

Uwe Topper: "Das Jahrkreuz"

The Solar Year Cross

Jolts and gaps in historical chronology

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with a foreword by Dr. Horst Friedrich

Contents

Introduction.....	2
Chapter 1: The cross: All-Embracing Symbol of the Solar Year.....	2
Chapter 2: How the Zodiac was Designed.....	3
Chapter 3: The Movement of the Earth Provides the Measure of Time.....	6
Chapter 4: Trying to Estimate Bygone Time.....	10
Chapter 5: The Fatal Jolt.....	13
Chapter 6: The Overthrow of the Heavens.....	16
Chapter 7: History Shrinks.....	21
Chapter 8: Time-reckoning and Start of the Calendar.....	23

Summary

This book treats of disasters of global scale that influenced the movement of the Earth and altered time-reckoning. The variations did not come slowly or unnoticed but in form of little jolts or jumps of the Earth which brought worldwide disaster to civilizations and nature, so man had to begin from scratch again. The course of our history is explained as having been caused by catastrophic events.

Uwe Topper puts forward new results of his research on precession jolts: By evaluating ancient and Arab astronomy records and how they were understood in the Renaissance, he demonstrates that repeated accidents struck the Earth since "Babylonian times" which caused the destruction of civilizations and enforced new beginnings. They can be detected in astronomical records. Although this had been already apparent through chronological investigation since the humanist historiographers from the 16th century onward, an explanation of the process itself was lacking. How does the Earth move during a jump and how did this change the basic elements of time-reckoning?

From the writings of Copernicus down to Velikovsky and Christoph Marx, Uwe Topper has united some main catastrophist ideas and presents a comprehensive picture of the development of astronomical knowledge from megalithic times to the present day. After more than four decades of continuous research he now offers another breakthrough: Precession jolts of the Earth can be demonstrated by documents in the course of history since the time of the Greeks well into the Renaissance.

As the book, for the moment, is only available in German, here we provide an English summary joining the main thoughts.



Entrance to the church of Aguas Santas in Portugal

Introduction

The eternal question of all historical research is: how long ago happened the occurrence that history is telling us – how old are the artefacts we find – how much time has elapsed since certain episodes which are transmitted by our ancestors ?

Without a secure timetable of events we cannot write history. “Chronology is the necessary scaffolding of historiography, and basic for its important fixed points are astronomical facts.” (Otto Neugebauer 1975, IV, 125 – see note ¹) Basically this was also Isaac Newton’s approach in his later works of 1728 and 1736.

Topper’s book deals with the earlier stages of astronomy and its development until Renaissance times. Copernicus as well as the Gregorian Calendar Reform do play an important role in this truth-finding experience. Apart from a new insight into historical precession in general there is astonishing research into trepidation that had been neglected so long or wiped aside as nonsense or at best represented as result of incomplete techniques of observation. In the end a new picture emerges which takes into account the three or four jolts of the Earth that took place during the last two to three thousand years of human memory.

Chapter 1: The Cross: All-Embracing Symbol of the Solar Year

In order to understand the frame of mind earliest man had of the notion of time and celestial movement we look into megalithic practices of time reckoning and calendar fabrication which are of remarkable simplicity, yet with far reaching results which we still can grasp. Apart from all sophistication of alignment of buildings that must have been employed by early man – we are dealing with the times of the great stone monuments like Stonehenge – we here look into simple measurements of the Sun’s shadow as observable in a cave or hut through a hole in the roof, or as the movement of the shadow of a vertical pole on a flat area like a threshing-floor of agricultural groups. By marking the main events – i.e. the movement of the tip of the shadow in both directions – man developed a calendar of the year simple to handle and memorize.

The outcome was condensed to a regular cross showing the four quarters (seasons) of the year as well as the parts of day and night. It was used as symbol and decorative assessment of all kinds as we can judge from art pieces and ornaments since times immemorial.

A geometrical division of the shadow’s distance between summer solstice and winter solstice furnishes the observer with the two important equinoctial dates, spring and autumn. Over a longer period of, say, 32 years, it would become obvious that the turning points of the shadow or the equinoctial markings did deviate by eight days and that every four years one entire day should have to be inserted into the calendar in order to keep it in accordance with the Sun’s movement. This leap day is of very

¹ Quotations of sources are always translated here from the German version, even when the original text was in English, because in most cases it was impossible for the translator to search for the original phrases. The meaning, of course, is always , and the exact source given.



Ram (Aries) with Solar Cross



Leo and Capricorn

old practice, its minor inexactness is only noticed after very long time lapses by using an uninterrupted calendar, or with refined methods of marking the shadow, e.g. in a curved "skaphe" (a hollow hemisphere instead of on flat ground), as the Greeks used since Anaximander's time, 6th c. BC. – note ².

Measuring the height of the Sun in his daily changes throughout the year provided man with more than just a proper time-reckoning. The shortest length of the shadow gave him the moment of midday and thus the direction of south-north. From those basic markings he soon learned to judge the angle of the ecliptic (equalling the angle between solstice and equinox) as well as the geographical altitude of his location on the globe (the angle between the shadow pole and the equinoctial point), both necessary for sea faring as the megalithic builders had extensively undertaken.

In the last part of this first chapter the author stresses that early man was able to understand the shape and even the approximate size of the globe he was moving on because his sea-routes north-south permitted him to judge this by simple reckoning of the displacement of the northern pole while he moved from the Lofoten Islands in Norway to the Canary archipelago off the coast of Africa, a distance stretching over nearly a quarter of the globe. Those sea-routes are documented by rock engravings all along this coast: they show similar techniques and are identical in style of symbols and expression. The author asserts as well that those daring mariners could deduce from the difference of the Sun's yearly movement between polar and equinoctial regions that it was the Earth that floated in the vast sky like a boat on the ocean, while the Sun and the stars did not move. In this experience and corresponding conclusion they anteceded Greek and Arab advances in astronomy propagated later on by Copernicus.

Chapter 2: How the Zodiac was Designed

An important challenge for early man was the division and simplified handling of the uncountable stars for the task of orientation in time and space wherever he was at any moment. Thus the path of the Sun relative to the night sky was given a scheme and memorized, our "zodiac". The first constellations to be created in this range were Capricorn and Leo, each of them covering nearly half the sky so that they became synonymous with winter and summer. There remain uncountable representations depicting the two cosmic animals embracing each other, mostly such that the smaller goat is protected by the bigger lion. The culminating midwinter Sun was seen in the node (a lump of stars) that formed the tail of Capricorn, the midsummer Sun as standing in the opposite point halfway between Spica and Regulus (Basilisk) in Leo. Of course one cannot see the Sun in that peculiar position in daylight, but one can see the Sun at both ends of the cosmic animal, at the head in the morning and near the tail in the evening. This gave rise to the habitual expression "Sun in Capricorn" when

² All dates before AD 1500 given in this book are indications the officially-used count of years in order to give a roidea where to locate the person or event in traditional historiography. The author has insisted for two decades – just like some of his colleagues in this new field of research – that the dates are void of meaning as to real distance of time, as he shows extensively in this book, too.

referring to its midwinter position at noon, or "Sun in Leo" for the summer position. Thus the emblems of the zodiac were created, describing the movement of the Sun through the ecliptic.

We know that the exact solstice position is not fixed forever, but moves slowly (or suddenly at certain moments) on account of precession, the wobble of the Earth's axis on its way around the Sun. In megalithic time the central position of the midwinter Sun moved to a second heap of stars, another node in the body of Capricorn, while summer solstice came nearer to Regulus in Leo.

For further convenience the two huge constellations were divided, each had to give up some stars to the newly created intermediate "animals" Taurus and Scorpio. They marked the Sun's noon position at spring and autumn equinoxes. This could easily be recognized in the corresponding nights half a year later, Taurus in autumn and Scorpio in spring, because in each location a very bright star of reddish hue stood in the middle of the constellation: Aldebaran in Taurus and Antares in Scorpio. They marked east and west for a certain time as has been recorded by a number of traditions from Greece and Egypt. Now all four constellations filled the sky in equal parts. This cross of four quarters like a wheel became the sacred symbol of the year, engraved in countless drawings on rock or pottery.

We don't know whether the astronomers of megalithic times recorded the change of position expressed by the new constellations, nor do we know whether this change took place during a long lapse of time or additionally as a result of a sudden jolt. In both cases the change is an indication of precessional movement. This becomes more evident when we look at the next stage of the zodiac which consisted of eight divisions. Between Capricorn and Taurus a new constellation, Aquarius, was inserted, between Taurus and Leo came Gemini (the twins), while "Justitia" (later Virgo) was placed after Leo, and Sagittarius between Scorpio and Capricorn. In the original picture the eight parts were of unequal length. While the four ancient constellations, starring animals as pictures, comprised 60° of space, the new four, showing mythical personalities, covered only half that extension (each 30°). Soon after this regulation was accepted, a catastrophe occurred and after recovery a new scheme had to be installed. This time the solution was pure mathematics, allotting 30° to each of the twelve constellations thus creating the pattern we use until now. With one important difference: The middle of each sign was still the point of reference, while nowadays we use the start of each zodiacal sign as the checkpoint for the Sun. This is a habit since the time the ancient Greeks (after Eudoxos and before Hipparchus) adopted the system to their convenience. This final change is ascribed to have been necessary after another precessional change, as Newton and his contemporaries asserted.

Now one could surmise that the scheme as used since classical time is nowadays outdated by 30° (a whole sign) – instead of Ram (Aries), where the Sun stood in classical time, the Sun now has entered Aquarius (passing through the sign Pisces all the way) – yet the system remained as it was, without the necessary precessional adjustment: Aries zero degree is the reference point for the entire zodiac. Astronomy has turned into mathematics and skipped mythology (except for the names of the constellations and stars).

When did this new scheme of twelve signs become universally known in Europe, who introduced it? The answer is far from easy. The Arabs (and Persians, for that

matter) would be the propagators, but there is wide confusion among them as well as in writings of the Renaissance. Abraham Ben-Ezra is one of the favourite astronomers in this regard, but documents to that effect are rare. As this summary has to leave it to the eventual reader to delve into the discussion, I shall only give some hints here.

A critical analysis of an Arab almanac (that of Ibn 'Asim) from Andalusia contributes to the understanding of the development spoken of above. According to popular history the Julian calendar was in use a thousand years ago. The amazing thing is: this almanac supposedly of the 11th century has the same calibration as the Gregorian calendar after 1582. It locates the cardinal points on nearly the same days (as today). For traditional science the cardinal dates should have been postponed by six days because of the inaccurate leap year rule of the Julian calendar (by 1582 the difference added up to a full ten days, precisely the number skipped by pope Gregory XIII to retain the astronomical beginning of spring on the 21st March, the date that supposedly had been adopted by the Council of Nicaea). According to conventional view this cardinal point in the 11th century would have been situated around the 15th of March, in the 16th century it was on the 11th, and as the Berber population in Morocco still use the Julian calendar, the astronomical beginning of spring is now on the 8th of March.

If the Andalusians in the 11th century had agreed to retain the old data from the 3rd century in this calendar, then the almanac was definitely unusable. This is an impossible construction, especially since supposedly there lived very capable astronomers at that time who would have denounced it. The almanac must have been written in the 16th century (or later), rather after the Gregorian reform, or at least, in preparation for it.

Whenever Ibn 'Asim may have written his almanac, he had the Gregorian calendar and its calibration in mind. The knowledge of the change was disseminated by Pope Gregory's commission, while the Arabs, Persians or Hindus might have done preliminary work. If we look at the texts of the Commission's calendar for Gregory, we realize that the information goes back to earlier and better astronomy (e.g. the tables of Ulugh Beg), as the Italians were then novices. It is nevertheless clear that the decision to put the spring equinox on the 21st of March may have originated in the context of Gregory, because it was a mere political decision referring to the "situation at the time of Nicaea". Without this background an astronomical correction could just as well have used the then current day (11th), or the 25th (conception of Jesus Christ), corresponding to the date when Christmas was traditionally celebrated (as well as 24th for St. John in midsummer), or the much more logical 1st of the month that had been used in antiquity.

Yet another very interesting point is noted in this almanac, which could relate to the precession jump postulated by us. It mentions famous Joshua of the Old Testament and will be looked at in due time.

I will now give a short synthesis of chapter 2:

Five changes of the reference point of the zodiac have been arranged during its development:

first the dislocation by 20° when enlarging the original stage of two constellations (Capricorn and Leo) to four (adding Taurus and Scorpio), already in megalithic culture, not well documented but inferable from myth;
 next step was of 15° which is deduced from the geometry of the 8 partitions;
 then another 10° when the twelve signs were introduced by the Chaldeans, vaguely recognizable from their records;
 again 15° through the Greeks as is reported in various manuscripts;
 finally, 30° which are well known by exact measurements since Renaissance time.
 This adds to roughly 90° for the whole period.

Chapter 3: The Movement of the Earth Provides the Measure of Time

There are three measures for time: day, year, and cosmic age. This is obvious but has far-reaching consequences for historiography. All three measures had to be adjusted from time to time because they are unstable, they change at certain moments (catastrophes). Yes, all three: the sequence of days, the length of the tropical year, and the amount of years to be allotted to 1° precession, stretching or shortening the "age". If we retro-calculate time into the distant past at the rates of today, we obtain incongruous results. This has disturbed great thinkers like Copernicus or Isaac Newton, Alexander von Humboldt or modern archaeo-astronomers like Robert Böker and Dennis Duke. The discrepancy between theoretically calculated dates and historically recorded ones becomes greater the farther back the observation is.

Here are two examples: in his enormous work "Kosmos" (III,149), Alexander von Humboldt wonders why the date of conception of the *Almagest* is 138 AD while by modern calculations of its star positions it should be 63 AD. He realizes that a rigorous application of the actual precession rate to the observation values of Ptolemy leads to a difference of 75 years by which the *Almagest* should be moved further into the past. Other astronomers before and after him concluded more or less the same. Robert Böker wrote (1952), that the incorrectness of the *Almagest* would amount to 90 years if modern calculation would be applied. Methodically it is the same result as that of Humboldt and other historians: the *Almagest* gives values that are older than the proposed date.

Going yet another step back in time the divergence becomes appalling. Plato's disciple Eudoxos (4th c. BC) is known to us through the *Phaenomenes* of Aratus and the commentary of Hipparchus. All historians from Sir Isaac Newton to Jean Delambre and to this day agree that the positions of stars given in Eudoxos should belong to a time many centuries before the date convened for its author. Newton proposed 939 BC, but he could not explain why the atlas should be 600 years older than the traditional date of its author. Shouldn't Eudoxos have observed star positions in his time instead of recalculating positions of many centuries previously? Reasons for the discrepancies are the changing precession rates as recorded in the history of astronomy. While precession moved by 1° in 100 years in the time of Hipparchus and Ptolemy, calculated over a reasonably long interval of some centuries, it was much quicker in the time of the Arab astronomers: about 66 years for 1° . Nowadays it is in 72 years that the position of the equinox moves by 1° . If the last rate is applied to all history, as e.g. Scaliger did in the 16th century, it is no

wonder that calculated dates differ widely from those documented by astronomers in their own time.

There remains a puzzle. We have secure knowledge of the different rates of precession at certain moments, yet we do not know the moments of change. There is a missing link! The change has been abrupt; no intermediate values are known. This can be shown by writings of some Arabs, especially Al-Battany. Or Thabit, the Sabaeen astronomer: He asked his colleague Ishaq Ibn Hunayn urgently to provide him with dates between his time and the *Almagest* of Ptolemy. The letter (preserved by Ibn Yunus) which was a point of discussion for Jean Delambre in the early 19th century, as well as being discussed by several researchers in the 20th century (e.g. Morelon), is analysed here again. The abrupt change of the precession rate cannot be explained by the traditional model in use since Hipparchus' and Ptolemy's time.

Here is a different example with similar results:

The inclination of the Earth relative to its orbital plane, i.e. the angle epsilon, is diminishing steadily in our time, falling below 23.5° . Since the 18th century some of the best astronomers of Europe tried to establish the exact relation between epsilon and time by using observations of the last decades and thus projecting overall values for bygone centuries. Around 1800 this effort proved successful, the rate of change of epsilon was determined and was only minimally refined later on. Different dates of epsilon handed down historically were not taken into account or regarded as wrong.

The determination of epsilon from prehistory on has been possible to great exactitude because it is very simple to obtain from the distance of the shadow of the Sun between the solstices (as shown in ch. 1). Moreover, we have records of such measurements from classical Greek times onward. There remain large lacunae between Roman and Arab as well as Renaissance observations, but in general the surviving values indicate that epsilon has diminished at a grossly stable rate.

Ptolemy fixed the value of epsilon in different instances in his *Almagest* (e.g. I,12) as $23^\circ 51' 20''$. He stated that his ability to obtain this value includes a margin of 2.5 arc minutes of error, but not more. For our purpose this is fairly sufficient because epsilon has diminished since then by roughly ten times this amount. Earlier authors like Eratosthenes, Hipparchus, Pliny, and Vitruvius used 24° as a good value in their calculations which is near to that of Ptolemy. All were convinced that this was correct for their time. Arab astronomers agreed with this, although by observation they had obtained a different value for their own time which ranged around $23^\circ 35'$. Today the value is $23^\circ 26.4'$.

Archaeologist Edmund Buchner, who excavated until 1982 for several years the Sun dial of emperor Augustus in Rome, repeatedly says that the value of modern recalculation of epsilon for that time, 2000 years ago, would have been $23^\circ 41'$, which does not coincide with the value deducible from the Sun dial, but is $11'$ lower. Yet the Augustean "false" value inherent in the marble Sun dial must reflect the scientific result of that time, he says, because otherwise all other measures of this ingenious building would not match. It is not out of the way to read a precise value of epsilon in such a big monument (30 m high), " $23^\circ 50'$ (or better $52'$)" Buchner says, because the incisions in the pavement had been executed only *after* erection of the obelisk and after several years of observation. They reflect exact measurements and are in agreement with the value Ptolemy found about 150 years later.



Polar Star projection in Rome

The contradiction repeats: dates that were determined centuries ago and documented in classical and prehistoric monuments collide with those re-calculated by modern techniques for those same objects. They diverge quite noticeably, and the more the dates go back in time the bigger the difference between the two, i.e. between real observation of that time and re-calculation based on present observations.

Let us consider a third example. Again we regard the phenomenon of precession by which in the long run new constellations rise above the horizon, as Dante had noted in his '*Divina Commedia*'. The axis of the Earth points to a different spot in the sky in the course of centuries. Our Polaris is an ephemeral object. So any indication of the position of the North Pole in the sky can be used as another firm measure for dating ancient objects or writings. And there we come across the same type of contradiction.

The Phoenicians are said to have used the constellation Draco as an indicator of time. A steadfast tradition claims that their Pole Star was Thuban (Alpha Draconis). Joseph Scaliger (1583) has transmitted this, and it is upheld until today. By retro-calculation Thuban would have been near the pole around 2800 BC. Scaliger thought this correct but we have a real problem with the date since modern archaeologists do not admit such a high antiquity for the Phoenicians. We would rather cut out 2000 years and would locate the Phoenicians near 1000 BC. Thuban then would have parted from the position as indicator of North for a very long time. As a sea-faring people the Phoenicians would have used a different star if any. Even Homer (in the *Odyssey*) knew that it was rather Kochab that stood near to the Pole in their time, reason enough to call it Phoenike (says Ideler). In order to save Thuban as Pole Star its use was imposed on the Ancient Egyptian Empire albeit with no hint to its veracity, and only because they are supposed to have the corresponding age.

The further we look back into prehistory the bigger becomes the difference between factual and virtual estimates of the amount of time gone by. On megalithic monuments this can be demonstrated with a certain stubbornness. Their dates have often to be readjusted when astronomic dates are taken into account. In all cases those remnants of an unknown past are made older than they used to be before applying the algebraic equation.

Since 1999 and more specifically in 2006 I proposed the following scenario as an explanation: Several interruptions of the secular movement of precession have struck the Earth in a way that our re-calculations which only use actual observations and deem ancient ones erroneous must be incorrect. As those "jumps" or jolts of the Earth are easily recognisable in old observations of precession, I have baptized them "precession jolts". Their factual number and magnitude is still unknown and might remain so for the time being, as is the exact physical way and the cause of the occurrence. Yet, the supposition of jolts solves the problem, and there are indications to its probability. After a jump of the Earth, precession moves with a slightly different speed as documented in ancient and intermediate astronomic records.

As long as historians apply steady and unchangeable rates of precession to all retro-calculations, the outcome will be wrong if jolts and precession velocity changes have taken place as I propose, more so if those jolts not only stretch the amount of time but leave lacunae in our historical timetables. The chaotic behaviour of planets like the Earth excludes strictly mathematical retro-calculations, and the method of

calibration as used in physical examinations like radio-carbon dating is of no help either.

The historical chronology as established by the Renaissance humanists and historians has a wrong base. It was concocted on precession calculations of a very rough kind. Therefore, it doesn't make sense to rely on them by adjusting dates found otherwise.

Our model of the jolts or jerks which the Earth has undergone once in a while is the following: There is a fixed year, the sidereal year, which does not change during a long period of time. It is roughly 9 minutes longer than the usual calendar year of 365 $\frac{1}{4}$ days. And there is the tropical year that indicates the seasons, counted from one spring equinox to the next. It is at the moment on average roughly 11 minutes shorter than the calendar year, but had different length in historical time as a consequence of casual jolts. We do not know what causes such jolts, we can only deduce their occurrence from records like a commonly used calendar and astronomic measurements in antiquity and Arabic time. After a jolt (or leap) some days of that particular year are missing, and the length of the tropical year as well as precession speed is different. The Earth needs some years – say: a generation – to get stable again. The uneven movement after the jolt is called trepidation and has been recorded and measured by Greek and later by Arab astronomers.

Of course, a jolt will unleash a mighty disturbance on Earth with the capacity to annihilate part of all living creatures and the civilization of mankind, in short: a catastrophe.

As I cannot point to the cause of such a jolt, but have to leave this to further investigation, I will only repeat what I have proposed for more than a decade (after lectures also printed as book "Kalendersprung" in 2006): It is the Sun that jerks and pulls with it all the planets including Earth. From my first conjectures (1977) of a heavy impact by bolide into the Atlantic Ocean (as an example) I had to withdraw. Such impacts do occur and cause great devastation, but they are rather the result of a jolt of the whole planetary system by which smaller particles like asteroids go astray and can hit Earth. They have not enough momentum to move the Earth in a manner that is projected here: turning over and returning into a slightly different position with a different speed.

By a jolt, as proposed here, the inclination of the Earth in relation to its orbital plane does not essentially change. The angle epsilon remains (within some arc seconds) as it was before the jolt, north on Earth remains north, the rotation remains unaltered. Only its position in regard to the precessional centre advances slightly but noticeably. By this a number of days (say, a week) is jumped over, the season in this particular year starts some days earlier. Precessional time observed as position of the Sun in relation to the stars is shortened.

The jerk which can be noted later on by simple astronomic observation lasts only hours or at the most days; we don't know. In this regard accounts of the survivors are uneven. It is such a jolt that makes retro-calculations fail if the leap is not taken into account.

As the centre of the Moon's gravity lies within the Earth, the Moon moves along with the jolt and will after a short time of irregularity take on her course as usual.

From mythical time until now (that is, until the last jolt about 650 years ago) I have spotted four jolts in all, three of them more or less documented, the earliest one

divined in misty fog. The last one, presumably in our 14th century, was the reason for the Gregorian Reform of the Julian Calendar. Therefore, I had a look into the master plan of the Gregorian Calendar Reform, the "Compendium" of Lilius. It states without doubt that a heavy irregularity of the celestial movement had occurred, so that the calendar was inadequate and the celebration of Easter definitely took place on wrong days. The whole number of days to be jumped since the regulation of Easter which was presumably agreed upon at the Council of Nicaea amounts to ten. In 1582 the pope ordered this jump to be executed and a minor correction in leap year regulation to be adjusted because the tropical year had changed a bit. Since then the calendar runs perfectly and Easter is allotted to the correct days.

A jolt of the planetary system and the Earth trigger far-reaching changes to the surface of our Earth by seismic as well as tidal waves, eruptions of volcanoes, and the forming or sinking of islands and mountain ranges, etc. Until all has come to rest again some time goes by. The Earth wobbles a bit for years or decades, and this unruly movement was called *trepidation* by the ancient astronomers. They measured it and were quite disturbed. They could not incorporate it in their understanding of the solar system. After some time Earth got stable again, *trepidation* went near zero, and Renaissance astronomers like Tycho Brahe could declare that there was none and that it never had happened; the earlier measurements were termed as in-exact. This is general opinion until today.

Now, this is one of the points where I disagree. Although it is not easy to find genuine sources from before the last jerk, yet some are transmitted reliably, as I believe. They testify to painstaking observations and discussions on the disturbing results, especially as Arab texts are concerned. Before them, the Greeks had noted this jerky movement, too. Theon "the Mathematician" is mostly cited with figures that are astonishing. Another famous Greek having noticed and described the phenomenon was Callippus. I interpret their dates as projection of observation dates taken within a short time after a jerk. They differ a bit in the course of time as should be expected. The earliest hint to such occurrence goes back to Hermes Trismegistus, a mythical figure which nonetheless could have some faint background in the far past, as Delambre sceptically quotes.

The Arabs (like Thabit, al-Battani and others) for their time termed the unruly movement *iqbal* and *idbar* (in Latin *accessio* and *recessio*) and gave slightly different measures. There is some modern literature on this point which I have studied and quote at length in this book. In the time of Georg Peurbach and Regiomontanus *trepidation* was still observed but slowly diminishing. As for the tables of King Alfonso, they included the movement at first, later excluded it. Earth had become stable again.

The different precession rates of the Earth during the long history of astronomical science had been to Copernicus one of the turning points – in fact his initiation enlightenment – which made him reconsider the theory of planet movement. In the end, it was the knowledge of *trepidation* that gave him the incentive to project his heliocentric model of the universe. If precession can change and even tremble to and fro once in a while, then it is not the whole sky with Sun and stars that shake, but the Earth that undergoes such a movement. In fact, as he states in his introduction, he only repeated what certain Greek, Latin and Arab writers had proposed before him.

Chapter 4: Trying to Estimate Bygone Time

What is urgently missing: an analysis of the development of historiography. How was our chronology formed, by whom and on what basis? In the end we realize that it was the work of the humanists of the 16th century, and that they had to start from scrap, using all kinds of fragments and even inventing a lot. There are few historiographers to bother with this issue. They generally take for granted that our chronology as established nowadays is more or less true to reality and could only be doubted for prehistorical and early historical times within minor brackets. Among the few who have dived into this thorny thicket – apart from the new movement of chronology criticism I am portraying in my books – are men like the eminent scholar Anthony Grafton (Princeton) who have opened the eyes of the academicians that not all is safe and sane in this field.

In order to illustrate the methods of the 16th and 17th century in building up an acceptable chronology, I quote some passages from Isaac Newton's book amending the ancient chronology (1728) which in some way serves as a model of the then usual thinking to establish the age of historical events by precession calculations. He was supposed to be one of the most learned men in his time and in this matter, and yet failed to understand the fragility of his system to establish historical dates. What was lacking was a thorough inspection of the sources he used for his purpose, as Voltaire clear-sightedly wrote. Newton regarded a mythical figure like the Greek Cheiron and his indications as to precessional dates as solid enough for establishing a chronology that proved the superiority of Biblical dates. Another source was Sanchuniathon and his 'Phoenician History', a fictitious novel we call it today.

How well-founded are modern results of deciphering archaeological finds?

Can we trust Babylonian astronomical records as used by modern scholars?

While Kugler was dominant in hailing the Chaldean scientists beyond doubt, there are later researchers like Neugebauer or David Dicks who criticize this naive regard severely. The tablets don't transmit actual observations but mathematical procedures which cannot be located in real time. Moreover, the chain of transmission to the Greeks is completely unclear. We don't even know whether Eudoxos or Hipparchus understood Aramaic or read cuneiform or how they could have had access to Chaldean wisdom when they adopted the zodiac and transformed it to their needs. Yet Ptolemy based his chronology on a hardly-known Chaldean king called Nabonassar and fixed his date at 888 years before him, which would read today as 747 BC, still taken as anchor until now.

In Egyptian Chronology the problem is even bigger. While the start of the Egyptian calendar – the so-called "oldest date of world history" – had originally been put to the 5th millennium BC (Ed. Meyer 1904) and is now seen in the 3rd, it is considered as well to belong to a younger date, 1460 years rejuvenated. The culprit is the Sothic calculation which only allows for jumps of that size. Neugebauer has shown that the Sothic cycle counting back from Censorinus has no factual base nor trustworthy documents. The Egyptian year is related to Nile floods and not stars. Astronomy in the Nile valley was surely very advanced, but we have no hieroglyphic records to that effect. The paintings of a zodiac in Dendera and Esna cannot be read as

horoscopes (as had been tried) because we don't even know for sure the signs or letters for the planets. Except for the typical Roman type zodiacal signs all other Egyptian glyphs for stars or constellations are particularly their own and only partially deciphered until now. The assumption of a catastrophe that swept away the dwellers and their knowledge seems the easiest answer to solve the riddle why nobody could read hieroglyphs from Renaissance time onward until the rediscovery of their meaning after Napoleon's campaign.

Novae are useful to overcome the rigorous dogma of Christian faith claiming that creation had once and forever been accomplished by the creator and no new items can be added. A Nova was a welcome sign Kepler used in his fight against old barriers to science. When it came to dating the birth of Christ he resorted to just such an event. He connected the Nova observed in 1604 in Prague to a conjunction of Jupiter and Saturn which had happened the year before, and concluded that this event could be used for dating the star of Bethlehem. Out of the seven mathematical possibilities for a conjunction of the two planets in the house of Pisces, he selected the one that came nearest to Emperor Augustus's supposed time and thus fixed the birth of Christ to the year 7 before 1 AD. Although we might laugh at this shortcut of Kepler's, we still maintain this fixing point of our chronology without reflecting on the nonsense of the whole operation.

There is a fixed date in Chinese astronomy that has been used nowadays widely for many purposes: a Nova in the Crab Nebula, equalled to the year 1054 AD (otherwise famous for the schism of the church). Chinese astronomers noted observations of stars with great accuracy to one tenth of a degree, but in this case a difference of about 1.5° has to be excused. For dating the year one has to choose between two solar eclipses, but neither really fits, and the whole affair is, at the most, an astrological story. The expert Pankenier concludes that observation dates had not been taken at the moment, but retro-calculated later, and with errors. A Japanese text handed on 176 years later than the Chinese one is presented to save the myth, but in vain because in that document the Nova was seen shortly after midnight while the first report stresses that it was visible in daytime.

The Alfonsine Tables deserve another analysis as they had been important and widely used in Renaissance. There are two types: the Latin tables and the Castilian ones. Both are ascribed to king Alfonso Xth the Wise, with a nominal epoch 1252 AD although they are said to have been written down near the end of his reign around 1270. Diligent research allows me to conclude: Only the Latin tables are genuine, the Castilian ones are a fake of the 16th century put into general esteem only in the 19th century. And the Latin tables do not go back to the 13th century either, but are a product of the time around 1500, partly written by an astronomer in the service of Queen Elizabeth (Isabel la Católica) of Castilia, using older tables of John of Saxony and others. The author was Alfonsus of Córdoba, working in Seville and therefore also called *Hispalense*. The attribution of the tables to fabulous King Alfonso is no more than courtesy to the Spaniards while most savants at that time knew that this king was an invention in the race for reputation among the humanists of Europe. Copernicus used the Elizabethan Tables while he did not mention the so-called Alfonsine Tables.

In Andalusian Astrology, as alleged to have been written by King Alfonso, the gap is evident as well. Source for his "Book of Crosses" is a supposed late Latin text of the

Visigoths (5th to 8th c.), alas missing, an Arabic translation of it put into verses around 800, also not extant except for a small poem of the 15th c., and a more modern text of the 11th c., missing as well. What we really have at hand is the Alfonsine translation and a re-translation from the Castilian into Arabic in the 15th c., finally a text of Al-Baqqar using those fragments. The gap of a thousand years between Visigoths and Al-Baqqar might be bridged by another astrologer who had been mentioned by Al-Makkari. All this patchwork is possible due to modern research done by some of the best orientalist at hand. The thread is very thin and breaks at the slightest touch: the "Book of Crosses" rather dates to the Renaissance using contemporaneous Arabic poems.

Chapter 5: The Fatal Jolt

Looking at the history of writing an important question arises: How did it happen that the Egyptian hieroglyphs or the Babylonian cuneiform characters were forgotten and had to be deciphered in the 19th century by European savants? Why had the Greeks not composed dictionaries of Egyptian while they were in command of the allegedly huge library of Alexandria?

Or this question: The Iranians stopped writing cuneiform in the 1st c. BC and started again, this time writing in Arabic letters, seven hundred years later. How did they preserve their literary culture in the meantime? And so on – a great many questions can be laid on the table, the answers are missing.

We are missing a history of the transmission of knowledge and the handing down of techniques of communication, a history of historiography. Moreover, a history of how our chronology was constructed, is missing completely. And finally, an ecological survey of the history of mankind is still only in the beginning. The real big events – exoterrestrial catastrophes that destroyed whole civilizations and eradicated living beings from certain parts of the world, changed coastlines and islands, mountain ranges and rivers – are still to be researched in general (as I have done on the Iberian Peninsula 40 years ago).

I deem those cataclysmic occurrences as facts, important for our understanding of what happened between Roman times and Renaissance, to give an example. The "dark ages" have to be filled with light or to be erased from our history books.

When explaining the way how those gaps and broken developments have taken shape, I don't necessarily have to describe the geophysical cause of it. As far as I have ventured up to now, it is the Sun that jerks, and with him the whole planetary system, Earth included. I have to leave this research to competent astronomers and geophysicists. My task consists in showing those few but important hints in our tradition and history-writing which endorse the general line of enquiry I have followed for so many years.

The jolt the Earth received now and then – maybe three or four times in recent two to three millenniums – moves it in the same direction as the precessional drifting which the Earth undergoes usually. The jolt causes for a moment an accelerated precession, leaves the Earth wobbling a bit, before it finds its stability soon again. First thing to be noticed by surviving astronomers is the difference of the position of the Sun (meaning: the Earth) in regards to the equinox. The crucial calendar date is reached a

bit earlier after the jolt. If this number of days is known, for example by continued use of the calendar, then the number of precessional years "jumped" is known, too. The date has to be rectified.

And another mistake, only visible after some generations, has to be corrected. The length of the tropical year has slightly changed, so the leap day has to be adjusted. Both actions were undertaken by the Gregorian Calendar Reform: jump over ten days and leave off three leap days in four hundred years.

Myths and religious stories contain quite a lot of hints to the catastrophes that slew Earth and mankind, but as to their intensity and date they are hardly to be evaluated. Cicero said that fame and tradition of man had been cut off and on by world floods or fires, and that is why later generations know nothing of their predecessors.

After nearly a century of teaching when it was inopportune or even excluded from universities to believe in worldwide catastrophes, only recently the wind has changed and minor accidents such as impacts of bolide, meteor or even comet, are explored. This is not what I propose here. Sure, such accidents did take place and partook in shaping the Earth's crust, but they did not topple the Earth or change the orbital speed nor break the smooth flow of dates. A precession jolt concerns the Earth as a body and its way on the orbit. Bolide-caused disturbances act only for a moment and do not change much except for enormous devastation in circumscribed parts of the globe.

Most catastrophists propose the dislocation of the North Pole when getting into details. I don't follow this general vision. A precession jolt does not alter the position of the North Pole on Earth; it dislocates the position of the axis pointing to the sky. By the particular movement of the Earth which I am proposing here, the visual background – the stars – are changing. A certain distance of the celestial North along the precession circle is shortened within hours or days (instead of centuries). Likewise, the inclination of the axis to its orbital plane, the angle epsilon, does not change substantially. In those points I differ from Christoph Marx and the lot of catastrophist teaching since the Renaissance.

Marx has a diagram on his website which explains the last jolt in a way that the precession speed of Greek times (36.000 years to one entire circling) suddenly changes to 25.800 years nowadays. By this jolt, epsilon would have changed from 32° to modern 23.5° . I have disputed this with him and still hold true: the precession rate did change, but – through the jerk – not the angle epsilon (apart from minute changes that don't count in our way of regarding the problem because they are too small to be noticed with simple methods of measuring as Greeks or Arabs or Renaissance astronomers would have had at their disposal).

We shall return to the movement of such a jolt in the next chapter. Here I am informing about a 19th century catholic catastrophist and his views: the Jesuit Manuel Lacunza, better known as Juan Josaphat Ben-Ezra. His book had been discussed for decades all over Europe but been suppressed by his church through a verdict as heretic. In certain points he foresaw modern development of knowledge although he, too, believed in a decisive change of the angle epsilon in a catastrophe.

There is a whole phalanx of specialists as well as laics who worked on the theme I am treating here, yet for the sake of brevity I do not mention them in this book, with one exception: Christian Blöss. He is a colleague and pioneer of actual chronology criticism and has so far found the best answers to the problem. His books (1990,



Petrified feet imprints of Jesus

1997 and 2000) I am referring to here are a reading must for everyone indulging in our research.

There is another writer well known to the English public, whom, alas, I only read after finishing the present book: Alfred de Grazia. I recommend warmly his "The Lately Tortured Earth" from 1983. He cites disciples of Hörbiger like Poznansky and Bellami, and is deeply fascinated by Donnelly (1883).

Let us examine what happens during a jolt. A collision with a bolide, even of the size of Shoemaker-Levy which crushed into Jupiter not so long ago, would not turn the Earth the way I envisage. Most planets, and the Earth very much so, are unbalanced, and this is what gives them the endurance maintaining speed and position in space. With one exception: The wobble known as precession is its weak point. And it is in this direction that Earth gives way to a sudden jolt that affects the planetary system. The Earth is not a perfect sphere but has a bump; through the jolt the bump will be dislocated a bit, thus resulting in a slightly different speed on its orbit.

What does this mean to the upper crust? Havoc and disaster. Huge tsunami-type floods. Earthquakes of inexperienced violence. Release of vapour and dust into the atmosphere, etc. – all that has been described a hundred times by catastrophists. After the event man had to rediscover the coastal lines, dig out ancient towns and dwellings, recover knowledge and abilities, just like Plato and other philosophers described drastically in their books. I am recalling here some examples from my experience gathered in four decades, in Spain or on the island of Malta, regarding ancient coastlines inside the country, or "new" mountains and rivers.

To one discovery I paid special attention: wheel marks petrified in prehistorical time. I have likened them to similar fossil marks like those of dinosaurs, or even the venerated footprints of man and gods all over the Earth. They tell a sacred story not fully understood up to now. I believe a great number of them are witnesses of cataclysmic events testifying to moments of extreme danger when fleeing men or animals left their marks in the freshly fallen chalk which solidified rapidly conserving the happening for all eternity. (You may consult my web-page www.ilya.it/chrono/enpages/gleiseen.html, where a short article in English tells of my extensive exploration of wheel marks all over Europe, also called "cart ruts" on Malta.)

Maps of former coasts and islands exist, but we are not sure of the veracity of their contents. There is, e.g., a map of the North Sea island of Heligoland from 1649 showing three stages of the island in the last 800 years. It became smaller each time, not slowly shrinking, but abruptly breaking through cataclysm. Geologist Philippsen (1925) warns that the map should not be regarded as exact proof of tradition, yet that it somehow reflects what could be accepted as a general idea: there had been three occasions lately that changed the surface of coast and islands in the North Sea. One is well marked as the so-called 'big man-drowning' of 1356. It must refer to the last jolt we have located at around 1350 AD. At that time a great lot of land had been lost resulting in the coast line of today. Going back to the megalithic age the northern coast was somewhere between middle England and Denmark, comprising the Dogger Bank as farming land. The so-called "Peoples of the Sea" arriving in Egypt and being slain by Ramses II told that their land in the northern confines had been lost by huge cataclysms (as shown on the reliefs of Medinet Habu temple referred to by Spanuth).

In tradition, cosmic catastrophes are often joined with comets, and the fear of those irregular celestial bodies is unanimous in all accounts. However even there we have to be aware, reports are to be scrutinized carefully. I give an example of a book invented in the 19th century featuring a famous person, Italian humanist Toscanelli, not to be trusted as veracious. Still, a recorded reappearance of comets has been used in constructing a chronological sequence in modern times.

Asteroids are another field that can teach us how young the outlook of our planetary system really is. It seems that some of those objects running orbits between Jupiter and Mars are rather new; either they have been caught recently or have changed their orbit. Mercury might have changed, too, its orbit as well as its surface, in historical time.

A difficult field of exploration is the farming calendar as it was in practice until the last generation. It had been true and trusted by most farmers, and only in recent times loses its value. How could people foresee weather calamities or good weather periods describing them as regularly occurring on specific days every year?

From Etruscan times on such schemes had worked. They were based on observations of many generations, some well described in Latin sources. One example can be read in the *Phaenomena* of Aratus, concerning the nebula in Cancer, *Praesepe*. It seems to me that ancient meteorologists had in mind that certain clouds of cosmic dust are located in the orbit of the Earth. Whenever the Earth dives into such a cloud it undergoes a specific weather, be it rain or sunshine, cold or intense heat, according to the cloud's character. Every day was named to memorize the expected weather, as the Roman Catholic liturgy where the days bear names of saints, retained until today. This was one of the main reasons why the reform of the calendar by Pope Gregory was so urgent. The liturgy had got out of step. After the correction it was in tune again.

One of the questions often asked is: Why do the remembered facts of this calendar no longer hold true? There are several reasons, one of which might simply be the process of wearing out. With each passage the cloud rains down some of its material on the Earth, its power will be diminished, the amount of ice (or whatever is at stake) will lessen. Some clouds may dislocate in time, some vanish altogether. Big events like the refreshing Assumption of Mary (August 15th) or the Dog-Days (canicular days) famous for intense heat at the end of June, have survived.

Chapter 6: The Overthrow of the Heavens

All people tell myths depicting the overturning of the heavens. They keep memory alive of the horrible accidents our Earth went through. Some myths are rare treasures retaining a primordial understanding of the world, a kind of *Weltanschauung*. Yet myths don't enforce a blind belief, they are only meant for a restricted group of people. We have to consider them as flashlights in the darkness of long-forgotten time.

Therefore, myths are not to be taken at face value. We cannot translate them either. Some myths tell of a great flood that rained down from the sky, drowning everybody and sparing only one couple of humankind with their three sons and the animals they

had gathered in their ark (Noah in the Old Testament). Childish, we will say. It might or not have some coincidence with historical facts that we can't discern. Other myths talk about a great fire that burned all and everything. Some myths describe battles between heavenly entities, others sing of new beginnings when man was created from stones or clay, or growing on trees. What interests me here is the timescale, but myth does not know specific time.

There is a book that collects myths from all around the globe which at first drew my attention because it uses a great deal of literature: Santillana and Dechend, *Hamlet's Mill* (1964). In their time the idea of cosmic catastrophes seems to have been banned completely from official science. The authors are reporting myths that tell of the most horrible accidents of our planet, but they interpret all myths as telling us of slow movements, imperceptible for normal people, like the precession of the stars. Some priests, they say, had been keen observers of the sky and calculated the slow movement of precession. Thus they could tell their people when the Sun entered a new zodiacal sign. They might have called it the beginning of a new age and fabled various myths around this change. The authors repeat all the myths' horror-tales but one thing they never admit: that it could have been possible that terrible upheavals affected Earth and mankind at repeated moments in history, and that through this the situation of the star map, the zodiacal signs' position, had changed. The authors pretend that it was clever mathematics that led to the concept of world ages like that of Taurus or the Ram or our present age of the Fishes (Pisces).

The myths tell of the disastrous end of our biosphere and previous culture, but to Dechend and Santillana this is not true: the world did not come to an end, everything went on as usual. The unheard-of calamities are but mythical inventions. Therefore, they calculate the end of the Taurus-age at 4300 years ago, without taking into consideration that part of this amount of years is simulated by the jerks, as I think. 700 years or even a whole millennium of retro-calculated years might not have passed, but jumped over in a few days or weeks. Yet for the authors, Earth has always moved steadily at the same speed as today.

Some myths have sunk very deep into man's memory, degraded until they only survived in form of children's amusements, such as the limping-games we used to play on the pavement in our streets when we were young. The figure outlined with chalk on the ground resembles neatly the way of the shadow-tip of the gnomon. Both ends (the solstices) are called heaven and hell, and in the middle is a bar that could be read as the equinox. The stone to be chased through the figure symbolizes the Sun. Originally it might have been a cult, or rather magic, that was implied: wishing to stabilize Earth's movement after a jerk.

And yet another "game" might be understood in a similar way: the labyrinth dance that was known to the Greeks and the Scandinavians, and in Europe's cathedrals until modern times, surviving in English garden mazes of the Rococo. The way the dancer has to move through the construction does not reflect a simple revolution of the Earth around the Sun during the year, but he goes to and fro, comes back and turns again until he has reached the innermost point of the maze, then coming back similarly in repeated turns until the dancer finally is released to the open again. Traditionally the labyrinth dance is connected with a brutal theatrical act: the slaying of a dragon by a horseman, be it George, or Michael, or some other hero. Now I



Troytown in Scandinavia

argue: If the dance through the labyrinth only reflects the ordinary movement of the Earth on its yearly orbit (as suggested by most authors), then the zigzag movement does not picture it, and slaughtering the dragon would be unnecessary. I see the sacred operation due to a much more unruly behaviour of the Earth, its trepidation after a jerk. The dancing movement to and fro in the maze is a realistic representation of trepidation, and a corresponding sacrifice is deemed obligatory to stabilize Earth again.

Like other interpretations of ancient myths this one may be doubted, but as we are in want of an explanation that fits, I propose to penetrate deeper into a variety of myths which may be concerned with the jerks. We can discover a connection between Mithra, Alexander the great, and Jesus Christ. They have in common to be heralding the mysterious occurrences in prehistory and history pictured as frightful jerks of the Sun in respect to the signs of zodiac. The Sun-hero Mithra killed the bull (Taurus), Jesus is killed himself as the ram (Aries), and Alexander personifies the age between the two, in Arabic: Dhul-Qarnayn, the god with the two horns, literally the god of the two ages, as qorn means both: horn and age.

The cult of Mithra is directly linked to calendar questions and astronomic observations. The hero is born on winter solstice (like Jesus), and the two holders of torches at his side incorporate the spring and autumn equinoxes. It is he who terminates the age of Taurus, as is depicted on all altar reliefs in the underground churches of this religion throughout southern Germany and Italy. An American, David Ulansey, has published a book on this theme in 1989 and had been contradicted by a German, Michael Schütz, a decade later: it is not Hipparchus who could be made responsible for the discovery of the murderous happening enticed by Mithra, because Hipparchus believed that precession is moving at a fairly stable rate if looked upon at a sufficiently long interval of bygone centuries. Ulansey did not understand the main item of the Mithra-religion, the killing of the bull. Simple mathematics don't create a sophisticated religion and cult like that of Mithra. Traumatic experiences lay at the base of such a change, just like the world shattering event at Golgotha, the death of the son of God. There are hints in the writings of church fathers like Tertullian and Julius Africanus indicating that they understood the crucifixion as a cosmic accident.

The miracle of the Sun is regarded as an all-important clue to modern thinking as employed by astronomers and the church around 1600. It is usually connected to some military operation like in the Song of Roland where Charlemagne vanquishes the army of the Saracens with the help of God who stops the course of the Sun. Also in Spain, another two similar events are recorded, one at Tudia in the middle of the 13th century, and the other near the river Salado a century later. In general, events like those that should have shaken Earth and heavens, are only written down very late, around 1500, and rather have episodic character, like the betrayal of Amphitryon by Zeus who, when visiting Alkmene, had to stop the Moon. Two more examples are cited from Arabic sources, one from Morocco, the other from Iraq. The all-important holding back of the Sun in its course for half a day, including the Moon, by the will of Joshua, however, seems to be very lately introduced into the Bible. It is this religious dogma that has been at the bottom of the controversy between the Catholic church and Galileo which nearly cost him his life.

I would not give much importance to this episode, had it not provided the base of modern science around 1600, and – what is more, in our development of the new chronology – been a stepping stone for Velikovsky and Christoph Marx. In my analysis I not only stress the point that the verses in the book of Joshua are a mere literary insert with – maybe – a faint remembrance of what had happened during a jerk, but I deny any realistic features.

Christoph Marx relied on Velikovsky and stressed that the “immanent logic of the Joshua event” was expressed by connecting the stop of the Sun’s movement and the stone hail that killed the enemies of Israel. If an accident like the one that held back the Sun (of course: the Earth) would be joined to a hail of stones, says Marx, than this could not have been invented, but serves as proof for the veracity of the tradition. I must deny. This is pure literature, just as the Song of Roland or the episode of the Sufi sheikh after having been visited by a beautiful slave of the king. The connection to the hail is a nice trick but nothing more.

Yet for Galileo the Joshua event had nearly been the trap to cause him to be burned alive, like Giordano Bruno 12 years before. Galileo was fighting as an intellectual and with good protection, withdrawing in the end. Read the story in my book, I don’t intend to give an entire translation here. Only so much I want to add: even Leibniz, one of the fathers of modern mathematics, travelled through Italy in 1681 and tried to reconcile the two churches by levelling out the Joshua problem. The Catholic Church did not give way until 1822 when the Inquisition finished executing those who propagated Copernican views.

So now we know it is the Earth that turns around and not the Sun. However, what about classic and mythical reports of the Sun rising in the west and setting in the east? Would the Earth have moved the other way around? Velikovsky insisted on this possibility and linked it to his theory of planetary encounters. Trying to understand a reversal of the Earth within my scheme of precessional jerks, we – my sons and I – in restless nights in 1994 finally found a solution: The Earth moves like a ball that loses its usual stability and turns its rotation axis from north to south and back again whereby the pole describes an S. After turning from north to south without changing its rotation direction, it goes back from south to north in the same way, thus having completed a full turnover by maintaining the sense of rotation. During a short moment the Sun will have risen from the opposite side of the globe.

Looking for antecedents of the idea I found Warlow and through him Suball and understood how they had seen the procedure. My explanation differs. Suball dives in geological ages millions of years ago which I will not contest. I simply limit my concept to historical times. And Warlow has only half the movement of the Earth which I think impossible. The structure of the ball that is the Earth, in the long run, does not allow a different position than the one it occupies at the moment.

Within the regions of 45° latitude North or South, the rotation speed during a jerk will have been nearly unchanged and thus the destruction moderate, but near the poles it would have been disastrous, accelerating the rotation speed from zero to that of the equator and back to zero. You can imagine how it worked on regions between the two. And such has been documented by archaeological excavations and even through the analysis of some myths.

Although, as for myths, we should be sceptical. Some people trade myths that are not their own, but have been superimposed on them (like the Old Testament to the Europeans or Americans). Common myths may not belong to the geography of the people concerned, they might have retained their myths after having been dislocated, and so on.

Apart from the many examples in classic literature and world wide myths which Velikovsky assembled in his revolutionary books, I did find – long before knowing about him – a similar tradition which a Sufi master told me in 1979 in Morocco, and which I published in German (1986) and Spanish (1993). It aroused my interest because it is substantially similar to prophecies in holy books of various religions but contains some different details.

It runs like this: “The Gate of Pardon is not yet closed. The end of time is near, but still far away as long as the Gate of Pardon is not closed yet. Prayer and clemency still make sense.

“One day the Gate of Pardon will be closed, and then the Sun will not appear for three days, and everybody will ask: what happened to him? Then the Sun will rise over the Ocean (here the Atlantic Ocean, that means: from the west) and mount to midday’s height whence it will turn back the same way into the sea. Thus the fourth day ends, and after that the Sun will behave as usual. People living thereafter will not love their next ones, nor will they be peaceful, nor have knowledge of the truth.

“The world then will be larger than it is now, and will exist longer than it existed from the beginning until the closing of the Gate of Pardon, and there will be more beings than before. Only after that the Earth will be destroyed by fire.”

I have shortened the account, excluding religious teaching coming along with it. By the way, the general idea of this prophecy is known in the Maghreb, though only there, as far as I know. I will not attach too much importance to this little pearl of tradition. Maybe it is one tiny stone adding to the mosaic we are trying to restore. It falls in line with prophet Amos in the Old Testament, and others.

The legend of the Seven Sleepers is known to two monotheist religions, Christians and Muslims alike. It is believed to have happened in the time interval between Jesus and Mohammed, a late Roman Empire setting located at Ephesus in Asia Minor. The legend once played an important role in the dogma of resurrection, and brought fame and pilgrims to the town. I treated this topic intensively in an article 1994 (only in German), so in this book I resume but the main points: While the number of years which the seven young men spent sleeping is transmitted by Christian teaching differently, in the Koran the amount is stated exactly as 300 years, equalling 309 years of the Islamic calendar. This leap of time was regarded as an important sign of some catastrophe and can be understood as going back to some event in the distant past. A change of the Sun’s movement is also suggested in the Koranic tale.

After we had a look at various myths concerning the catastrophic events, an important question imposes itself: why do we have to interpret those narratives and symbols, why don’t we understand them straightaway? Modern pioneers of catastrophism like Velikovsky have answered this question by their method of psycho-analysis in the succession of Sigmund Freud. Man has repressed this memory by fear of repetition of the event. Like an individual represses traumatic experiences,

so do people or cultural groups in general. They ban the impact into their subconscious, thus depriving themselves of the possibility of healing. It amounts to collective amnesia of mankind, as Velikovsky called it. I do not subscribe to this. It was rather direct suppression of the knowledge by way of indoctrination, burning books and people, that have prevented realistic transmission of the memory of what had happened to the forefathers. Moreover, survivors did not have full understanding of what had happened, and that is why we cannot draw clear ideas of the past. Plato adds some more aspects: the survivors had to start again at point zero to overcome the worldwide destruction surrounding them.

Yet, classical tradition, too, is distorted on its long way passing through "Christian" Byzantium, "Islamic" or "Jewish" translations until it finally reached us in the Renaissance when brave Humanists unearthed the ruins and restored the writings of classical time.

Chapter 7: History Shrinks

The most difficult task the survivors had to fulfil while they were occupied with reconstruction work was calculating time. Apart from readjusting the calendar, they tried to get in step with the past: How long ago had happened certain events passed on by oral or written tradition? Chronology is indispensable for any type of historiography. At around 1500 AD, ideas still varied widely, and only in the following two generations some kind of consensus was reached for a simple question like this one: How long ago had the Roman empire vanished? The best answers allowed for 600 to 700 years, but this was a rather fictitious number that later was corrected to a full millennium. The dark age had then supposedly reigned from the 5th to the 15th century.

There are many examples in our actual historiography that remain inexplicable. The Koran talks about Greece as if it was still heathen at that time, yes, as if between the philosophers of ancient Greece (as we know it) and the propagation of Islam no time had passed. The Christian Byzantine Empire is missing. The Abbasid Calif Al-Ma'mun ordered Greek texts to be translated into Arabic as if it was contemporaneous literature worthwhile to be treated on equal terms. Ptolemy and his *Almagest* are catapulted over 700 years without being regarded as antiquated. In matters of science this is improbable.

Or ponder the Arabic gap of inscriptions! We have fairly uniform Arabic inscriptions on stone from classical time until the 3rd century AD, and then after a gap of 600 years another set of inscriptions and writings. Without any intermediate testimony this somehow seems impossible. For Iranian literature a parallel gap is obvious.

The development of Christian culture shows a gap of similar dimensions, especially in Antioch where Christianity first is said to have taken roots. Until the onset of the crusades nothing testifies to the presence of Christians, as Carsten Niebuhr (1774) already remarked with astonishment, and I myself as well on one of my recent journeys.

Gaps of several centuries, up to seven or even more, are to be detected in quite a number of cultures. Here the mysterious hole in Etruscan culture is exemplified in its artworks. Several experts have written about the problem, but they could hardly

propose solutions. Or finally this one: The cult of the three mothers (*matronae*), typical of Roman times, ends somewhere in the middle of the 4th century, not reappearing until after 1000 AD, now Christianized as the three *Bethes*, recognizable as the immediate successors to the pagan ones. Such peculiar expression of cult and devotion in nearly identical style after a gap of 650 years is astonishing, at least, and wants an explanation.

The Maya calendar poses some more problems. It serves by no means as unrelated proof of the correctness of our chronology. Looking into the way it was established and used, the weakness of its testimony appears to the unbiased observer. Mayan dates on temples cover no more than the last three centuries before the Spanish occupation. The *Dresden Codex* is probably written after this crucial event.

"The greatest problem when researching pre-Columbian American cultures is their absolute chronology. Without a secure historical guideline as to speed and duration of history, of which dates are the outward sign, no real knowledge of history can be gained." This is how Oswald Spengler in 1933 starts his paper "On the age of American cultures". He deems that "the development of the American cultures is not isolated, but forms part of world history in which all actions of singular cultures are interdependent." He puts pre-Columbian American cultures into the same frame as the Egyptian and Chinese cultures and thus gains a first concordance of these highlights of history which cannot be separated from each other.

The evolution of the Christian Church is no exception, either. It has to be seen in comparison and connection to the formation of all the other civilizations.

Wilhelm Kammeier (1889 – 1959) is one of the most controversial figures known for his keen analysis of so-called Medieval documents which he esteems to be forged or at least wrongly dated. After some discussion of his three books, we have accepted his general conclusion that clerical writings – this pertains to chronicles, documents, diplomas, inscriptions, coins, and theological texts as well – are not to be trusted, but have to be scrutinized carefully as to their content. Probably no Christian writing before the 15th century exists. And worldly writings to match them in time are not extant.

Theologians like Trithemius or Annius of Viterbo who in the beginning of the 16th century invented history in abundance did not fear to be exposed for their treachery. There was no account of bygone centuries that they could possibly contradict and thus eventually be convicted of forgery because nothing of the like existed before them. They filled in a complete blank. Kammeier could prove this neatly, but he did not understand the reason for the blank. Even he, learned as he was, did not imagine that the invented centuries had never existed, that time itself was created out of nowhere by chronologies without foundation.

Kammeier saw the origin of the Catholic Church in Avignon (France) about 600 years ago. It had developed out of different pagan churches in Europe and slowly taken command and power from inside. The population was not even aware of the change as it came unspectacularly, the leading persons were heads of their congregation in "personal union". The traditional bishop of the district became teacher of the new creed.

Some traits of the new religion were difficult to absorb. The disdain of the women finally led to a severe fight against old practices. Many women were burnt as



Ostertafel in Ravenna

witches. This radical posture equals a religious civil war (see Heinsohn/Steiger 1985).

Most books of the monotheist religions were written in very short time, but whereas the Koran and the new Testament managed without an expressly elaborated chronology, the Old Testament and Jewish writings constructed one that was not guided by classical attempts such as Titus Livy had started. Biblical generation registers soon became the rule. When astronomical chronology, especially that of the *Almagest*, was matched to it, a practical timetable was born that was soon amended by Scaliger and his colleagues and gained reputation. One of the basic suppositions was dating of events by precession, a practice Isaac Newton still followed, resulting in a different chronology that did not win the contest. All of it was unfounded and quite arbitrary because, as Voltaire put it, the sources were not questioned critically, but accepted without warranty of their genuineness.

With the surreptitious change of the religious contents, the figurative aspect changed, too. The King standing in front of the Cosmic Cross embodying the Solar year, became a suffering God nailed to the cross as his support. The Goddess of Fertility, a lady alimending two snakes with her milk at her breast, is now regarded as a type of demon belonging to the infernal zoo, and so on. The symbols of resurrection and rebirth are no longer understood, the calendar signs are losing their identity. A great number of the old pagan figures are still visible on Romanesque churches all over Europe, but they are no longer venerated nor even understood in their original meaning. The Council of Trent (1545 – 1563) changed morals and beliefs.

If it is true that the Bible has been edited late in the 15th century, then the “Heliand” (a type of German Diatessaron of Tatian) cannot have the supposed age, but might have been written by its editor Schmeller in 1830, a millennium later.

The famous law book “Sachsenspiegel” that is said to have been written in Saxony around 1230 AD must be younger by two to three centuries. It seems to be a collection of memories, regained law practices, and nonsense, at least as far as chronology therein is concerned. (To remind the reader: Such a simple statement results from a lot of investigation and discussion and occupies four pages in the book).

The Christian Churches, especially the Catholic, but the Protestant ones as well, went on labouring their invention of their own history until now. With the recovery of Oriental churches a distinguished way of proof was found. “Medieval” manuscripts were written and published in great number. An example given here is the Armenian Eusebius, criticized by Niebuhr (junior) in 1819 in Rome. The newly discovered manuscript cannot establish the authenticity of the writing of some church father Eusebius, but rather demonstrates its falsehood.

Chapter 8: Time-Reckoning and Start of the Calendar

We have now lost an important part of our historiography – all that is older than five centuries. I am here only dealing with the sequence of years, and as soon as I find them grossly contradictory, I start research. The outcome is always the same: Before 1520, nobody had any idea of how to count the years uniformly. One may retro-calculate the age of a person or a building going back some three or four generations,

which brings us to about 1400 AD. All before that date is vanishing into mist, as far as exact dates are concerned. Many chronology critics agree on this time barrier, from French jesuit father Hardouin and the Spanish and Italian humanists to Edwin Johnson and Wilhelm Kammeier and right into our (very diversified) German-speaking group inspired by Christoph Marx from 1980 onward and since then split up in many branches.

Although the *Almagest* of Ptolemy is good for a lot of astronomical data of the time before the last jolt, it cannot be accepted free of doubt because a great deal of its chronology shows the same character like other "documents": Year numbers are figured in a way to match Christian expectation of the Last Judgment, they are built up symmetrically and in correspondence to the (constructed) birth of Christ, thus depriving us of trust into their veracity. The *Almagest* is rather patchwork, smoothed by one or more last-hand editors at the beginning of the Renaissance.

After a jolt of the Earth it is most important to reform the calendar, like Numa Pompilius or Julius Cesar once did. Similarly, Renaissance theologians and humanists discussed the necessity of a reform, but could not convene on a common scheme until the Council of Trent when the Catholic Church decreed the measure to be taken. It took another 19 years until finally in 1582 the new Gregorian Calendar was put into practice by this church while the Protestants – after fighting the bloodiest war man had ever seen – followed suit more than a century later.

Among the many problems to be solved by the reformers was the knowledge of the exact length of the solar year. Copernicus was one of the first to introduce the measure he had obtained from the Persian prince Ulugh-Beg through Alfonso of Cordoba, called *Hispalense* (the *Sevillano*). The church accepted the measure only roughly, not to admit its origin. It is implied still today, although the Persians had found a more suitable solution for the leap period.

Another problem was the connection to the birth of the church at the Council of Nicaea. How many days had to be skipped if the same Easter regulation was to be used? In the end, ten days were omitted, and that gives us another hint to the jolt. If it lay back about two centuries, then two, or at the most, three days were counted in excess (by the inexact Julian Calendar), while the remaining seven days correspond to the jump the Earth had done. This is simple mathematics when we agree that the last correct date had been used at Nicaea shortly before the jerk. The calendar mechanism is explained here by reference to the Gregorian Reform, the Persian Calendar, and the Easter regulation as, e.g., found on the stone inscription of Ravenna.

This leads to the crucial question: when did they start counting years in AD-fashion? Obviously, before 1st of March 1500 AD there was no universal count, and even after that date, the birthday of the mightiest emperor of all time, Charles V, not all people accepted it. It may have been around 1520 that intellectuals started using those figures. All earlier dates are retro-calculated, and most of them wrong. I had begun laying the ground for this hypothesis already in my previous book (2006), now I can add more weight to it. Yet, a lot of research has to be done until details are clarified.

From all that I have projected in this book, it should have become evident that a definite answer to the main questions cannot be given. We do not know how many jerks have happened in the history of man, how long ago were the last jerks, and how

many days were jumped over each time. We can deduce some results which I will resume as a kind of stepping stones for future investigation.

First of all, jerks of the Earth took place, they were the cause of huge devastation attaining all living beings, altering coasts and mountains, changing the length of the solar year and the location of the seasonal days. All jerks accelerated precession for a short moment. The rate of precession in the long run was at one incident diminishing, at another time increasing. I could not find out the interdependence of the jerk to a cosmic event except that I suppose the Sun to undergo a jerky movement at uneven intervals and thus sweeping along the whole planetary system.

A short time after every jerk the Earth moves shakily before regaining a steady orbital speed. The unruly movement is known as trepidation. It had been measured by astronomers in antiquity as well as by the Arabs. After it had vanished, it was regarded as stupidity or incapacity of the ancients. Their exact observation of the length of the solar year is also rejected and called ignorance or insufficiency of tools. Calendar reforms as introduced now and then in historical time are usually considered to be due to incorrect handling of the calendar instead of clear signs of changed parameters of the Earth's movement. Copernicus is one of the last of a long chain of scientists who knew about it.

To close this English introduction to the book "Das Jahrkreuz", I repeat the slim chance to anticipate the direction which future research might lead to. There have been three jerks we know about, and I divine a fourth one before them. I guessed their dimensions by referring to calendar dates and fragments of observations by the ancients. The last jerk happened in the middle of the 14th century, the second would have occurred before Julius Cesar, and the third in the beginnings of Rome, before Numa Pompilius. A fourth one could be suspected having interrupted the great megalith civilization.

The distance of an individual jump as well as of all the last jerks together can be measured in the degree which certain star positions have moved since then. From the oldest known position of the winter solstice – marked as the symbol of the cross – to its location nowadays the difference amounts to roughly 90°, a quarter of the cross. The single steps are fairly known or deductible from myths. The bright star Spica (in Virgo) on the ecliptic stands 46° ahead of Antares (in Scorpio), the star that marked the autumn equinox in the second megalithic scheme of the zodiac. Compared to its first position this made a difference of 20°. In the time of Roman Emperor Augustus, Spica marked the autumn equinox. This implies that it had moved 46° since the second megalithic zodiac, and (the first hypothetic 20° added) 66° since the original zodiac was invented. Today Spica's position is 204°, that is 24° ahead of the time of Augustus. Summed up this amounts to 90°, a quarter of the (theoretical) entire circle of precession. If this movement had been steady at the modern rate of precession, then it would indicate that about 6450 years had passed. This is not the case because precession speed has changed at least twice, as we know, during this time, and what is even more important, precession has leaped an observable amount through the jerks. The distance vaguely deduced from calendar reforms and ancient star observations makes up roughly half the entire time lapse, some three thousand years. The single steps are explained in more detail in the book.

Remains a necessary epilogue in which I explain why I never supported those colleagues who were talking about a conspiracy in historiography because – to my

knowledge – a general leadership is missing. Modern view of our history is very complex and the way chronology had been created by a multitude of scientists and theologians is rather chaotic, like a dance to and fro, including a lot of mistakes that had been rejected. Readers of my books are reminded of my position by quotations from my 1998 starting point which was somewhat misleadingly titled “Die Große Aktion” alluding to a term of Kammeier’s which does not fit the contents of that book nor any other of my six books on the theme hereafter. Nor does the present book administer ideas of a plot or conspiracy.

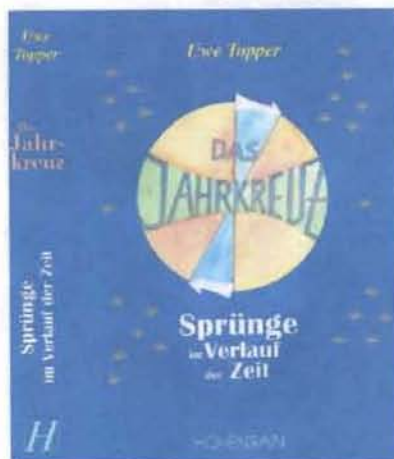
Uwe Topper, Berlin, November 25th, 2016

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**The Solar Year Cross (Das Jahrkreuz)
Jolts and gaps in historical chronology**

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Uwe Topper, Berlin, November 25th, 2016