residues of this eruption are found in the ice cores of both the Northern and Southern Hemispheres -- evidence not only of the great power of the eruption, but also an indication that it probably happened in the lower latitudes rather than in the middle or (especially) in the upper.

Nevertheless, there has been no success in tying the sulfate and acid spikes of “1259” to any particular volcano. In addition, it is also thought that this catastrophic event acted as the trigger which began the Little Ice Age, which was caused by pollution of the atmosphere from the solid and suspended products of the eruption.

One can evaluate the catastrophic effect of the 1259 event in the power of the spewing of sulphuric acid into the atmosphere in comparison with the eruption of the Tambora volcano (1815), the total aerosol discharge into the stratosphere of which was, in the estimates of Rampino and others, on the order of 200 megatons. (Rampino M.R., Self S., Stothers R.B. - Volcanic Winters: Annual Review of Earth and Planetary Sciences. Lett., 16, 1988, p.73-99). These works (Raynaud, D.: The Total Gas Content in Polar Ice Core. - The Climatic Record in Polar Ice. Cambridge, 1983, p.79-82.; and Gerlach, T.M., Graeber, E.J.: Volatile Budget of Kilauea Volcano. - Nature, v. 313, N6000, 1985, p.273-277) estimate the total aerosol discharge into the stratosphere of sulphuric acid as a result of an eruption of the Toba volcano (nearly 75,000 years ago) to be from 9×10^{14} to 5×10^{15} grams; according to Rampino, for this eruption, 1,000 megatons or more. From this it follows (on the assumption of an equivalent proportion in the components of the discharge from Toba and the event of 1259) that in 1259 between 3.6×10^{14} to 2×10^{15} grams were discharged. I.e., on the order of 1,000 megatons of aerosol, which contained not less than 100 million tons of sulphuric acid. Plainly speaking, so much sulphuric acid appeared in 1260 that a little of it would show up even today.

Such an abrupt impact on the environment could not have been without very serious damage to the flora and fauna.

The fact that there are no records anywhere of any specific, gigantic eruption of a volcano (and it clearly should have taken place in the inhabited part of the ecumene),

indicates that this must NOT have been a volcanic event, but a catastrophe caused by an extraterrestrial source.

At the end of the 14th century, a fall in temperatures begins all across Europe, as an undulating attenuation of a cataclysm. This was expressed in minima – the Spoerer in the 15th Century, and afterwards also the Maunder, in the 17th. Note also the Wolf at the end of the 13th (<http://la.climatologie.free.fr/soleil/soleil.htm>). In the 14th Century, seafaring in the Atlantic practically ceased due to constant storms. During this same time, people began to build levees and dams - as in Moscow, so in Holland. The tides in the enclosed Adriatic Sea were stronger than they are today by an order of magnitude. Traces of the so-called “Dunkirk Transgressions” from this era are well preserved in northern Germany. These covered the forests and countryside with sand and silt. There is no Aral Sea on the maps of the 14th-17th centuries – it is simply an arm of the Caspian, which, because of this, is oriented lengthwise -- not North-South, but East-West. (According to the information of the geographer A.V. Shnitnikov, the Caspian Transgression fits exactly into the 13-15th centuries). And what is more, a huge lake existed in the Baraba Steppe, and the present Karakum and Kyzylkum deserts were densely populated.

Additional evidence of this catastrophe has appeared quite recently (<http://news.bbc.co.uk/2/hi/science/nature/4755328.stm>): "Pollen and leaf data support the idea that millions of trees sprang up on abandoned farmland, soaking up carbon dioxide from the atmosphere. This would have had the effect of cooling the climate, a team from Utrecht University, Netherlands, says. The Little Ice Age was a period of some 300 years when Europe experienced a dip in average temperatures.

Dr. Thomas van Hoof and his colleagues studied pollen grains and leaf remains collected from lakebed sediments in the southeastern Netherlands. Monitoring the ups and downs in abundance of cereal pollen (like buckwheat) and tree pollen (like birch and oak) enabled them to estimate changes in land use between AD 1000 and 1500. The team found an increase in cereal pollen from 1200 onwards (reflecting agricultural expansion), followed by a sudden dive around 1347 linked with the agricultural crisis caused by the arrival of the Black Death, most probably a bacterial disease spread by rat fleas. This bubonic plague is said to have wiped out more than a third of Europe's population. Counting stomata (pores) on ancient oak leaves provided van Hoof's team with a measurement of the fluctuations in atmospheric carbon dioxide for the same period. This is because leaves absorb carbon dioxide through their stomata, and their density varies as carbon dioxide goes up and down. "Between AD 1200 to 1300, we see a decrease in stomata and a sharp rise in atmospheric carbon dioxide, due to deforestation we think," says Dr. van Hoof, whose findings are published in the journal *Palaeogeography, Palaeoclimatology, Palaeoecology*. But after AD 1350, the team found the pattern reversed, suggesting that atmospheric carbon dioxide fell, perhaps due to reforestation following the plague. The researchers think that this drop in carbon dioxide levels could help to explain a cooling in the climate over the following centuries. From around 1500, Europe appears to have been gripped by a chill lasting some 300 years. There are many theories as to what caused these bitter years, but popular ideas include a decrease in solar activity, an increase in volcanic activity or a change in ocean currents. The new data adds weight to the theory that the Black Death could have played a pivotal role. Not everyone is convinced, however. Dr. Tim Lenton, an environmental scientist from the University of East Anglia, UK, said: "It is a nice study and the carbon dioxide changes could certainly

be a contributory factor, but I think they are too modest to explain all the climate change seen." And Professor Richard Houghton, a climate expert from Woods Hole Research Center in Massachusetts (USA) believes that the oceans would have compensated for the change. "The atmosphere is in equilibrium with the ocean, and this tends to dampen or offset small changes in terrestrial carbon uptake," he explained. Nonetheless, the new findings are likely to cause a stir. "It appears that the human impact on the environment started much earlier than the industrial revolution," said Dr. van Hoof.

All of this can be plausibly accounted for as consequences of the Earth's recovery after an impulse excitation from the outside. The migration of rats and the spreading of the plague in the 14th century might be seen as a direct consequence of this cataclysm. And not only one disease appeared – in addition to the common plague there were also bubonic plague, tuberculosis, scurvy and so on. The "Time of the Plague," as a generalized description, ended in the middle of the 15th century.

An epidemic of rheumatic fever accompanied with hyperkinesis (nervous tic, called also "St. Guy's dance") flared up in the 13th Century, generating tarantism (ecstatic dancing -- even in graveyards. Incidentally, the Italian tarantella dance originates from this), flagellants (who appear for the first time in 1260!) and many other behavioral abnormalities.

In the 14th Century the "Dance of Death" motif appears in the fine arts (from a legend about St. Guy, a boy who was tortured by Diocletianus in 303, showing the usual displacement of 1000 years in traditional history). This was recognized as an illness (chorea) for the first time by Paracelsus in the 16th century, when the name of St. Guy was first connected with it.

Flooding, abnormal humidity, the spreading of streptococcus infections and ergot (a fungoid disease of rye) with consequent ergotism (poisoning and hallucinations from consuming infected cereals) are, arguably, additional consequences of a catastrophic event in 1259-1260.

In this connection, the phrase "Middle Ages" itself is diagnostic of 15th-16th century sources as well. The Latin expression "media tempestas," where the word "tempestas" means not simply *time* but "a time of tempest, a time of cataclysms," (compare, for example, the English *tempest* – "storm") appears for the first time in 1469. This expression evidences the clearly negative characterization of the conditions during this period. Later, in 1494, "media antiquitas" ("middle antiquity") appears. I.e., an interval from approximately the middle of the 13th Century through the middle of the 15th Century is considered, at this time, to be the era of "middle antiquity." Later, the expressions "media tempus" and "medium aetas" (1531) appear. These are simply "a middle time, a middle epoch." Only in 1596 comes "saeculum medium," simultaneously with "medium aevum," the first indications that the concept *saeculum* ("vek") was being equated with the concept "century." The stock phrase "the Middle Ages" finally took on its modern connotation only at the end of the 17th century.

With respect to the notion of antiquity, the word *antique* was used in the French language in the 13th century. It is supposed that this was derived from the Latin *antiquus*. But in Latin, "antequos" means "until some kind of events." Until which events? The Italian word *antico* first came into use in the second half of the 15th century. Here is what

Vasari (1511-1574), the greatest art historian and critic of the 16th century (who coined the term “Gothic”) writes: "This style was invented by the Goths because ... since the ancient buildings were destroyed, and wars had ruined the architects, the survivors began to build in this style, raising vaultings on lancet arches and filling all Italy with the Devil knows what kind of structures..."

A catastrophe caused by an observed extraterrestrial source could not fail to leave traces of it in the mentality of mankind as well. An earthquake or a flood does not give people direct grounds for connecting such a natural disaster with “divine punishment.” For this, a dramatic visual impression made by cosmic and atmospheric phenomena is needed – that is, a *sign*. In which connection, to be a *sign*, something must be absolutely extraordinary. A sign cannot be mere lightning flashes, solar and lunar eclipses (which happen not infrequently and do no *perceptible* harm) or displays of the northern lights. Comets and huge meteors come much closer to consideration for this role if their debris reaches the earth.

Of all possible phenomena, danger which comes from the sky has the most vivid religious connotation - *especially if this is a phenomenon which fulfills a prophecy*. If, let us say, the catastrophe was connected with the disintegration of a comet passing close by, and it was predicted to occur in not fewer than two phases, then this explains a lot. Those who survived such a catastrophe connected with the appearance of a comet certainly would have told their children and grandchildren about it. One need not be a genius to grasp that a comet that is going behind the sun, which unfurls a tail sideways, opposite the start, has promised, wordlessly, to return. But when it returned and there were no such catastrophic events as there had been the first time, although the sky again grew red and once again a torrent of stones fell (and so on), the descendants decided that the fears of their ancestors were overblown and put some of the prophets to death (the “witch-hunts” and the like). (Very interesting research is presented by Michel Foucault in his book, "Madness and the Civilization," showing the changes in the attitude of society toward mentally ill people in the 13th-17th centuries - <http://yanko.lib.ru/books/philosoph/foucault/mad-civil.htm>).

Once the witnesses to the catastrophe had died, the opinions of their descendants came to be divided. Some considered that the Messiah had come, and became Christians. Others decided that they still had to await the Messiah – as the Orthodox Jews. A third group, the least given to bookishness, decided to do away with prophecy in general, declaring that their prophet (Mohammed) had been the last of them. But even so, subsequent generations continued to develop schisms: Moslems split into Sunnis and Shiites precisely on the grounds of prophecy, and one branch of the Christians preferred to have a permanently acting prophet in the person of the Roman Pope. Most ironically, the “ancient Jews” were split again when, in the 18th century, the Hasidic movement arose over the recognition of Suddic prophets! Such an outline in the development of present-day monotheism seems by no means without foundation.

Purgatory is another religious notion, the origin of which one may connect directly with catastrophe. The idea of "paradise" and "hell," as inter-related alternatives in the idea of what happens at the end of life, is completely natural. But “Purgatory” is the concept of a *procedure*, through which the Supreme Being divides the "pure" from the “impure.” Those who have endured trial are the purified ; those who have been lost were the impure, and for this they are punished. Traditional historiography says that the

idea of "Purgatory" was born in the 3rd Century (Jacques Le Goff. *The Birth of Purgatory*. The University of Chicago Press. Chicago, USA., 1984) in the works of Clement, Origen and Cyprian. Saint Augustine (4th Century), in the treatise "The City of God" uses the term "poenae purgatoriae" for the first time; from this arose *Purgatory*.

After this however – all the way up to the 12th (!) Century – the topic of purgatory disappears from all sources... only to reappear as a violent controversy among the "fathers of the church," a list of whom is extremely impressive and includes Albert the Great, Bonaventure and Thomas Aquinas. It is thought that acceptance of purgatory occurred in 1274 at the Council of Lyons. (At the same time the Pope had supposedly recognized Purgatory as a canon as early as 1254 in his own correspondence.) The apogee of the development of the purgatory theme is Dante's "Divine Comedy." However, the Doctrine of Purgatory was introduced only in 1439 (!) and was confirmed in 1562. Martin Luther resumed the polemics about purgatory at the start of the 16th century. (It is well to note here that the Russian Orthodox Church never recognized the existence of purgatory!)

It also is significant that at the turn of the 12th – 13th Centuries, a sort of "French Jesus" appears on the historical scene – Francis of Assisi (Latin Franciscus Assisiensis, traditionally 1181/1182 – 1226), the founder of an order of officially-recognized "destitute" monks (the Franciscans), who advocated a "return to" the ideals of the "early faith." The most zealous guardians of the teaching of Francis of Assisi are the so-called "Spirituals," that is, "non-money grubbers," who are called upon to feed on only the "Holy Spirit."

The "Joachimites," followers of another teacher, Joachim of Floris (1132-1202), also spread the "heresy" of the French Jesus, but without Papal sanction. They preached the following ideas:

- 1) The TRINITY as freedom, love and peace;
- 2) CHILIASM (from the Greek "chilia" = thousand, and not from the Latin *mille*!). That is, the future coming of a "thousand-year" era of the "Holy Spirit." (When the concept of "the MILLENIUM" first appeared as a time measurement which extended traditional history, "chiliasm" was subsequently ascribed to those 1,000 years and condemned as heresy!)

The economic "Foundation of Freedoms," in French *Franchise Assise*, later became completely transformed into the "Father of the Roman Catholic Church," Francis of Assisi. An Umbrian monk from the town of Assisi (or this town was named after him later on), he was canonized and had a memorial complex erected in his honor (according to tradition, in 1228). However, his biography was written by the General of the Franciscan Order (Fra Bonaventure) only in 1290, after the social repercussions the "destitute monks" caused had been brought under firm control!

The movement for the purity of the "early faith" reached its apogee in 1251 with the publication of a book by Gerard of Borgo-San-Donino with the title "Evangelium Aeternum." According to the calculations of the Joachimites, Franciscans and Spiritualists, the fateful 1260 was due to arrive soon. Somewhat later appeared the works of Peter John Olivi (1248-1298), who understood the history of Christianity thus: on the 13th day, the child Jesus was shown to the three wise men, in the 13th year he left his mother and appeared in the temple, and in the 13th *saeculum* (cycle, generation, epoch) after the death of Christ, Francis, who established an "Evangelical order" was sanctified.

In parallel with this, repressive structures arise which are created by the advocates of a strict hierarchical church authority. The fathers of the Roman Catholic Church, Albert the Great (1206-1280) and Thomas Aquinas (1225-1274) become the ideologists of this trend, which prevailed in the second half of the 13th century.

Let us enumerate some other events which are ascribed to the 13th century by traditional historiography. In Western Europe they smash the Cathars, who were damned in 1215. In 1216, the militant order of "God's Dogs" – the Dominicans – is created for the struggle with the "heretics" (the aforementioned Albert and Thomas having left the bosom of this order). The church's shock troops cruelly punish free peasants who do not wish to pay tribute to the clergy (for example, the Steding slaughter of 1234). In response, in 1260 the militant "Apostolic Brethren" headed by Gherardo Segarelli appear, speaking out against the church's authority. In Paris, Siger of Brabant professes the teachings of Ibn-Rushd (Averroes) denying God as Creator. (He was killed as a heretic in 1284.)

In 1261, the "Latin Empire" fell, and in the same year Prince Daniel is born, beginning with whom Moscow started to rise in Rus. In that same interval, the "first parliament" (1258-1264) appeared in England. Before the middle of the century, the Jews who had appeared on the islands in approximately 1210 enjoyed the patronage of the king, which is why practically all England was in hock to them by the middle of the century. But in 1290, the English banish them completely from the islands... for 350 years! In Northwestern Europe the "new" Hanseatic League of self-governing cities is formed (finally formed in 1370.) In the south, in Egypt, the Mamelukes came to power, the "Reconquista" were victorious in the Pyrenees, and the Arabs left Europe (except Granada). In the East, with the death of the "heathen Khans" Batu and Mongke, a struggle begins in the Horde over church influence on the military leadership which ends with the introduction by Uzbek of Islam in 1317, after which the Horde began to fall apart and underwent other fundamental changes.

It is obvious that everywhere a *change of ideologies* is occurring. Monotheistic religious structures appear at this time and wield real power. For example, Pope Boniface VII (1235-1303, ruled from 1294) at first took maximum advantage of the Franciscan movement, then afterwards destroyed their ideologists: in particular, Segarelli was burned at the stake in 1300 - exactly, as the Roman Catholic Church historians write, in the first "jubilee" year declared in history (by this same Boniface). (Let us note that "1300 A.D." is an elapsed 13 hundred years. That is, their number is not too precisely equal, and especially, is not "apostolic." From here on, dates "from the birth of Christ" are in quotation marks except for dates in references.)

All these events share one central moment, a turning point – that same year "1260." Despite the traditional dating of these events having been established only *long after* the 1260 catastrophe (in a dating scheme vastly elongated in time), neither the radically different natures of the events described BEFORE and AFTER the catastrophe nor *the fact of the catastrophe itself* can be completely concealed.

The time when the concept of "catastrophe" appeared is of interest, too. For example, in French the word "catastrophe" was recorded only in 1552 (from a Greek word meaning "destruction, overthrow, a shock, reduction, frustration ") and "cataclysm" was coined in 1553 (from a Greek word denoting "a flood, flooding "). Synonyms are "denuement" - in the 14th century, "bouleversement" - in 1577, and

calamité (English calamity, Spanish calamidad, etc.) "accident, disaster" - in 1355. This word stems from Latin (*calamitas*) and, most likely, is connected with the meaning "castigation, a divine scourge, i.e. a heavenly penalty" (*calame* = a whip, a lash). The Roumanian words "ca(e)la(e)u" (= an executioner) and "calamandros" (= confusion) are from the same root.

And there is another, even more significant term: in French - "desastre" (since 1546), English "disaster". The French word was borrowed from Italian "disastro", and in Italian itself the word was invented and first introduced by astrologers in the form of "disastrato", i.e. "living under an ominous star". And, apparently, this happened not long before its appearance in French. There had been NO LATIN word of the kind. The first term meaning "catastrophic" in French was coined in the 13th c. (inondation = a flood).

"1260" is a key year which, per se, appears to be the starting point of the modern chronology. Uwe Topper has independently come to the same conclusion (*Erfundene Geschichte*. München, Herbig, 2003).

According to Joachim of Floris, exactly 12 *saeculi* = *indicta* = generations, that is 15x12 = 180 years from the ascension of Christ were supposed to elapse. When the 13th started, that is, the first year of the coming thousand-year reign (era) of the Holy Spirit, universal freedom, peace and love would prevail. (Within this context, the "Passion" relates to the end of the "11th" century). Moreover, in "1260," the *third era-wave* - "chilia" was supposed to set in, inasmuch as the first two were characterized according to Joachim of Floris as the "Era of the Father" and the "Era of the Son." In other words, before "1260," conceivable history had been continuing only 24 (= 2x12) generations (or 360 years) from the start of the "first wave" (in approximately "900").

(It is both revealing and significant that the works of Joachim of Floris were printed only in 1519-1520, and as an answer to "The Chronicle by Eusebius and Jeronimus continued by Palmieri," which was published for the first time in "1475." In this, Palmieri added exactly a millennium (!) between "448" and "1449." Similarly, "The Chronicle of Popes and Emperors by Martin Polonus" (published in "1476", ended by "1276").

ETHNIC EVIDENCE IN CHRONOLOGY

As an illustration of a definite chronological gap of 100 to 150 years after the catastrophe of the 13th century in the geographic and demographic continuum (the "Time of the Plague"), we shall examine the appearance in the sources in the French language of references about people who lived up to the present (according to "Le Petit Robert"). These are extremely noteworthy. For example, at the 1080 level, when the French traditionally had become aware of themselves as French (Français; they became "Gallic" only much later: Gallican – 1355, Gaulois – since the 15th c.) we find references to: Allemand, Flamand, Normand, Danois (the Danes), Saisne (Saxons), Romain (Romans), Arabe, Judeu, Sarassin, Pers(ien), Espan (now – Espagnol and, at that, Hispanique only since 1525). The "Easterners" are Levant (but Levantine is only from 1575, and Arameen is only since 1765!). Further: Hebreu - 1119. Anglais, Maure (Mor), Dalmatique – 12th century. Grec - 1165, Latin - 1160. Bourguignon at the end of the 12th century. Roman(s)

(sharing a common language) – 1135. Mamelukes: *mamelos* – 1192 (but *mameluk* only in 1611, the modern *mamelouk* is from 1808.)

The Bolgars also are mentioned in the 12th century - as the *Bogre* (1172, *Bougre* is 1450, *Bulgare* is from 1732!). And the inhabitants of Crete are the *Cretoise* (1165). At the beginning of the 13th century - *Egyptien* (in which connection, this word is also used in the designation of Gypsies) and the *Venetien* are the Venetians. In the 13th century, the *Druide* (they will call them *Celts* much later), *Brabançon*, *Macedonien* and *Tartarin* appear. And at this same point the word “antique” – “ancient” also appears. Then there come *Italien* (1265), *Assyrien* and *Indien* (1284). The *Albigensians* (*Albigeois*) and the *Dutch* (*Hollandais*) are known from the 13th century. (But, at the same time, the word *Hollande* itself is only from 1598, and the “ancient” *Batavi* from 1740!). In 1300, the *Turks* are mentioned for the first time – *Turc*. And here for the first time as well the *Phoenicians* also are noted: as *Punicians* (*Punique*; as *Phenicien* only in 1557!). The *Scots* (*Ecoissaise*) are known by the mid-14th century (1350).

Further, after a large gap: the *Goths* are *Gothique* – 1440, the *Serbs* in the form *Serve* – 1441 (in the 16th century - *Servien*, now – *Serbe*.) The *Catalans* (*Catalan*) – 1452. The *Hungarians*: *Hongre* – 15th century, *Hongrois* – 1470. Inhabitants of the modern Czech Republic, earlier *Bohemia* are *Bohemien* and *Morocco* (*Maroquin*) – in 1490. Here too is *Suisse* (the *Swiss*, in which connection the “ancient *Helvets*” – *Helvetique* – appears only in 1636!). Most of the medieval peoples are in the 16th century: *Basque*, *Portuguese* (the *Portugese*) – in 1500 (in which connection, the more “ancient” *Lusitanians-Lusitanien* are only in 1584!). The *Austrians* (*Autriche*) in 1515. The *Castillians* (*Castillan*) in 1517, the *Frisians* (*Frise*) in 1520, the ancient *Belgie-Belgians* – in 1528. *Etruscans* in 1534(!) “The *Lithuanians* are *Lithuanien*” (that is the *Russians* of that time) together with the *Prussians* (*Prussien*) and the *Georgians* (*Georgien*) - in 1540. *Napolitain* is 1549, *Sicilien* is 1550. *Ib'ere* is, in 1552, at first in reference only to the aboriginals of the *Caucuses* and *North Africa*. At the same time, the *Armenians* are *Armenien* (one of the peoples who are considered the most ancient!) only in 1575. The *Genoese* (*Genois*) appear in 1567. The inhabitants of *Slavonia* are *Slavon* - 1575, and the *Savoy* are *Savoyard* – in 1580. (It is particularly interesting that, at this time, the word which designates both the “*Slavs*” and a “*slave*” (*Slave* – 1575) is noted in the form *Sclave* in 1573. That is, the concept of slavery in France appears only in the 16th century!)

In the second half of the 16th century the rest of the northern and eastern community also appear: *Czechs-Bohemien* (1558), *Irish* - *Irlandaise* (1567), *Norwegians-Norvegien*, *Chinese-Chinoise* (1575), *Japanese-Japonaise*, *Swedes-Suedois*, *Muscovites-Moscovite* (*Russian* – *Russe* only in 1715! At the same time the *Scyths-Scyhien* – 1580, in the form *scytic* somewhat earlier in the same century), *Poles-Polonais* – 1588. At the same date *Hellenes* and *Chaldeans* came to light (1580).

Somewhat later the *Sardinians-Sarde* – 1606, the *Albanians-Albanais* – 1612 and the *Uzbeks*, in the form *Usbeke*, 1613 (*Uzbek* is from 1765; now *Ouzbek*). In the middle of the 17th century - *Croatians-Croate*. *Algerien* – 1677, inhabitants of *Siam* (*Thailand*) – *Saimois* – 1686. *Ethiopians* – *Abyssin* – 1704 (although the word *abyssse* “chasm” is from 1080). The *Congolese-Congolais* in the form *Congois* – 1721, the *Ukrainians-Ukrainien* – 1731, the *Czechs* in the form *Czekhes* – 1762 (*Tcheque* – 1842), *Finns-Finois* – 1772, *Koreans-Coreen* – 1797. *Estonians-Estonien* – in 1819, *Slovenes-*

Slovene - 1825, Rumanians- Roumain - 1836, Slovaks-Slovaque - 1841, Latvians-Letton – 1845.

It is typical that the identification of peoples with those parts of the world they inhabit (as in modern usage) (leaving out Australia, of course) first appears in the 16th century: Asiatique, African, Americain (1556) and Europeen (1563).

From the perspective of the appearance of these first references, the missing 100 years is especially striking: there is a void from the middle of the 14th through the middle of the 15th centuries. If the reference to the Scots is considered an isolated exception to the general rule (having in mind the possible delay in their establishing themselves as distinct from the English), then two clusters are found: those mentioned up through the 13th century inclusive (ending with the Turks) and the remainder, mention of whom appears only from the middle of the 15th century. And it is additionally significant that mention of some of the supposed “predecessors” of today's people appears even later than that of those people themselves – the Batavi, the Frisians, Helvets, Etruscans, Phoenicians, Aramites and so on.

RELIGIOUS COMPONENTS

Now let us turn to the matter of religion and monotheism. The word “catholique” is noted for the first time in the 13th century in the form “chatoliche”! It had to have been a reflection of the Greek “katholikos.” And the word “orthodoxe”? In 1431. And this is close to the truth : this is the time of the Ferrara Council. It is funny, however, that “chatoliche” has something suspiciously in common too with *château* (castle, 1175 - from *castels* 1080), that is, “one sitting in a castle. Or in a tent (*châtelain*, 1190 – compare “castellan” – a stock keeper who controls property). The Polish term for a Catholic church is similarly interesting – *kosciol* (i.e., the same as “castle-castel”).

According to the history of Roman Catholic church, the Great Schism occurred in 1377-1417. Accordingly, in 1377 the term “sc(h)ismatic” was coined in English, and in 1382 there appears the word “scisme” which, in the 16th century, restored the Greek “ch” resulting in “schism,” although it has still not ceased to be pronounced as “s” (!).

Frenchmen “restored” Greek form of “schism” and “schismatique” (where sch = sh!) in 1549, ignoring the “ancient” forms “cisme, cimatique” (1196). Words were obviously being imported directly from Greek, bypassing Latin completely. For in a Latin transliteration of Greek, “schisma” should be pronounced as “sk-“, as in English (not sh-!). As, that is, in the word “schizophrenia” from the same Greek root (both in English and French)!

All this has nothing to do with any mythical “split between churches of the 11th century.” Scientists and scholars comfortable with catastrophism call the 13th-15th centuries “Schizo Time”. And this is quite a fair characterization of them. Interpreters of “the Hebrew letters,” the Massorètes, were so-known for the first time only in 1532! The term “Israelites” appeared in 1458; Galileén, meaning “pertaining to a province of Israel,” was a novelty to pious French Christians in 1534 even though the neighboring Samaritains were known much earlier - in 1180. Even Chaldeen was coined only in 1590!

And against which “non-believers”, infidels, did the French Crusaders fight? They did not know the word “mosque” (*musquette*, from the Arabic *Masdjid*, that is, a

place for prayer) previous to 1351 (today's *mosque'e* generally is from 1553). It is typical that in the Rumanian language "mecet" is not only a mosque, but even a Turkish cemetery and a spiritual consistory (!) in general. I.e., such an administrative and housekeeping service as might be an adjunct of any Christian Church. They did not know of minarets (minaret) until 1606 or *muezzins* (in the form *maizin*) until 1568 (today's *muezzin* is from 1823). Imam (in the form *iman*) is from 1559. And even the notion itself of a "Musulman" appeared in French only in the 16th century (from the Arabic "muslim" = true believer, fidel).

The notion "hadj" was borrowed by the French from Arabian "hagis" for a designation of a pilgrim in 1568 (in the form "hadji", denoting a pilgrim to Mecca - in 1743.) A word "hegira" (the start of Muslim calendar) was fixed in 1556... The word "islam" appeared for the first time in 1697. And Frenchmen first heard "Salamalec!" (as in the TURKISH greeting!) shortly before 1559...

Englishmen got acquainted with the word "islam" even later - in 1818. "Muslim" and "Muhammad" were coined in 1615. "Salaam" as a greeting dates from only 1613. Other important terms with the dates at which they appeared are: Ismaelite, 1604. Shiah (= "a guerilla sect") - 1628. Shiite as an accessory to one particular branch of islam - 1728.

"In the English language the word "surah" appeared only in 1615. In French, "Surah" appeared in 1559. In the 14th Century, the French understood the term "Alcoran" as, literally, "the book for reading." The Koran (in its modern significance) appeared as "Coran" in 1657.

About pilgrims: In English the word "pilgrim" was borrowed in the 13th century from French "pelerin" (in French itself it appeared in the 12th century), and linguists comment that original Latin "R" in a word "peregrinus" (a foreigner, a wanderer) changed naturally into L in Romanic languages by dissimilation.

However, 1) "peregrino" did not dissimilate in Italian, Spanish or Portugese, so this dissimilation is pure French, not Romanic; 2) in the French "pelerine" there was no "g", presumably following Latin "peregrinus", therefore English "g" in "pilgrim" does not come from that time or source; 3) the ingenuous Roumanians seemed to know nothing about this Christian pilgrimage. This being the case, they had to borrow both "pelerine", and "peregrine"... but not before the 17th century. Until then these Orthodox believers called a pilgrim to sacred places plainly... haji, i.e. the same word as the Muslim "hadji"!

It has already been noted that the word "Saracen" (sarrasin) appeared in the French language simultaneously with the word "synagogue" (1080) although, according to traditional history, these same Saracen-Moslems (!) had invaded the territory of France as early as the 8th century. At the same time, this word from the Arabic is "charqiyin," that is, literally: "eastern"... I.e., Saracens are EASTERN people with respect to the Arabs themselves!

MEDIEVAL CALENDAR PROBLEMS

Now we turn to how the current dating scheme came about. Here is a fragment from a history of the papacy by S. Lozinskiy: 'Owing to internal dissensions, Rome, from the end of the 9th century, went through a period of severe crisis during which the papal

crown passed from one pope to another, depending on who was the stronger. In "877," Pope John (VIII, traditionally pontiff in "872-882") was even in the prison of one of the feudal rulers, and after he gained his freedom he left Rome and tried to convoke a council in France for the punishment of his "oppressors." It did not happen: The pope wrote, "We expected... the light, but received the darkness." This John, according to a chronicler from Fulda, became a victim of his own personal policy: they gave him poison, and since he didn't die right away, the blow of a hammer to the skull put an end to his mortal existence. That was the first in a long line of murderous events in the history of "God's deputy on earth" during the middle ages.

We note that, during this time, there is not, in even a single source, any mention of the start of the new "Great Indiction," according to which the Roman Catholic Church now functions and which was supposed to have begun exactly in "877." This claim assumes they knew at this time that the preceding, "Constantinian," had begun in "345." But they clearly didn't know this then... But you see, this is the basis of the calculation of the Easters!

The further history of the papacy, with all its depravity and murders, provides no foretaste of either the earnest piety to come in the future -- that great holiday, the "millennium" (that is, the 1,000 years from the birth of Christ) -- nor of any sense of awe at the coming of a new "thousand years of Christ." Nor of the selfless devotion of the hermit Pietro Damiani ("1007—1072") and the Pope-Reformer (Gregory VII, Hildebrand, traditionally pontiff in "1073-1095). But such inexplicable ignorance of the "millennium" is not only characteristic of the Roman Catholic Church in the West: In the East, the "newly converted" Kievan Rus (who traditionally became Christians from "988") by no means celebrated this event either.

Here is one representative example. A Papal Bull dated by historians and archivists to 1022 years after the birth of Christ is considered to be the oldest original document in the exceptionally rich archive of the city of Dubrovnik (Croatia). However, the year after the birth of Christ in the text of the Bull is not written on it -- there is only an "indictum." For this reason, precise dating of the Bull is impossible, inasmuch as the *indicta* are repeated every 15 years and the Bulls, traditionally attributed to the 11-13th centuries, are dated with reference to the Popes at Rome. For example, the Bull at issue is referenced to Pope Benedict VIII. But there is no number "VIII," in any form, in the text of the Bull itself - there is only a reference to a pontiff named Benedict; the attribution to a date "according to the (sequence of the) Popes" was done much later than the writing of the Bull itself. If one is to date the Bull by comparison to similar material, let us say, to materials on which are written papal documents from the start of the 15th century which are found in that same archive, then this Bull can be reasonably attributed not to the time of Benedict "VIII," but to the time of Benedict "XIII." (True, in 1409 this Benedict was deposed at the council in Pisa, but the deposed "antipope" resisted for a long time until the Council of Constance finally dismissed him in 1417).

Yet the English churchmen are supposedly already using the "Dionysius tables;" the first "A.D." date in England appears in "675"! And the chronicler, the Venerable Bede, in "731" is already assigning dates from the birth of Christ although the first document in the Papal Chancellery with dating from the birth of Christ appears only in "1431"! Thus it turns out that the English are more pious than all the Roman popes combined for more than 700 years...

It is thought that the first official document in France with dating from the birth of Christ appeared, it is claimed, in "742." But from the end of the 9th Century until the second half of the 11th, there are no such documents anywhere! In addition, no sort of "millennium" is recorded as having been observed. They begin to compile lists of the kings and registers of popes only in the 14th century. The numbering assigned to them (especially to those with the same name) at that time is often confusing. Look at one story alone – that of "Pope Joan" (supposedly a former pontiff either in the middle of the 9th or at the start of the 11th century), whose story emerges, it is thought, in the middle of the 13th century. This pope herself was still happily included among the popes in the lists of the 16th century until, in the 17th Century, the humanists forced the Roman Catholic Church to remove this shameful page from their (in any event, sham) history.

At the same time, no one had ever mentioned this female pope in the 10th-12th centuries. However, according to the traditional history, in the first half of the 10th century a certain "Marusia" ran the affairs of the Roman Catholic Church - Morozia Theophylact, who lived with Pope Sergius and gave birth not only to the future Pope John (XI) by him, but also to Alberic, whose son (that is, Marozia's grandson) was named... Octavian. And he, afterwards, is also a pope (John XII)... This isn't just a joke – it is a colorful *romance*: that is, literally, "Roman history."

The Hijra era of the Moslems, it is thought, was introduced during the reign of the Caliph Omar, near the middle of the 6th century. In the 20th Century they suddenly discovered an Egyptian papyrus with a dating in the 22nd year from the hijra ("644/645" A.D.) and an epitaph with the date of the 31st year of hijra ("652/653 A.D."). That is, these datings calculated from the hijra are earlier than are datings from the birth of Christ! At the same time, the written fixation of the first Suras of the Koran is at the start of the 14th century (according to N. Morozov – in "1318." According to an assumption of V. Polyakovskiy – in "1321," during the coordination of the calendars (the start of the lunar and solar calendars practically coincided in this year).

Leonard da Vinci directly writes in his diary at the start of the 16th century that Mohammed prayed... to Jupiter. That is, at first he was a pagan. Then, according to the chronicle of Giovanni Villani, published in that same 16th century, Mohammed sided with one of the Christian sects and only later with the aid of a certain apostate monk, Sergius Georgius, organized his own spiritual enterprise. The historian Mikhailon Litvin says essentially the same thing in the 16th century.

In the Koran there is a direct reference to the Gospel (Sura 57:27): "Then We sent other messengers to follow in their footsteps; and We sent Jesus, son of Mary, and GAVE HIM THE GOSPEL; and We filled the hearts of his adherents with kindness and compassion. But MONASTICISM THEY PRACTISED." In other words, the existence of the apostles (i.e., those who followed Him) is acknowledged in the Koran, but their (purported) "Acts" are not. There are fragments of the Protogospels and "Apocrypha" in it, but not of the canonical "Gospels" (*plural*).

According to traditional history, the monastic orders arose not earlier than the turn of the 11-12th centuries (the Knights of St. John, the Cistercian Order, the Knights Templars, etc.) The early history of the Benedictines, an order considered to have been in existence since the 5th century, is completely imaginary: its structure was established only in "1128." For that matter, up until the 12th century there had never existed the

notion of “*order*” as a *structure* at all. (The word "order" itself designates "sequence," just as does the word “horde.” An order is *not* a disorganized mob.)

Further, in that same Sura of the Koran: “We ordained it not for them - We ordained only seeking for Allah's favor, though they did not foster it as they should have.” What does it mean here? This Sura is called the “Iron.” The only monastic order which is officially acknowledged to have been destroyed before the middle of the 14th century is the order of the Knights Templar (that is, the keepers of the Temple) in “1312” (in fact - in “1307”), aggravated by their refusal to submit either to the kings or to the Pope of Rome. All metallurgical and weapons production was under the control of this rich order (according to the official version founded in “1118”), which had branches throughout the Ecumene. The Temple of Solomon, alongside which was situated the headquarters of the Knights Templar – is today the Mosque of Omar. This is the time at which, as is thought traditionally, the Hijra was introduced.

We see that immediately after the destruction of the Knights Templar in the “14th” century in the traditional historiography there follows the appearance of the Islamic analogue of the Vulgate (the official edition of the Koran) in the time of Sultan Osman, and the acceptance of Islam in the Horde in the time of Khan Uzbek (“1317”). And immediately after this follows the “Avignon Captivity of the Popes” (“1309-1377”) with all its popes and antipopes -- a multi-papacy muddle – all the way through until the real appearance of the papal chair in Rome in “1377.” This was not at the Vatican, as it didn’t yet exist, but at the Lateran! (By the way, Petrarch openly called this captivity not “Avignonian,” but “Babylonian”...) Pope Pius (the Second) called himself Roman Pope number nine – and he was correct ...

A universal struggle for power with strong religious overtones breaks out elsewhere as well, at the same time, There is the destruction of the Capetians, and the coming to power of the Osmons in Turkey, and the insurrection of the Zealots in Greece, and the Hundred Years War, and the insurrection of Wat Tyler in England and the “Ciompi” in Italy, and the battles at Kulikovo and Kosovo Field and so on. And all this occurs against a background of that very universal plague. As would only be expected under such conditions, the acceptance of a single, open-ended chronological scale and the coordination of calendars in the 14th century was difficult.

In this connection, the legendary story of “Cola di Reinzo” is exceedingly curious. Nicola di Lorenzo at first opposed one of the popes and led an uprising of the “popoplano” in “1347.” They first welcomed him in Rome as a popular hero, and then immediately put him to death. We note that “Nikolai” is Greek, meaning “victor of the peoples,” making it more than possible that the legendary “Nicolaites,” who are denounced in the Revelation, were in actual fact followers of “the popular Tribune Nicola”... And let us add that Petrarch, in his Sonnets numbers 3 and 78, speaks of 6 April, “1327” as the date of the Crucifixion.

The history of the Roman Catholic “Holy Years” is also of considerable interest. As has already been mentioned, the date of the first “Jubilee of 1300” looked rather strange. It is alleged that the establishment of 50-year intervals between Holy Years at that time was connected with an antiquated Jewish tradition. But why had this Jewish tradition not been known to Christianity at all during the previous 1300 years?!

Here is the modern version of these significant events. During the last seven centuries the Roman Catholic Church has celebrated 26 Jubilees (not including *three* extraordinary ones).

In the beginning it was intended that Holy Years should be celebrated at 50-year intervals.

During the Great Schism, Pope Urban VI (1378-1389), judging that many pilgrims would not be able to share in the benefits of a Jubilee if it only occurred every fifty years, decided to shorten the interval. He accordingly decreed Holy Years to be observed every 33 years in commemoration of the length of time our Lord Jesus Christ spent upon earth.

So he announced the first (and, probably, the last) Jubilee of Resurrection (rather strange is this "the thirty-nine-fiftieth" anniversary, not really!). For various reasons, he was unable to celebrate the planned Jubilee in 1383 and finally announced it for 1390 in the Bull *Salvator Noster* of April 8, 1389. Note: that Holy Year was not connected with Christmas!

There is an official explanation that it was the plague epidemic that prevented Urban from celebrating it in 1383-1388. But how did the second Jubilee ostensibly take place in 1350, when the plague and disorders in the papacy were also in full swing?

They say that, at the end of this century, all Christendom was bent on obtaining the indulgence of the centennial year 1400, as Boniface VIII had similarly decreed in 1300. Again, it was Boniface IX who ordered this fourth Jubilee. The Great Schism came to an end with the Pontificate of Pope Martin V (1417-1431). This Pope respected the prescriptions of Urban VI, who had fixed the Holy Year at intervals of 33 years. In 1423, the Jubilee took place *without any Bull having announced it officially*. Few pilgrims came to Rome because of the difficulty of the times. By contrast, the Jubilee of 1450 proclaimed by Pope Nicholas V (1447-1455) was a grandiose event. After the evils of the Great Schism, it was saluted as the dawn of a veritable resurrection of the Church. And 50-years intervals between Jubilees were proclaimed once again, ignoring the Holy Years in 1390 and 1423!

At first sight, this contradicts the data from the Lutheran Chronograph (L.C. p. 332). It records that in 1389 Pope Urban VI established "The Jubilee of Christmas," which should have been celebrated every 30 years beginning in 1390. And the previous Holy Years (1300, 1350 and 1383) are not mentioned at all.

Further we learn that, subsequently, the order of Anniversary years was changed. Namely: Pope Bonifatius IX celebrated a Jubilee for the first time in 1390, and for the second time in 1400, i.e. twice. Thus, Pope Bonifatius IX transformed Anniversary from every thirty years to a celebration every 10 years.

But the sixth Jubilee was celebrated in 1450 under Pope Nicholas V. This does not reconcile with ten-year intervals from 1390, since 1450 must have been Jubilee number seven, not number six! The next Jubilee should have happened fifty years after this -- neither in ten, nor in 30 years (ibid, p. 344). Again, the Holy Year in 1423 is not mentioned. However in 1464 Pope Paul II ordered the celebration of a Jubilee in 25 years. Paul II himself died before 1475, when the next Jubilee should have been celebrated, therefore it was celebrated by his successor Pope Sixtus IV, who ruled from 1471-1484. Thus, in 1475 there was the seventh celebration. The eighth celebration

happened under Pope Alexander VI in 1500 (ibid, p. 346). Since that time this order has held good except for two missed Jubilees (in 1800 and 1850).

Here is the list of dates of all aforementioned "Holy Years" from 1300 to 1500: 1300, 1350, (1383) - 1390, 1400, 1423, 1450, 1475, 1500. Apparently, there are eight of them, with any kind of uniformity in intervals lacking. So the Lutheran Chronograph was not mistaken; it simply records awareness of the discrepancy in the data concerning these "Jubilees" in the 17th century.

It is significant that one and the same interval – 430 years – is indicated in the Old Testament as the time of the “Egyptian captivity” before the Exodus of Moses (Exodus 12.36) and in the New Testament (Galatians 2.12) as the time between the Exodus of Moses and Christ. It is not inconceivable that between Moses and the Christ-Messiah there was no particular difference, and the figure cited simply reflects the continuance of history which is known by the middle of the "14th" century. But in the Koran it says that Jesus, on his mother’s side, was the nephew of her brothers Moses and Aaron. That is, one generation separated them. And they called Moses’ father-in-law, a priest of the "Midianites," (that is of the “inlanders”) Jethro (Exodus 3.2) -- in Greek, “God Bearer.” At approximately this same time the demarcation of the recognized and unrecognized “coming of the Messiah” begins.

By the way, one can observe the identity of Jesus (Christ) with Joshua (son of Nun), concerning whom it is directly said in the Old Testament that, before his death, he gave his people a *New Testament* (Joshua, 19:25).

Separation between those who recognized "The Arrival of the Messiah" and those who did not thus seems to begin in the beginning of the "14th" century.

And only by approximately "1430" did a series of events occur which consolidated society. First, the power of the popes was limited by the Council after the stormy administration of John XXIII (“1410-1415”). (Granted, since “1958,” the Roman Catholic Church no longer considers him to have been a pope at all).

Second, the Roman Catholic Church made short work of the “Hussite Heresy” (we note that *today* the Russian Orthodox Church no longer finds any ideological difference between the Protestant teachings of Hus and Orthodoxy.)

Third, Sultan Mehmet (I, Mohammed) finally overcame his rival brother, Musa (Moses, “1413”), at which point the establishment of the Osman Empire begins.

In China, the great and powerful emperor Zhu Di, who destroyed the power of the “Mongols” and who gathered for his coronation, according to the Chinese chronicles, all who had merited his attention (from the Persian Shah to Eskimos – in addition to the remote kings of England, France, Spain and Portugal, the Roman Pope and the Byzantine Emperor) was crowned...

Subsequently, no less impressive meetings of the world’s mighty ones were held: In Eastern Europe, in Trakai, at the jubilee of Vytautas-Alexander. In the West, at the wedding of Philippe Le Bon and Isabella de Portugal, at which the founding of the Order of the Golden Fleece was announced. (On the pluvial of the order were embroidered the portraits of all of its cavaliers – sovereigns from Japan to Gibraltar).

The apogee of this temporal consolidation is the Ferraro-Florentine ecumenical negotiations (from “1431”) and the creation of the union (“1439.”)

In the West, this became the actual basis for the establishment of a single, open-ended method of counting the years, and the beginning of the promulgation of a

traditional history. Only at this time did the Latin notion *Anno Domini* finally merge with the idea of chiliasm. So where there had previously been “from the coming of the Lord’s thousand-year era,” there is now “in the year from the incarnation of the Lord one thousand... such-and-such.” Thus the concept of chiliasm produced an empty space of more than a thousand years which required some sort of “history” to fill it.

Here is what Bernard Guenee writes, referring to the works of Jean Mielot (*ibid.*, pages 369-370): “In 1409, at the end of the ‘Golden Legend’ which he had completed several years earlier, Nicola de Custură, a canon in Senlis, outlined in Latin, on the reverse side of a sheet, 3 decades of chronological inscriptions, to which, very likely, for him, all of world history had been reduced... At that same moment, Thomas Marest, a former student at the University of Paris... cites the continuance of some time segments which mark the history of the world from its creation to the birth of Christ...” These somewhat chronological data show the extent to which the knowledge of the clerics who were somewhat interested in history was restricted.

In the Orient, the lunar calendar remained popular, in which Mohammed’s flight from Mecca to Medina was adopted as the reference point – the same lunar calendar as for that of the Old Testament exodus of the “true believers.”

There simply was no term “Julian calendar” before the 16th century. The “Byzantine” accounting, as also other attempts at a method of counting the years “from the Creation,” continued to compete with the “new eras” (from the birth of Christ and from the Hijra): the “Byzantine” accounting method lasted in Russia until “1700,” the “Usher” Judaic calendar existed in England along with the Christian until the middle of the 18th century. The concordance of the “Byzantine” accounting with the Christian calendar (which Kepler in “1601” still called the “era of Dionysius”!) happened even later than the Gregorian reform – approximately by “1620,” inasmuch as only then was the present accounting of the years from the Creation until the birth of Christ adopted: 5,508 years -- not the 5,500 it had formerly been.

The unified “Julian cycle,” proposed by Joseph Scaliger and named by him in honor of his own father (Julius Caesar Bordoni, the founder of classicism), represents the product of the duration of the lunar cycle (19 years), times the duration of the solar cycle (28 years) times the length of the indictum (15 years) $7,980 = 19 \times 28 \times 15$ years. This cycle begins 706 years before the Creation, and even now has not ended. This artificial procedure is the basis of the traditional chronology’s framework. It represents, in essence, a compromise between the interests of the church and the secular rulers, who were struggling for supremacy throughout the 17th century.

"The historiography on the level of 1300 is not very ingenuous. It is worse equipped, than ours, but not less intelligible. Dates in the chronicle can be erroneous, but at least these are the result of calculations made by thoughtful researchers which, as they were able, used the materials available to them. Thank God, during later centuries our DATES have been specified. Our works became more successful, but these are ALL the SAME WORKS. We are ALL the SAME sons of Eusebius of Caesaria, Bede Venerabilis and Bernard Guy." (B.Guenee, *ibid.*, p.191).

The recovery of actual events earlier than the “17th” century and the extension of a continuous chronology back to them is, at root, a far from simple problem. But nevertheless, a partial reconstruction seems possible once the catastrophic year “1260” is taken as a reference point.

(It is curious that this figure 1260 also appears in the Apocalypse. However, there, "1260" is treated as the number of certain "days": (Apocalypse, 11-2, 12-6).

The 12 cycles-generations-indicta, counting backwards from 1260, give the "time of the Lord's Passion:" ("1260" is $12 \times 15 = 1,260 - 180 = "1080"$). However one calculates the "birth of Christ" from this point, it will not coincide with "0" or with the year "1000" because there are neither a "first millennium" nor documents with dates "from the birth of Christ" in the vicinity of this point UNTIL the assumed birth of the *prototype* of the Savior near the real year "1050." Earlier documents with dates "from the birth of Christ" are absent more than 100 years before this.

Now is the very time to recall "Zhabinskiy's sine curve." Aleksandr M. Zhabinskiy ("Another History of Art," Moscow, Veche, 2001) has shown convincingly that graphic art developed continuously from the "9th" through the "17th" centuries, with a single glitch – right in the "13th" century -- and that all "ancient" art is an imaginary chronological projection of the middle ages into the past. The starting point of this sine curve is exactly our traditional "9th" century. The fundamental ascending half period of the "sine curve" runs from the "9th" through the "17th" centuries. According to the "Byzantine" sharp curve, the sine waves of the "9th-11th" centuries duplicate exactly the actual "13th-15th" centuries (the remaining offshoots -- "Egyptian," "Roman," "Indochinese" and "Ancient Babylonian" – are derived from these two key positions). In other words, all of the "ancient" graphic art in the history of our civilization was the product of only 300-400 years, starting in the middle of the traditional "13th" century.

The history of the *written language* also is confined to this same period: according to the equation of civilization's pace: hieroglyphic writing comes at the turn of the "9th-10th" centuries (according to the interval of a civilized event, the year "900" \pm 100 years) and writing in letters at the end of the "11th" century (according to the interval of a civilized event, the year "1080" \pm 80 years). In other words, there simply were no written sources of OUR civilization earlier than the "9th" century.

In the real history of our man-caused civilization (the Technogenesis epoch), two stages, in the first approach, can be examined: The "pre-catastrophic," approximately from the traditional "9th" century through the middle of the traditional "12th" century, and the "post-catastrophic" – from the second half of the traditional "12th" century and up to the present time.

Thus, previous to the "12th" century, it is simply not realistic to talk about a Technogenesis epoch. Any civilization before this could only be "naturally economic." Essentially, we even see this in the example of the aboriginals of South America, Africa, Australia, Oceania and the Far North.

One might conceivably connect the turn of the "9th" Century with the Dardanelles Flood, the bursting of the Dardanelles Strait with consequent flooding of the Sea of Marmora and the Black Sea. This correlates with the conclusions of the work of the hydrobiologist V.V. Polishchuk, with respect to the changes of the flora and fauna in the deposits of the Black Sea. On the basis of his discovery of an abrupt change in the nature of the sedimentary deposits Polishchuk concluded that, before this catastrophic rupture, the level of the Black Sea was approximately 12 meters lower than now. Then the water rose by 80 to 100 meters and stayed this way for approximately twenty years, after which the level began to fall to the modern level. In terms of the traditional chronology, this event was dated as the 8-7th centuries B.C. (V.V. Polishchuk. On the

Significant Late Holocene Rise of the Level of the Black Sea and the Origin of Northern Elements in its Fauna. *Hydrobiologic Magazine*. Volume XX, No. 4, 1984; V. V. Polishchuk. On the Boreal Elements of the Fauna of the Black Sea Basin. *Hydrobiologic Magazine*. Volume 14, No. 4, 1978). Some archaeological data also support this hypothesis (M.I. Artamonov: The Role of Climatic Changes of the 8th-7th Centuries B.C. in the Transmigration of Cimmerians and Scyths to Asia and their Return to the Steppe of Eastern Europe in the 6th Century B.C., in the book: "Ethnography of the Peoples of the USSR. Leningrad, Science, 1971, pages 45-60).) Datings in these works are naturally traditional and not absolute. In light of "Zhabinskiy's sine curve," according to which the "8th" century = the "11th" century, and the "7th" century = the "10th" century, the Dardanelles Flood can be ascribed to the "9th" century.

CALENDAR OF TECHNOGENESIS

This proposed concept allows a somewhat different interpretation of the mathematical and statistical work of Anatoliy T. Fomenko which led to his construction of the "Global Chronological Chart." According to Fomenko, traditional history up to the "13th" Century is comprised of six principal elements which are duplicated with shifts of 330 – 360, 1,000 – 1,050 and 1,750 – 1,800 years. One of the main elements of the Global Chronological Map (T) is distinguished from the others by the fact that it marks the "splicing" of the others. In light of the concept being examined, this is not a wave, but a catastrophe – "1260."

None of the three chronological shifts discovered by Fomenko are *astronomical*, which confirms the conclusion of A.B. Verevkin that "astronomical" shifts do not have any real prototype. A shift by (330)-360 years reflects a real continuance of "pre-catastrophic Technogenesis": the years "900" – "1260." A shift by 1,000-(1,050) years is a creation of a "chiliastic" concept, finally adopted in the "15th" century (the "1439 Union"). A shift by 1,750-1,800 years is the total of the chiliastic shift and the fundamental ascending half period of Zhabinskiy's "sine curve" (the "Scaliger-Petavius" scale.)

Arabic numerals with the consequent ability to perform complex calculations appeared at the turn of the "12th-13th" centuries (Fibonacci, "1180-1240"). These very calculations of open-ended time began only *after* the catastrophe - not *before* the "14th" century. There could not be *any dating* "from the Creation," "from the birth of Christ," or "from the hijra" before this. To go beyond the conceptual limits of the "pre-catastrophic" phase in the development of our civilization (approximately 360 years) by the comparison of the various undated chronicles without additional contrivances (the "chilia") was simply impossible. And this forced the chroniclers of that time into acceptance of the chiliastic concept.

Apparently, the "Diocletian Era," fortified by the change in ideology from pagan to monotheistic, witnessed the first attempt at the creation of an open-ended design which took into consideration the added "millennium" (in the traditional history, the Diocletian/Constantine change, the real prototype of this change - is at the turn of the traditional "11-12th" centuries). In this context, the letter "i," which stands before the subsequent figures designating the year could just as well signal the beginning of the

abbreviation of "initio" (that is, *start*); later it is an abbreviation for Jesus, and from the "16th" century, simply "1" (That is, the chiliastic "thousand years").

The "third chilia is the era of the Holy Ghost." I.e., 12 generations from the catastrophe of "1260," terminated exactly at "1440." And the transition of Western Europe to dating from the birth of Christ with the inclusion of a millennium occurred in "1400-1440," for exclusively political reasons. This marked a new stage in the creation of the traditional chronology, the ideology of which was immeasurably reinforced through widespread circulation in the form of printed works. The introduction of the Moslem "hijra era" occurred even later, most likely during the time of Suleiman (I, "Kanuni"). This stage ended approximately in "1520," with the formation of the new western "Catholic" empire of Charles V and the coming to power of Suleiman (I), who unified the whole eastern part of the former empire. After this began an intensive process of creating national states and furnishing them with their own histories. This further necessitated an open-ended, universal chronological scale, a task which was accomplished by the middle of the "17th" century.

Caesar Baronius, working in parallel with the chronologist Julius Scaliger, wrote the "Church Annals" ("Annales Ecclesiastici"), covering the time from the birth of Christ to 1198 in twelve volumes (Rome, 1588-1607), a feat surpassing even that of the Centuriators. (It is interesting that Baronius apparently encountered these same problems with the "13th" Century, to say nothing of the following centuries).

In 1627 the Jesuit Dionisius Petavius published "Opus de doctrina temporum" ("A Treatise on the Doctrine of Times"), and in 1631 wrote "Rationarium temporum" ("A Rationalization of Times"). These seem to place the changeover from the lunar calendar to the solar (in the "16th" century!) in the middle of the 13th C. (i.e. in 1240-1260). If this was indeed the case, then "the 1300-year Christian history" *up until the first Jubilee* should be reduced to some 100 years or so ...

An outstanding encyclopaedist of the 17th C., Athanasius Kircher (Newton, Leibnitz and Boyle all called him their master) was occupied with the calendar problem, too.

It is possible to assume that the first attempt at the synchronization of calendars was undertaken around "1572": the Byzantine 7080 years from Creation of the World (i.e. 7080-5508 = 1572 AD), being divided by 12.37 (the ratio of the durations of the solar year and the lunar month) results in approximately 572 which, with the addition of the "chiliastic" 1000 years, comes out to "1572." It is at exactly this time that the Centuriators worked.

But the divergence between chronologies based on lunar and solar patterns had still not been corrected even in the first half of the 16 century. Historian I. Zajtsev ("Astrakhaskoye Khanstvo", M. , Vost. Lit. Russian Academy of Science, 2004) gives direct evidence of non-synchronization between the hejira-based and the Christian calendars (i.e. lunar and solar calendars basically) in the first half of the 16th century. Even in the beginning of the 17th C., the differences between these dual datings amounted to between one and three years.

For example, dual dating in a Latin translation of a letter by Suleiman Kanuni to Sigismund reveals a one-year discrepancy: "...currentibus annis prophetae nostri 936 in fine lune Ramaxan... i. e.... currentibus annis Messiae Jesu 1531 dic XV Maji.." But May, 15, 1531 should correspond to the end of Ramaxan not in 936, but 937 Anno Hegira. This

example is not unique at all among double datings in Latin translations of letters of that time. Note here that it requires 32-33 years for each one-year solar/lunar calendar discrepancy to accumulate.

Thus it is curious that *retrospective* double dating (e. g. a letter by Sultan Bajazid from 894 Hegira, the translation made in 1640) presents a *reversed* discrepancy (1487 instead of 1488/1489).

Note also, according to some information, that even in the beginning of the 17th century the difference between AD and "Byzantine" (from Creation of the World) calendars was estimated not at 5508 years, as is accepted now, but at 5500 (see, for example, Peter Petreus, "On the Beginning of Wars and Disturbances in Moskovia ", M. Rita-print, 1997).

The final synchronization of calendars for traditional chronology was made by D'Antine and Clemencet: "L'art de verifier les dates et les faits historiques"("The Art of Verifying Dates and Historical Events"), published in 1750. After this, even conservative Englishmen moved the beginning of the year from March 25 to January 1st (1752).

Finally, in 1777 the Goettingen historian and expert on auxiliary sciences Johann Christoph Gatterer published his textbook on chronology which was re-published for 120 years in many languages, forming the chronological basis of modern traditional historiography.

Since the end of the 18th century, historiography has edited all sources into conformity with the established chronological outline. Naturally, historiographers have deleted everything incongruous with it, filled in the blank places, and repeatedly re-written the accounts by their predecessors. Thus real events from both the "pre-catastrophical" and "post-catastrophical" eras came to be either deleted from the record or re-assigned to the remote past. The new universal chronological scale which resulted showed discrepancies immediately. Thus in the first quarter of the 19th century, Barthold Niebuhr, the founder of "a critical method in history," concluded that because such a significant proportion of the previous accounts was either clearly mythological or doubtful, the gaping lacunae which resulted when these were deleted would have to be filled-in by "interpolation." I.e., patching over the holes in the fabric of traditional history by sewing "reconstructed events" similar to those deemed historically plausible into it.

By the 18th Century, in the process of creating a universal chronology, traditional historiography tried to completely erase the Catastrophe of 1260 from collective memory, fencing it off as "the Time of the Plague" by recounting (and dwelling on) only its epidemics. Thus awareness of the original event as a natural phenomenon (history) was hijacked and replaced by fear of the wrath of God (one consequence of it in the sphere of mass-psychology). The resulting "history" thus served to legitimize the authority of the parvenu "ordained by God" papacy and fostered, by innuendo, the false impression that its foundation had been "from everlasting."

Further, historiography has redacted all sources in accordance with its pre-established chronological framework. Naturally, at the same time, the historiographers were both rejecting that which did not conform, and fabricating that which was lacking, repeatedly re-writing anew that which had been fabricated by the predecessors. In the process, real events in both the "pre-catastrophic" and "post-catastrophic" eras were either expunged or dispatched to the distant past. The main thing that the traditional historiography had accomplished by the "18th" century was the creation of a universal open-ended chronological scale:

- 1) it tried to erase completely the catastrophe of "1260" from the memory of mankind, isolating it as the "Great Plague," since epidemics broke out repeatedly;
- 2) it concealed the lack of any kind of chronological record of our civilization before the traditional "9th" century. At the same time, the Great Flood was relocated to very ancient times and became completely fabulous.

The fear of God was instilled above the fear of natural catastrophe. And the new open-ended chronology assured both the legitimization of the powers that be as "anointed by God" and the "historical antiquity" of this very authority.

The very real consequences of the *religious* events in the Technogenic epoch can be summarized approximately thus:

- 1) The "Pagan Era": from the turn of the "9th-10th centuries to the middle of the "12th century. This includes the conventional "pagan period of the Ecumenical Empire" – that is, the coalescence of the Ecumene and the establishment of relations between groups of people who were assimilated similarly to those in adjacent territories on the basis of "God" as their common, supreme judge. This was in approximately the middle of the "11th century."
- 2) "Monotheism": after the catastrophe of "1260." This is the appearance of the "Mosesites," the "Apostolic Brethren," the "Melchites-True-Believers-Orthodox" – that is, of the early Christian sects. The origin of the Moslems at the start of the "14th" century, of the Roman Catholic

Church at the end of the "14th" century, the struggle for religious supremacy in the Empire provisionally in "1453," the religious demarcation and split of the Empire and the formation of "nationally religious" states from the end of the "15th" to the start of the "17th" centuries.

At the same time, "Protestantism" is a movement against the expropriation of supreme authority by the clerical establishment. From this point of view, the seizure by Mehmet (II) of Tsargrad (Constantinople) is a victory of "Protestantism," the Moslems at that time having been one sect among many. Religious tolerance in the eastern part of the Empire was completely maintained until the middle of the "18th" century, despite the introduction of Shariat in "1630," but in Siberia and the Far East it is still maintained to this day. It is instructive that the notion of "Jew" in the New World appeared for the first time only after the purges of the Inquisition, in the *second* wave of emigration at the end of the "16th" and the start of the "17th" centuries (inasmuch as "non-Christians" did not have the right to emigrate to America as free people). Similarly, for another example, beyond the Volga only in "1634" with the first settlers from Poland and Lithuania (i.e., only after the formation of the "Philaret Russian Orthodox Church" in "1627").

The catastrophe of "1260" initiated the rapid scientific and technical progress of our civilization. The maximum extent to which this catastrophe, having disrupted the continuous chain of civilizing events, could have extended in general through our history is nearly 250 years in addition to the interval of approximately 7,500 years, which was cited in a previous article ("Civilizing Events" <http://www.revisedhistory.org/civilevents.htm>). This, by the way, is congruent with glacial evidence of an even earlier, powerful global "acidic" catastrophe nearly 7,800 years ago.

And it is no accident that the civilized development of America, which was separated from contact with the Old World for approximately 200-250 years, then "once again opened" to Europeans in the "15th-16th" centuries, remained, per se, agrarian.

And it is no accident that Western European medieval giants of thought – the fathers of civilization of the type of Albert the Great, Bonaventure, Roger Bacon and Thomas Aquinas appear immediately after the catastrophe in the traditional history. A

“New Time” in the history of civilization is coming according to the classical concepts of H. Weiss.

At the same time, a chronology (1) also is starting, according to which, up until now, mankind has been living.