

Ix7 – Stories in the Stars

Dear: To begin my explanation about “stories in the stars” (or “star stories”, “astrological tales”, or “astro-tales”) I want to say something in defense of our ancient ancestors. In ancient times, people concocted stories “to explain” the origins and the organizations of the stars. Illustrative is the following myth from the Navajos (or Navahos), copied here from the web site of the University Corporation for Atmospheric Research (UCAR).¹

According to Navajo mythology, the Milky Way was created by the mischievous behavior of the god Coyote. When the world was created, the Holy People gathered around Black God to place the stars in the sky. Coyote grew annoyed at the slowness of this process. In his anger, he chose to place a red star, called Ma’iio in the south. Ma’iio means “the one who roams”. This star symbolizes Coyote and appears for only a short time during the year. To the Navajo, it is a symbol of trouble. Coyote continued to be displeased with the Holy People’s progress and threw the bag of stars over his head, forming the Milky Way.

This type of myth doesn’t cause much trouble for people who “buy into it”, because the “prediction” (that the red star is a sign of trouble) is safe for any “prophet” (and surely fools almost no one), since trouble is never far away! In contrast, other astro-tales (including those at the bases of Christianity and therefore Mormonism) have caused an enormous number of people an enormous number of problems for an enormously long time.

For example, there’s the silliness that stars display signs about people (in particular, their fates). This silliness is called astrology, which literally means “theory of the stars” – and it once was a “theory of the stars”, but the theory is now defunct! Yet today, sadly, a huge number of people still “believe” such nonsense, daily consulting their horoscopes, which are published in a horrible number of our newspapers.² In an article entitled “Today’s Horoscope: Now Unsure” in the 27 August 2005 of *The New York Times*, Stephanie Rosenbloom mentions: “A Gallup Poll telephone survey conducted in June found that 25 percent of Americans believe that the position of the stars and planets can affect people’s lives.” That’s terrible! How can “modern” people be so naïve?!

¹ At http://www.windows.ucar.edu/cgi-bin/tour_def/mythology/coyote_milkyway.html.

² Dear: The word ‘horoscope’ is from the Greek word *hora*, meaning hour, plus the Greek word *skopos*, meaning watcher. In turn, *hora* is from the name of the Egyptian son-god Horus, stories about whom (as I’ll be showing you) became stories about the clerics’ Jesus.

As you probably know, astrologers use horoscopes to convey general statements that claim to relate one's "fate" to the position of stars at the hour or month (or whatever) of one's birth. But then, maybe there is some truth to the idea that stars contain information about people: it shows that people who believe that the location of a bunch of rocks in space influences their lives (25% of all Americans!) have rocks in their heads! In a way, such people are even more primitive than our ancient ancestors, because modern people have opportunities to know better but prefer to bury their heads in the sands – or, maybe better, to bury their heads in the stars. But for now, I'll push aside the nonsense of horoscopes and turn to the question: how did the idea start that stars display signs from the gods?

"In the beginning", it was undoubtedly (once again) just a misunderstanding by primitive people. Thus, primitive people probably wondered about the origin, purpose, and meaning of the Sun, Moon, stars, comets, and so on, and someone probably gave an explanation in terms of gods rather than the honest description: "I dunno". Yet, as I'll be emphasizing in the "excursion" **Yx**, a critical feature of the stars – suggesting that they were "signs from the gods" (and even the gods, themselves) – was detected relationships between first "appearances" of these "gods" (in the night-time sky) and seasonal changes (e.g., the annual flood of the river Nile). It was found, for example, that soon after the appearance of the brightest star in the sky (other than the planets), i.e., the "dog star", Sirius, then each year, the Nile would flood. Obviously, therefore (at least to those who didn't realize that the appearance of Sirius identified a time of the year, rather than being a god who caused floods!), stars displayed powerful signs from the gods, if only people could read the signs.

An enormous (even an astronomical!) effort was then expended by ancient people (especially "southern people", who had more opportunities to view the stars) trying to read "the signs in the stars". You can see a little of this in one of the world's oldest books, Hesiod's *Works and Days* (which you can find on the internet at www.classics.mit.edu and which is about 300 years older than the "first edition" of the Old Testament, as written by Ezra and co-authors). Immediately below, I'll quote several passages from this book by Hesiod, in which he's trying to teach his son how to read the "signs in the stars" and to which I've added some notes [in brackets, such as these!].

(ll. 383-404): *When the Pleiades* [pronounced “plea-eh-dees”, the constellation known as “the Seven Sisters”], *daughters of Atlas* [and Pleione!], *are rising, begin your harvest – and your plowing when they are going to set. Forty nights and days they are hidden and appear again as the year moves round, when first you sharpen your sickle.*

(ll. 597-608): *Set your slaves to winnow* [the goddess] *Demeter’s holy grain, when strong Orion* [the hunter] *first appears* [the goddess Demeter, pronounced “duh-mee-tur”, known by the Romans as Ceres, was “Mother Nature” or “Mother Earth”, goddess of the harvest].

(ll. 609-617): *But when Orion and Sirius* [pronounced “serious”, the dog star, the brightest star] *are come into mid-heaven, and rosy-fingered Dawn sees Arcturus* [i.e., when just before dawn becomes visible the fourth brightest star, Arcturus, “the bear watcher” (near the constellation Ursa Major, the Great Bear, from which our word “Arctic” is derived, ‘arktos’ being the Greek name for ‘bear’) located in the constellation of Boötes (pronounced “boh-oh-tease” and meaning “noisy”) known as the (noisy!) Herdsman to the Greeks and known as “the one who is coming, the Savior”, to the Persians and therefore the Jews], *then cut off all the grape-clusters, Perseus* [the name of Hesiod’s son] *and bring them home.*

(ll. 618-640): *But if desire for uncomfortable sea-faring seize you; when the Pleiades plunge into the misty sea to escape Orion’s rude strength, then truly gales of all kinds rage.*

As illustrated by the above quotation from Hesiod, by ~700 BCE the Greeks were using stars, basically, as seasonal “clocks” – just as the Egyptians had done, at least 2,000 years earlier (e.g., to determine when the Nile would flood). But during the intervening 2,000 years (!!), using stars to “foretell” the future (i.e., astrology) became absolutely bizarre. The mantra was: “As above, so below”, which is attributed to Hermes Trismegistus (i.e., “thrice greatest” Hermes, the name that the Greeks gave to the Egyptian god Thoth or Tehuti, lord of wisdom and learning). Until the “excursion” **Yx**, however, I’ll delay showing you some examples; here, I’ll just relay that, when the astrologer priests ruled (in some locations, from about 3,000 BCE to ~500 CE!), anyone would be considered a fool who would undertake anything without first consulting the local astrologer – just as Nancy Reagan would consult her astrologer before “permitting” President Reagan to act on anything important!!

Yet, maybe all such “stories in the stars” started much earlier – when one night (10,000-or-so years ago!), an imaginative and wide-awake grandchild asked her grandfather to tell her a bedtime story. He was almost out of

stories (she wanted one every night!); so, this night, he looked up at the stars for inspiration – and then it all started:

“Well, Dear,” mused the old grandfather, “do you remember what I told you about the star that never moves [now called the North Star or Polaris] and how it can be used to determine directions at night?”

“Sure”, said the granddaughter, “there it is, near the foot of the little bear’s leg [now called the Little Dipper or Ursa Minor]. It’s always there. My cousins live in that direction.”

“That’s right, Dear. Well, now look at the stars in the opposite direction, and show me the brightest star.”

“That one”, she pointed.

Aligning his sight along her little arm, he replied “That’s right,” and added: “Now, Dear, in your mind, draw lines between the bright stars near the brightest one, and tell me what picture you see.”

“Well, nothing, really – I guess – I dunno.”

“Try again, Dear. Look at the four bright stars located where I’ll show you...” And he proceeded to touch her on her two shoulders, her right knee, and her left foot.

“I see them.”

“Good... And now, look at the three brightest stars in the middle, in a line, like the belt I gave you.”

“I see them – and there’s something hanging from his belt.”

“Whose belt?” the old grandfather mockingly inquired.

“His belt – the man in the stars,” she defiantly replied.

“Oh? And so you see a picture of a man?”

“Sure!”

“And can you see that he’s holding something in his left hand?”

“Well, maybe... Yes! It’s just like your hunting bow.”

“Okay, Dear, if that’s what you see. And what’s in his right hand?”

“It’s an arrow for his bow.”

“Okay, Dear... although some people say it’s a club.”

“Yah, it could be a club... he must be a fighter.”

“Yes, Dear, a fighter or a hunter.”

“Wow... who is he?”

“Well, Dear, he’s the most famous hunter and fighter that the world has ever known – and tonight I’ll tell you a story about him.”

Maybe that’s how one of the huge number of stories started about this group of stars – called by various names by various cultures (including Gilgamesh by the Mesopotamians and Osiris by the Egyptians) but in English now called by the name used by the Ancient Greeks: Orion the hunter, wearing his famous belt, “Orion’s belt”. And since he seems to move every night and throughout the year (as do all stars seem to move, except the North Star, Polaris), he could be called the world’s first (and still the world’s most famous) “movie star”!

Subsequently, “star stories” about “the gods” became quite similar in many cultures, no doubt because people traveled and shared their stories and because essentially everyone saw the same stars. Thereby, the original “movie stars” were actually the “heavenly moving stars” – complete with their “devoted fans”. Consequently, as I’ll show you in later chapters, “fan clubs” were established (now known as religions!), especially for essentially the same “son of god”, about whom we’re still told essentially the same stories: Horus in Egypt, Krishna in India, Hercules in Greece, Mithra in Persia, and Jesus.

And of course I’m aware, Dear, that you’ve been taught since the time you were a baby that “there really was a baby Jesus”, born in a manger and all the rest. And if you ever asked, no doubt you’d be told that similar stories about similar “gods” of other cultures (e.g., stories about Horus, Hercules, and Krishna) are “just stories” – although, if you will read these stories (some of which I’ll outline in later chapters), surely you’ll be amazed that so many are so similar to the stories that you were taught about Jesus. And what I want to begin to show you in this chapter, Dear, is that all these stories – including those about Jesus – were just stories that primitive people saw “written in the stars”.

PRELIMINARY CONCEPTS

Before I show you some of these stories and before you read some of them by yourself, I want to mention a few concepts about all such stories. One concept is that, most of the stories (or myths) that we now have, which were “written in the stars”, are usually enormously complex: not simple stories that some grandfather might have spun about a single group of stars, such as those called Orion the hunter, but stories that probably were at least centuries if not millennia in the making, for example, dealing with Orion the hunter fighting Taurus the bull (a nearby cluster of stars), with the help of his faithful dogs Canis Major and Canis Minor (two other nearby clusters of stars, where, as you probably know, *Canis* is Latin for ‘dog’). An even more elaborate example, maybe the most elaborate one – and one that I recommend that you don’t try to read (at least not right now) – is the story “written in the stars” about the clerics’ astrological Jesus, a story that you can find on the internet (e.g., with the search words “the rest of the story: written in the stars”) and that involves essentially all the constellations!

A second concept that I hope you’ll consider is how “naturally” such stories developed and how “reliably” they were retold, for thousands of years! And the reasons are obvious, namely, because the stars were similarly reliable (in times before there was so much air and light pollution). That is, Dear, if your grandfather had told you the story about Orion the hunter defeating Taurus the bull or falling in love with one of the Seven Sisters (the cluster of stars the Greeks called Pleiades), then almost certainly you’d remember such an interesting story and could retell it to your own grandchildren, because there it always was (at the right time of the year), plainly written in the stars, exactly as your grandfather told you. That is, the stories in the stars were the first “story books” ever “written” – and they never deteriorated, never went out of print, never increased in cost, never were copyrighted...!

And the third concept that I want to convey to you, Dear, is one to which I want to add some words of warning. The concept is to ask you, when you’ve finished this chapter, to look at some “star charts”, to see the “pictures” that people have claimed they see in the stars. And my warning is this: please, Dear, constrain yourself! On the internet, for example, there’s a “mind boggling” number of such “pictures” and related “stories in the stars”. Without constraint, people have taken the single step to look at some star charts – and then proceeded to wander through such nonsense (e.g.,

astrology and astrological religions such as Christianity and Mormonism) for the rest of their lives! Although it may be a “topsy-turvy” analogy, I’d say that “the stories in the stars” is a bottomless pit, and I don’t want you to fall into it and waste your life!

A GREEK ASTRO-TALE ABOUT ORION THE HUNTER

As an introduction to some of these astro-tales, one of the Greek myths about Orion (which you can find on the internet) starts with the assumption that, when he was on Earth, Orion was the son of the god of the sea, Poseidon. This assumption “explained” Orion’s ability to walk on water – which in turn “explains” why Orion (in the stars!) has no trouble when “obviously” he’s standing in water, i.e., the long string of stars that starts at his left foot (assuming that he’s facing you!) and is known as the river Eridanus. And, of course, any god or even any son of god has the ability to walk on water, as everyone “knows” who has seen the reflection on water of the sun god, the moon god, and on calm nights, even the star gods; that is, obviously all of these “gods” have the ability to “walk on water” – an ability that Christian clerics also claimed for their Jesus.

Now, according to the very ancient Greeks (that is, this story probably dates from before 1000 BCE), the moon goddess, Artemis, was in love with Orion. [The moon goddess, Dear, was called Diana by the Romans; the Greeks considered her to be the sister twin of the sun god, Apollo (son of Zeus and therefore god’s son) who was also called Helios by the Greeks and Sol by the Romans.] Unfortunately for all concerned, Apollo was opposed to his sister’s love affair with Orion – maybe because of a natural animosity between fire (the sun) and water (Orion’s father, Poseidon). In any event, to stop what he considered to be an unseemly affair between his sister and Orion, Apollo devised a plot.

As is well known by anyone who has seen the early or late moon, Artemis (with her obvious bow!) was a famous archer (as was Orion). Apollo (the Sun) then challenged the ability of Artemis (the Moon) as an archer, daring her to try to hit a small, dark object bobbing along in the waves of the ocean. She took the challenge, fitted her bow with an appropriate arrow (unspecified, but it’s easy to see pictures of arrows in the stars – although, maybe her “arrow” was a comet!), and demonstrating her great skill, her arrow hit the object on the water.

To her horror, Artemis realized that she had killed Orion, who had been out for a stroll on the water. Filled with grief that she had killed her love, she lifted Orion the hunter up to the stars, where he now hunts all the animals in the stars, for eternity. And the number of animals available for Orion to hunt is quite amazing. In fact (or, at least “in myth”!), there’s even a famous “animal” that hunts him. Thus, one of the gods put Scorpion in the sky to punish Orion (because he allegedly raped one of the Seven Sisters, which is what Hesiod was referring to when he wrote “Orion’s rude strength”). Scorpion is on the opposite side of the sky from Orion the hunter (who of course is near Taurus the bull), because Orion obviously stays as far as possible away from Scorpion – or so the story goes...

HOW “STAR PICTURES” MIGHT HAVE BEEN NAMED

Perhaps obviously, stories such as the above (and Hesiod’s suggestions to his son about how to use stars to time his farming tasks) couldn’t have come “first”: first, someone had to recognize regularities of the stars, and then, in all those dots, recognize some “pictures”! And obvious, also, is that no one knows for sure when such recognitions occurred. Yet the following suggestions from Volney’s 1789 book (yes, Dear, 1789!) entitled *The Ruins, or, Meditations on the Revolutions of Empires: and the Law of Nature*³ provides as complete an explanation as I’ve ever seen. To this quotation, I’ve added a few notes in brackets.

[As] soon as men began to unite in society, it became necessary for them to multiply the means of subsistence, and consequently to attend to agriculture: agriculture, to be carried on with success, requires the observation and knowledge of the heavens. It was necessary to know the periodical return of the same operations of nature, and the same phenomena in the skies; indeed to go so far as to ascertain the duration and succession of the seasons and the months of the year. It was indispensable to know, in the first place, the course of the sun, who, in his zodiacal revolution, shows himself the supreme agent of the whole creation; then, of the moon, who, by her phases and periods, regulates and distributes time; then, of the stars, and even of the planets, which by their appearance and disappearance on the horizon and nocturnal hemisphere, marked the minutest divisions. Finally, it was necessary to form a whole system of astronomy... or a calendar; and from these works there naturally followed a new manner of considering these predominant and governing powers. [As you saw, Dear, in the quotation (earlier in this chapter) from Hesiod.]

³ Available, e.g., at <http://www.gutenberg.org/etext/1397>.

Having observed that the productions of the earth had a regular and constant relation with the heavenly bodies; that the rise, growth, and decline of each plant kept pace with the appearance, elevation, and declination of the same star or the same group of stars; in short, that the languor or activity of vegetation seemed to depend on celestial influences, men drew from thence an idea of action, of power, in those beings, superior to earthly bodies; and the stars, dispensing plenty or scarcity, became powers, genii,⁴ gods, authors of good and evil...

It was, then, on the borders of the upper Nile, among a black race of men, that was organized the complicated system of the worship of the stars, considered in relation to the productions of the earth and the labors of agriculture; and this first worship, characterized by their adoration under their own forms and natural attributes, was a simple proceeding of the human mind. But in a short time, the multiplicity of the objects of their relations, and their reciprocal influence, having complicated the ideas, and the signs that represented them, there followed a confusion as singular in its cause as pernicious in its effects.

As soon as this agricultural people began to observe the stars with attention, they found it necessary to individualize or group them; and to assign to each a proper name, in order to understand each other in their designation. A great difficulty must have presented itself in this business: First, the heavenly bodies, similar in form, offered no distinguishing characteristics by which to denominate them; and, secondly, the language in its infancy and poverty, had no expressions for so many new and metaphysical ideas. Necessity, the usual stimulus of genius, surmounted everything. Having remarked that in the annual revolution, the renewal and periodical appearance of terrestrial productions were constantly associated with the rising and setting of certain stars, and to their position as relative to the sun, the fundamental term of all comparison, the mind by a natural operation connected in thought these terrestrial and celestial objects, which were connected in fact; and applying to them a common sign, it gave to the stars, and their groups, the names of the terrestrial objects to which they answered.⁵

Thus the Ethiopian of Thebes named stars of inundation, or Aquarius [i.e., water], those stars under which the Nile began to overflow [normally in June]; stars of the ox or the bull, those under which they began to plow; stars of the lion, those under which that animal, driven from the desert by thirst, appeared on the banks of the Nile; stars of the sheaf or of the harvest virgin, those of the reaping season; stars of the lamb, stars of the two kids, those under which these precious animals were brought forth: and thus was resolved the first part of the difficulty.

⁴ Volney adds the footnote: It appears that by the word genius, the ancients denoted a quality, a generative power; for the following words, which are all of one family, convey this meaning: generare, genos, genesis, genus, gens.

⁵ Volney adds the footnote (plus a reference): “The ancients,” says Maimonides, “directing all their attention to agriculture, gave names to the stars derived from their occupation during the year.”

Moreover, man having remarked in the beings which surrounded him certain qualities distinctive and proper to each species, and having thence derived a name by which to designate them, he found in the same source an ingenious mode of generalizing his ideas; and transferring the name already invented to every thing which bore any resemblance or analogy, he enriched his language with a perpetual round of metaphors.

Thus the same Ethiopian having observed that the return of the inundation always corresponded with the rising of a beautiful star which appeared towards the source of the Nile, and seemed to warn the husbandman against the coming waters, he compared this action to that of the animal who, by his barking, gives notice of danger, and he called this star the dog, the barker (Sirius). In the same manner he named the stars of the crab, those where the sun, having arrived at the tropic, retreated by a slow retrograde motion like the crab... He named stars of the wild goat, or Capricorn, those where the sun, having reached the highest point in his annuary tract, rests at the summit of the horary gnomon, and imitates the goat, who delights to climb the summit of the rocks. He named stars of the balance, or Libra, those where the days and nights, being equal, seemed in equilibrium, like that instrument; and stars of the scorpion, those where certain periodical winds bring vapors, burning like the venom of the scorpion. In the same manner he called by the name of rings and serpents the figured traces of the orbits of the stars and the planets, and such was the general mode of naming all the stars and even the planets, taken by groups or as individuals, according to their relations with husbandry and terrestrial objects, and according to the analogies which each nation found between them and the objects of its particular soil and climate...

From this it appeared that abject and terrestrial beings became associated with the superior and powerful inhabitants of heaven; and this association became stronger every day by the mechanism of language and the constitution of the human mind. Men would say by a natural metaphor: The bull spreads over the earth the germs of fecundity (in spring) he restores vegetation and plenty; the lamb (or ram) delivers the skies from the maleficent powers of winter; he saves the world from the serpent (emblem of the humid season) and restores the empire of goodness (summer, joyful season); the scorpion pours out his poison on the earth, and scatters diseases and death...

This language, understood by every one, was attended at first with no inconvenience; but in the course of time, when the calendar had been regulated, the people, who had no longer any need of observing the heavens, lost sight of the original meaning of these expressions; and the allegories remaining in common use became a fatal stumbling block to the understanding and to reason. Habituated to associate to the symbols the ideas of their archetypes, the mind at last confounded them: then the same animals, whom fancy had transported to the skies, returned again to the earth; but being thus returned, clothed in the livery of the stars, they claimed the stellary attributes, and imposed on their own authors. Then it was that the people, believing that they saw their gods among them, could pray to them with more convenience:

they demanded from the ram of their flock the influences which might be expected from the heavenly ram; they prayed the scorpion not to pour out his venom upon nature; they revered the crab of the sea, the scarabeus of the mud, the fish of the river; and by a series of corrupt but inseparable analogies, they lost themselves in a labyrinth of well connected absurdities.

Such was the origin of that ancient whimsical worship of the animals; such is the train of ideas by which the character of the divinity became common to the vilest of brutes, and by which was formed that theological system, extremely comprehensive, complicated, and learned, which, rising on the borders of the Nile, propagated from country to country by commerce, war, and conquest, overspread the whole of the ancient world; and which, modified by time, circumstances and prejudices, is still seen entire among a hundred nations, and remains as the essential and secret basis of the theology of those even who despise and reject it [e.g., Christians and Muslims].

But regardless of how it all started, I'll now move on to try to show you how resulting "stories in the stars" were used as fundamental features of essentially all religions, especially wanting to show you how they were used in Christianity and Mormonism. Let me put it this way: if there had been no astrologers, there would be no Christianity, you wouldn't have been exposed to Mormonism, and I wouldn't have felt the need to write this book!

THE CONSTELLATIONS

In total, 88 "pictures in the stars" (normally called 'constellations', i.e., with 'con' meaning 'with' and 'stellar' meaning 'stars', then 'constellations' means "with stars") are "commonly" identified. Most of these constellations are imagined to be animals, but some are imagined to be various gods and other "heroes". Here, because their names will reappear in what follows, I want to mention the names of a few others (besides Orion aka Gilgamesh aka Osiris). The following descriptions of these constellations are taken from Part 6 of Volney's 1789 book (referenced above); I've added a few notes in brackets; you might notice that most of the English names for these constellations are derived from Greek mythology, but in turn (as I'll be showing you in later chapters), much of Greek mythology and many of their gods were derived from earlier Egyptian and Mesopotamian sources.

BOOTIS, the Ox driver – so called because this constellation seems to follow the Great Bear as the driver follows his oxen. Boötes is represented as grasping in his right hand a sickle and in his left, a club, and is fabled [in one of the stories] to have been Icarus [not to be confused with Icarus, son of Daedalus, the fabled inventor] who was transported to heaven because he was a great cultivator of the vine; for when Boötes rises, the works of plowing and cultivation go forward.

CETUS, the Whale – A southern constellation, and one of the forty-eight old asterisms [i.e., “a prominent pattern or group of stars, typically having a popular name but smaller than a constellation”]. It is fabled to have been the sea monster sent by Neptune to devour Andromeda, which was killed by Perseus [and in the Bible, Cetus is probably the “whale” who allegedly devoured Jonah].

PERSEUS – This constellation is named from Perseus, the son of Jupiter by Danae [i.e., another fabled “virgin birth”, similar to Mary’s fabled conception of Jesus] who was translated into the heavens by the assistance of Minerva, for having released Andromeda from her confinement on the rock to which she was chained. He is represented... holding a drawn sword in his right hand and in his left, the head of Medusa, the Gorgon, whose terrifying appearance changed all who beheld her into stone, and whom he had destroyed with the assistance of the wings he had borrowed from Mercury, the helmet from Pluto, the sword from Vulcan, and the shield from Minerva.

HERCULES – one of the old northern constellations. In Grecian mythology it was taught and believed that Hercules, the Theban, was born of a human mother and an immortal father, like other so-called saviors of mankind. [That’s Volney’s cynical statement; not mine!] His mother, the fair Alcmene, wife of Amphitryon, having found favor in the eyes of the god Jupiter, soon fell an unwilling victim to his celestial wiles. The life of the infant Hercules, born of this unnatural union, was threatened by the jealous Juno, the same as the life of the infant Jesus was threatened by the tyrant Herod. Like [the fabled] Jesus, Hercules devoted his life to the benefit of the human race, and like Jesus, he was also worshipped after his death as a God in heaven. He is shown in the astrological chart, enveloped in the skin of the lion he has slain, with his club upraised, and his foot placed threateningly above the head of the Dragon, as if about to fulfill the scriptural prophecy, that “the seed of the woman shall bruise the serpent’s head.”

Of the 88 constellations, 28 are in the northern sky, 48 are in the southern sky, and the remaining 12 (known as “the signs of the Zodiac”) are “in the middle”, near “the solar plane” or near “the plane of the ecliptic” – expressions that I’ll now try to explain.

THE ZODIAC

I should first comment on the Zodiac. The word ‘zodiac’ might be derived from the Greek word *zoion* meaning ‘animal’ (from which we have the English word ‘zoo’), which then leads to my dictionary’s suggestion that ‘zodiac’ means “literally, a circle of animals”. On the other hand, I’ve seen suggestions on the internet that ‘zodiac’ comes from the Greek word *zodiakos*, meaning “a circle”, in turn from the Greek root word *zoad*

(possibly related to the English word ‘road’) and meaning “a path or way or going by steps”. I suspect that this later interpretation is more nearly correct, in part because all “pictures” in the Zodiac (even in its Greek version) are not of animals and in part because (as I’ll show you) the zodiac does indicate “the path or way” of the planets, the Sun, and the Moon.

When the “signs of the Zodiac” were first identified is unknown, but I’ve seen references to archeological finds that suggest the Sumerians of Mesopotamia had identified at least the lion, the bull, the ram, and the scorpion by approximately 4000 BCE, i.e., 6,000 years ago! Whether the Sumerians or the Egyptians identified them first is (as far as I know) unknown. Subsequently, thousands of years later, the 12 signs of the Zodiac commonly identified may have been first identified (approximately in the time period 2000 – 1000 BCE) by Mesopotamian priests called Chaldeans (who lived near what is currently called Kuwait and Southern Iraq and which was then called Chaldea); they were also called “the Magi” (from which our word “magic” is derived).

The names that are now common for the 12 signs of the Zodiac are Greek renditions of the Chaldean names. But even in our culture, the names of various constellations (and even those of the Zodiac, itself) aren’t uniform. For example, consider the following translations of the Bible’s *Job* 38, 31–32 (in which God is allegedly challenging Job to answer various questions – and perhaps you recall from an earlier chapter, Dear, that Thomas Paine concluded that the Book of Job was not a Hebrew book). The first quotation is from the King James Version of the Bible, the second is from the New English Bible, and the third is from a Jewish translation of their Old Testament (the *Tanakh*) copied from www.tckillian.com. To these quotations, I’ve added a few notes in brackets:

- 1) **Canst thou bind the sweet influences of Pleiades [the seven sisters] or loose the band of Orion [the hunter]? Canst thou bring forth Mazzaroth [see the next quotation] in his season? or canst thou guide Arcturus with his sons?**
- 2) **Can you bind the cluster of Pleiades or loose Orion’s belt? Can you bring out the signs of the zodiac [vs. “bring forth Mazzaroth”] in their season or guide Aldebaran and its train?**
- 3) **Can you bind the beautiful Pleiades? Can you loose the cords of Orion? Can you bring forth the constellations in their seasons or lead out the Bear with its cubs?**

That is, Dear, notice that “the signs of the Zodiac” are described differently in these three translations of the Bible (i.e., “Mazzaroth” vs. “signs of the zodiac” vs. “constellations in their seasons”). Notice, also, the three different descriptions of what are probably the same constellation and its related “picture” (dealing with the star Arcturus, in the constellation Boötes, the Herdsman, in some stories herding Ursa Major, the Great Bear of the north). As stated on the web page at www.clarkfoundation.org/astro-utah/vondel/bootes.html

In Homer’s *Odyssey* Boötes is referred to as “The Bear Driver”, but the Arabs referred to Arcturus as “Lance Bearer” and ‘Keeper of Heaven”, and it has also been called “Job’s Star”, since it is mentioned in the book of Job, chapter 38, verse 32: “Canst thou bring forth Mazzaroth in his season? or canst thou guide Arcturus with his sons?” This is now thought to be a bad translation: the original text probably referred to the Great Bear constellation rather than to the star Arcturus.

But putting those differences aside, Dear, what I’d like you to do, now, is look at the “pictures” of each sign of the Zodiac that are common in our culture. These “pictures” are the Latin or Greek renditions of the Chaldean or Mesopotamian identifications. Probably the easiest way to find these “pictures” is to look in your dictionary under ‘zodiac’. If the pictures aren’t in your dictionary, Dear, then look in a better dictionary at your house, look in an encyclopedia, or [with care!], search on the internet for “signs of the zodiac”. If you do search on the internet, you can easily be overwhelmed: not only will you find simple sketches of the 12 signs of the Zodiac, but you can find an enormous number of elaborate, colored pictures, created by some of the world’s best artists during the past many thousands of years!

Below is a relatively simple summary, which I copied from a great web site.⁶ In this figure, of the 12 “pictures” (seen in the stars) the nine that I’d like you to especially notice for their locations (because I’ll be addressing them later in this chapter and in later chapters) are the following.

- 1) The set of five adjacent “pictures”:
 - *Gemini* (Latin for ‘twins’ and known to the Greeks as the twins, but possibly originally known to the Egyptians as the first two humans, whom in our culture are called Adam and Eve)
 - *Taurus* (Latin for ‘bull’)
 - *Aries* (Latin for ‘ram’ also known as the lamb)

⁶ At http://visav.phys.uvic.ca/~babul/AstroCourses/P303/Module1_p3.htm.

- The two fish (*Pisces*, in Latin, or *Ichthus* or *Ichthys*, in Greek),⁷ and
 - *Aquarius* (the water carrier, where of course, *aqua* is Latin for water),
- 2) *Capricorn* (literally, “the horned goat”) and *Cancer* (literally, “the crab”), which everyone on Earth sees “overhead” six months apart and after which are named “The Tropic of Cancer” and “The Tropic of Capricorn” (as no doubt you’ve learned in geography and for reasons to be explained), and
- 3) The adjacent “pictures” of *Virgo* (the athletic, virgin woman) and *Leo* (the lion).

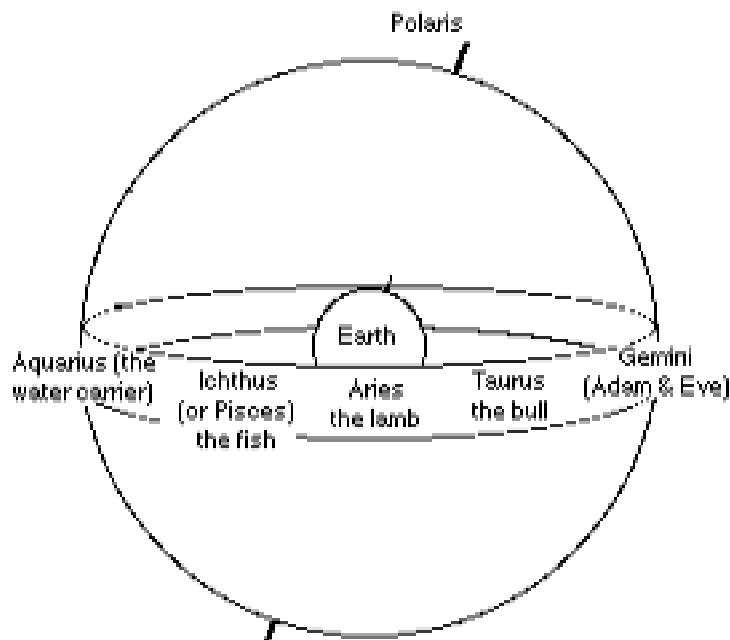


⁷ As examples of our use of the Greek word for fish, *ichthys*, there is ichthyology (“the branch of zoology dealing with fish”), ichtholite (“a fossil of a fish”), and ichthyophagous (meaning “living on fish”).

Again, Dear, the reason for my giving you this “short course” in astrology is not because any of it contains a single speck of science (it’s all just silly speculations!), but because, as I’ll be showing you, many famous monuments, statues, and stories (including stories in both the Old and New Testaments) relate to the signs of the Zodiac. As examples, for now I’ll just mention (and later I’ll go into details) that the reason why there were said to be 12 tribes of Israel and 12 apostles of Jesus (and even the reason for the “Quorum of Twelve” who lead the Mormon church!) is because there are 12 signs of the Zodiac!

VIEWING THE ZODIAC

Consider, now, some general features of the Zodiac. On any clear night, as soon as the lights go out and the “picture-show” starts (☺), you can see approximately six of the constellations in the Zodiac. Here, I’ll indicate the general idea with the following sketch.



As I’ve tried to indicate in this sketch, the signs of Zodiac are in a band entirely around “the celestial sphere” (i.e., primitive people thought that all stars were the same distance from Earth, on a sphere centered at the Earth). More accurately, the signs of the Zodiac are in a ring (like a circus ring!), within an angular band of $\pm 8^\circ$ as seen by an observer on Earth and within which the Sun, Moon, and planets also move (although I’ve not shown them

in the above sketch). As I'll explain in more detail below, the plane that cuts through the center of the Zodiac, the plane in which all the planets of our solar system revolve, is called "the solar plane" or "the plane of the ecliptic".

During the course of each night (as the "picture-show" rolls on!) all the stars appear to rotate around the Pole Star, Polaris. In this apparent motion, constellations in the Zodiac (as well as the Moon, the planets, and other constellations, such as Orion, which is just south of the Zodiac band, midway between Gemini and Taurus) rotate from east to west (just as does the sun). That is, Dear, if you look up at the Pole Star, all stars appear to rotate (very slowly!!) around Polaris, counterclockwise. And of course the reason why they all appear to rotate each night from east to west is the same as the reason why the Sun seems to move from east to west: Earth-bound observers view the (approximately) fixed stars from a platform that's rotating "clockwise" (from west to east). Similarly, the reason why Polaris seems to sit still is because it's on the Earth's axis of rotation.

Approximately each of the 12 months per year, one more of the "12 signs of the Zodiac" appears in view and one disappears from view (of course because the Earth is revolving about the Sun). Therefore, during the nights, Earth-bound observers view continuously different portion of "the heavens" until, a year later, we return to looking at the same stars – although some "stars", more appropriately called planets, will have moved.

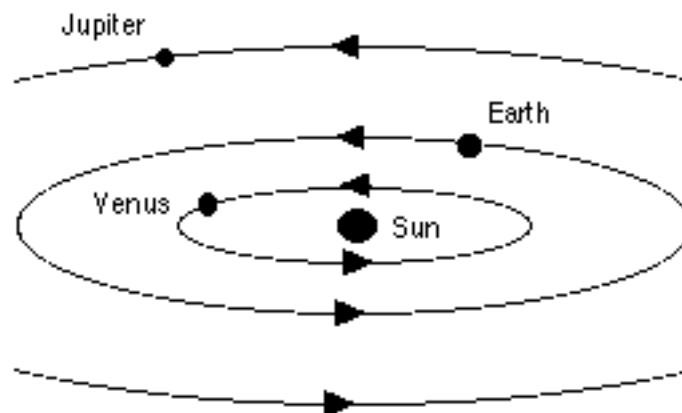
THE PLANETS / THE WANDERERS / THE GODS!

All the planets of our solar system (where, again, Sol was the Roman name of the Sun god) are essentially in a plane – appropriately called "the solar plane". It's also called "the plane of the ecliptic", because it's the plane on which eclipses of the Sun and Moon occur, where 'eclipse' is from the Greek prefix *ek*, meaning 'out', and the Greek verb *leipein* (possibly from the Indo-European base *leikw*) both meaning "to leave"; thus, 'eclipse' means "to leave out" (e.g., the light from the Sun or the Moon). In this plane, all the planets revolve in the same direction about the Sun. In addition, our Moon revolves in the same direction about the Earth, but the Moon's orbit is tilted up by about 5° from the solar plane – possibly because the Moon was a large fragment smashed off from the early Earth by a large asteroid or planetesimal.

Although all the above is probably trivially obvious to you, Dear, please stop for a minute to try to imagine what primitive people must have thought: night after night, there were these amazing lights “in the heavens”, spinning around every night. Yet, night after night, the “pictures” were almost the same, just slowly changing with the seasons. In addition, a few of the lights (which we call planets and what they called “the wanderers”) had very strange motions. To primitive people, these five visible planets were especially important, not only because they were such bright “stars” (for example, next to the Sun and the Moon, Venus is the brightest “star”) but because their motions were so different – different from each other and from “the motions” of the “fixed stars”.

Thus, whereas the “fixed” stars simply “rotate on the great sky wheel” (which you know means that the stars appear to rotate, because Earth-bound observers view them from a rotating platform and because the stars’ motions appear to be so small – because they’re at such enormous distances from the Earth), yet the planets (where *planetes* is Greek for ‘wander’) seemed to wander where they pleased (although they were seen to be constrained to move in “the plane of the ecliptic”). In particular, these “wanderers” seemed to wander through the signs of the Zodiac, visiting the “Zodiac houses” – which (as I’ll be showing you) led to a huge number of stories related to which “house” the wanderers visited. And thereby, with such obvious “freedom of movement”, each planet was considered to be a god or goddess by essentially every ancient culture.

To illustrate some visual features of the “wandering” planets, below I’ve sketched a part of the “solar plane” or “the plane of the ecliptic”.



To simplify this sketch (which of course isn't drawn to scale!), I've sketched only one planet with an orbit closer to the Sun than the Earth, namely, the brightest "star" in the sky, Venus. This "star" was known by different names in different cultures: it was the Sumerian goddess Ishtar (the goddess of love and fertility of the Epic of Gilgamesh), the Canaanite god of the evening star Solom (as in King Solomon of the Bible, as well as the name of the original Canaanite city, Jerusalem), the Babylonian goddess Inanna, sometimes the Egyptian goddess Isis, the Greek goddess Aphrodite, the Roman goddess Venus, sometimes the Christian "goddess" the "virgin Mary", the Germanic goddess Freya (whom we still "honor" every Friday), and still other names in other cultures! In the Bible, God allegedly calls Venus "the queen of heaven", for in *Jeremiah* 7, 18, God allegedly says to Jeremiah:

"Do you not see what is going on in the cities of Judah and in the streets of Jerusalem? Children are gathering wood, fathers lighting fires, women kneading dough to make crescent-cakes [called "the bread of Ishtar" in Ancient Mesopotamia] in honor of the queen of heaven..."

In the above sketch, I also show only one planet farther from the Sun than the Earth, namely, the largest planet, Jupiter. This "star" was known as the Babylonian god Marduk, the Egyptian god Horus, the Phoenician god Bel, the Greek god Zeus, the Roman god Jupiter (or Jove as in "by Jove"), the Germanic god Thor (whom we still "honor" every Thursday), and still other names by other cultures, including the Christian god Jesus (an identification that I'll return to, later).

Now, Dear, please think about what you'd see of these planets if you'd look for them. First, of course you could see them (and any "star") only when your side of the Earth rotates away from the Sun (i.e., during nights). In the case of Jupiter, which takes ~12 of our ("Earth") years to orbit the Sun, it moves so relatively slowly that it's almost stationary. Therefore, night after night (for all of the approximately 6 months per year that an Earth-borne night-time observer would be facing Jupiter), it's in the same location relative to the "fixed stars". Yet, if you were sufficiently observant over a sufficiently long period, you could see Jupiter (aka Jesus, Zeus, Bel, Marduk, etc.) slowly moving, "visiting" the various "houses" of the Zodiac.

Because there are 12 constellations in the Zodiac and it takes Jupiter ~12 years to rotate, then "he" seems to visit another "house" each year. For example, according to the star chart that I have in front of me for this month,

Jupiter will be visiting the Seven Sisters (which is actually a cluster of stars within the Zodiac house of Taurus the bull). Next year at this time, “he” should be visiting the next sign of the Zodiac, when he’ll run into the left foot of the left member of the Gemini twins (who probably was once known as Adam, of Adam and Eve fame).

APPARENT RETROGRADE MOTIONS OF THE WANDERERS

Although all the planets in our solar system rotate in the same direction about the Sun, yet when we on Earth observe the other planets, sometimes they can appear to move “backwards” (i.e., an apparent “retrograde motion”), because the planets move about the Sun at different angular speeds. To see what I mean, consider the apparent motion of Mars, the “outer planet” that’s closest to the Earth.

As I showed you one clear night when you were visiting, Mars (the Roman name) has a red tinge (the color of blood), which is probably why it was known to the Romans as the god of war, called Ares by the Greeks. To the early Mesopotamians it was “the star of Nergal”, the god of disease and death. In reality, its red color is from oxidized iron (in the soil and therefore in the dust of the Martian atmosphere). Compared to the other outer planets, Mars appears to move relatively rapidly, revolving about the sun in approximately two of our years.

The apparent motion of Mars is different depending on which side of the Sun it’s on, relative to the Earth. For example, when Mars is on “our side” of the Sun, then at nights we see it behave somewhat similar to Jupiter, although it moves through the houses of the Zodiac more rapidly. That is, although Jupiter (with it’s ~12-year period) “visits” another one of the 12 houses of the Zodiac each year, Mars (with it’s ~2-year period) visits a new house every 2 months.

On the other hand, when Mars is on the other side of the Sun from us, then when we can see it (only just after sunset and just before sunrise, for otherwise its “lost” in the sunlight), we can sometimes see it appear to enter a house and then, night after night, move backwards (!) – because the Earth rotates more rapidly than Mars about the Sun. To understand this apparent “retrograde motion” of Mars, Dear, you should sketch the orbits for yourself and then put corresponding marks on each orbit showing the location of Mars and the Earth at different times through the year.

According to a Wikipedia article on retrograde motion,⁸ the duration and frequencies of the apparent retrograde motions of the outer planets is as follows:

- Mars retrogrades for 72 days every 25.6 months.
- Jupiter for 121 days every 13.1 months.
- Saturn for 138 days every 12.4 months.
- Uranus for 151 days every 12.15 months and
- Neptune for 158 days every 12.07 months.

Even more dramatic examples of apparent retrograde motion can be seen for the inner planets, Venus and Mercury, but it's more difficult to observe, because the only times we can see them is when they're at what are the "edges" of their orbits (relative to where the Earth is in its orbit); otherwise they're lost in the sunlight.

In the case of Mercury (the "messenger of the gods"), also called Thoth, Hermes, and Wooden (of Wednesday fame), which travels around the sun in just 88 Earth days, we see it only once every month or so, popping its head up above the horizon, seemingly in a hurry – as messenger of the gods! The motion of Venus is similar to Mercury's, but with a period of about two thirds of our year, "she" moves more sedately than Mercury – and she's much more beautiful. In reality, however, Venus's beautiful, yellowish tinge is caused by sulfuric acid in its atmosphere (which is predominantly carbon dioxide) – but "she" is "sedate" in that her single day is longer than her year!

To understand why Venus can be seen from Earth relatively infrequently, again consider the above sketch: standing on Earth, you could see Venus only when it's roughly in the location shown in the sketch, but only just before sunrise. Then, Venus would be called "the morning star". A year later (when the Earth would be in the same position), then because Venus takes 225 days to orbit the Sun, she would be roughly on the other side of the Sun (i.e., at the "right-hand side" in the above sketch). So, just when you're spinning away from the Sun at the end of each day, you'd be able to see Venus for a few hours in the evening, and then she'd be called "the evening star".

⁸ At http://en.wikipedia.org/wiki/Apparent_retrograde_motion.

Further, during the first few evenings when you could see Venus, she'd seem to move from West to East (opposite to the motion of all the other stars), but then later in the same month-or-so that you could see her, she'd seem to turn, and then, night after night, would be moving East to West, more rapidly than the other stars. That is, Venus can be seen only in the evenings and early mornings during a few months of the year, and she's never seen very high above the horizon.

And maybe I should add, Dear, that Venus seems so bright (even though it's relatively small, with a diameter of only about 7,500 miles), both because it's relatively close to the Earth and because it's covered with clouds that reflect so much sunlight. Also, let me add that I've yet to find a convincing reason why primitive people of so many cultures decided that Venus was a woman (i.e., a goddess). Of course, there are many "explanations" (e.g., because she's beautiful or because she's so changeable), but actually, I wouldn't be surprised if the correct explanation is more mundane. I've seen suggestions that women probably were "the backbone" of the agricultural revolution, derived as it apparently was from the women's role as gatherer (although the men probably contributed by evolving from hunters to herders). Thereby, if the women did most of the work in the fields, then probably they disappeared early in the evening (exhausted, to sleep), and rose early, as did Venus – while the men, who didn't tire themselves so much during the day, usually stayed awake quite late in the night (to watch the stars!), and then rose late in the morning!

WANDERINGS & CONJUNCTIONS OF JUPITER & SATURN

Besides Mars and Jupiter, the other "outer planet" that was visible to ancient people was Saturn. Saturn, which revolves about the Sun once every ~30 years, was assumed to be the slow, old, powerful, "father god" of many cultures, including the Roman god Saturn, the Jewish god Yahweh (or Jehovah), and the Greek god Cronus (or Chronus or Kronos) – from which we have various words related to time, such as chronology, chronography, and chronometer, the latter being a "fancy word" for 'clock'!

For ancient people, watching Saturn and Jupiter was a good way to "tell time". For example, because Saturn's "son" Jupiter (or Cronus's son Zeus, or Yahweh's son Jesus) revolves about the Sun more rapidly (once every ~12 years vs. Saturn's ~30 years), the son overtakes the father (i.e., there is a "conjunction" of Saturn and Jupiter, called a "Great Conjunction") once

every ~20 years. The most recent Great Conjunction occurred on 31 May 2000; the next will occur on 21 December 2020.⁹

To see that a conjunction of Saturn and Jupiter occurs every ~20 years, Dear, get yourself a pencil and some paper, sketch their orbits, put the planets at the same angle as viewed from Earth (i.e., when they are “in conjunction”), and then address the question: When will they again be in conjunction? Jupiter goes around the Sun at an “angular speed” of 360° (or 2π radians, i.e., a complete circle) in ~12 years (i.e., $\sim 360^\circ / 12$ years) and Saturn goes around the Sun at an angular speed of $\sim 360^\circ / 30$ years. Let f , say, be the fraction of its circuit that Saturn completes while Jupiter goes entirely around the sun and catches up to Saturn, i.e., Saturn moves through an angle of $f \times 360^\circ$. Then for “the second passing” (of Saturn by Jupiter), the time required will be the same, i.e., $f \times 360^\circ / [360^\circ / 30 \text{ years}] = (1 + f) \times 360^\circ / [360^\circ / 12 \text{ years}]$ or $30 f = 12 (1 + f)$, which yields $f = 2/3$. That is, while Saturn completes two thirds of a revolution (in ~20 years), Jupiter completes one and two thirds revolutions, resulting in the next conjunction.

To detail a little more about the importance that ancient people attributed to Saturn and Jupiter, I’ll quote an article¹⁰ by Terry Alden entitled “The Mill of Time.” Later in this chapter, I’ll be encouraging you to read this article; below, as per usual, I’ve added a few notes in brackets.

[To the ancients] [The fixed stars](#) [although, Dear, as far as we know, nothing in this universe is ‘fixed’!], [since their patterns in the constellations do not appear to change over long periods, symbolize\[d\] eternity, the transcendent realm, that which is beyond or outside of time and space. Saturn, which takes the longest time to travel around the Zodiac of all the planets... seen without a telescope, was, therefore, considered the symbol of Time and identified with the Craftsman God.](#)

[Saturn was also thought to be closest to the fixed stars and the eternal realm, because the planets were imagined to be caught up in a Zodiacal whirlpool, and, as such, the ones closer to the center revolved faster than the ones farther out, an excellent model for the true structure and behavior of the planets of our solar system revolving around the Sun.](#)

⁹ See, e.g., http://en.wikipedia.org/wiki/Great_conjunction. I assume that the term “Great Conjunction” was used to distinguish a conjunction of Saturn and Jupiter from other conjunctions (e.g., of Mars and Jupiter), i.e., the astrologers who coined the term “Great Conjunction” were apparently trying to emphasize the “greatness” of Saturn and Jupiter.

¹⁰ Available at <http://www.andersoninstitute.com/the-mill-of-time.html>.

The Sun was at the center of the whirlpool and the chief object of Creation as the god which provided light and warmth for the continuance of life, but Saturn seems to have held a special position as King of all the Planets and Creator of the World, the Sun and Moon being included as ‘planets’.

Saturn had a rival, however, in the visually much brighter planet, Jupiter, and Jupiter could regularly be seen to catch up to and pass Saturn in the Zodiac due to his faster [angular] speed. This rivalry and periodic close proximity seems to have led to some interesting results for timekeeping in the way the ancients used natural cycles to set up a system for studying time and space.

The Sun, of course, circuits the Zodiac in one year and defines the seasons as it goes; so, the year is bound to be one of the fundamental units or cycles of time. Saturn takes nearly 30 years and Jupiter nearly 12 years to complete their cycles. The numbers, 30 and 12, have clearly been very important in setting up our temporal and spatial units and coordinates.

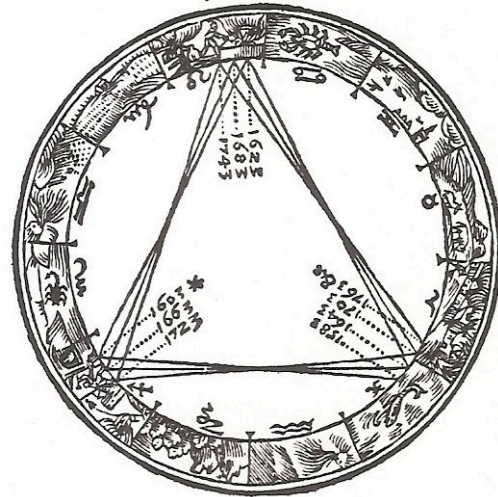
Is it because Jupiter takes 12 years to move around the Zodiac that there are 12 constellations instead of some other number? Multiplying 12 by 30 gives 360, the number of degrees in a circle or a Zodiac of 12 signs of 30 degrees each. On the Equinoxes we have 12 hours each of daylight and night. The day has 24 hours (twice 12) of 60 minutes (twice 30) each. The number 360 is also close to the number of days in a year. The ancients had a calendar of 12 months of exactly 30 days each, the extra five days inserted between calendars being dedicated to the Lord of Misrule, because they didn’t fit in to the system. This was the festival period of the Saturnalia when the normal order was suspended and the fool was paraded as mock king. [Just as the clerics’ astrological Jesus was paraded as a mock king.]

But just as ancient Egyptian and Mesopotamian astrologers found that “a calendar of 12 months of exactly 30 days each”, i.e., 360 days, incorrectly described the number of days for the Earth to encircle the Sun (or, they thought, for the Sun to circle the Earth), which you know is closer to 365.25 days, they found that conjunctions of Saturn and Jupiter didn’t occur exactly every 20 years. Thus, because the periods of Jupiter and Saturn aren’t precisely 12 and 30 years, respectively, the average time between Great Conjunctions is not 20 years but closer to 19.86 years.

Correspondingly, locations within the Zodiac of the Great Conjunctions are not nearly so neat as they would have been if they occurred every 20 years. That is, if it were the case that the conjunctions occurred every 20 years, i.e., (as I encouraged you to calculate, a few paragraphs ago) “while Saturn completes two thirds of a revolution (in ~20 years), Jupiter completes one and two thirds revolutions, resulting in the next conjunction”, then after 3 such conjunctions (when Saturn would have completed 2 revolutions and

Jupiter, 5), the next conjunction would have occurred in exactly the same location “in the zodiac”.

But because the period of Jupiter is closer to 11.86 years and the period of Saturn is closer to 29.46 years, the locations of the conjunctions (arranged in a triangle called a “trigon”) slowly “walk around the Zodiac”, as shown for three such trigons in the accompanying sketch from Johannes Kepler’s 1606 book *De Stella Nova*. In this sketch, notice that Kepler identified the different regions of the zodiac with symbols familiar to astrologers.¹¹ If you’re unfamiliar with these symbols, perhaps (if you look closely at his sketch) you can identify at least Cancer (the Crab, at about “one o’clock”) and Pisces (the fish, at about “five o’clock”). After about every 200 years, the Great Conjunctions occur within a different sign of the Zodiac; after about 800 years the whole pattern is repeated – except for a complication called “precession of the equinoxes”, to which I’ll now turn.



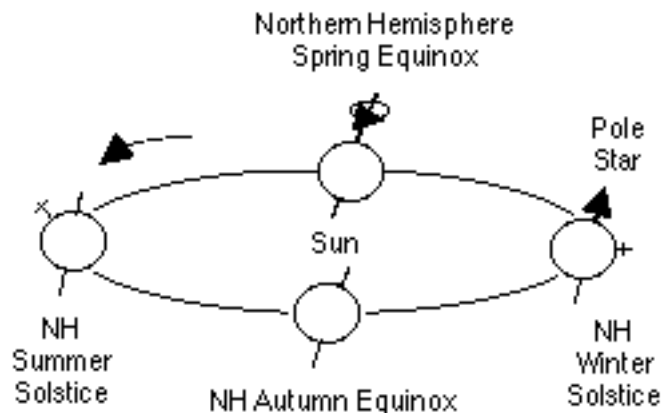
CHANGING AGES: PRECESSION OF THE EQUINOXES

I need to show you something about the “precession of the equinoxes”, Dear, in part so you’ll understand claims that Jesus “started a new age” and was “a fisher of men”. I’d even go so far as to summarize with the suggestion that, if the equinoxes didn’t precess, then many religions (including Mithraism, Christianity and Mormonism) would never have been concocted! Instead, in the case of Christianity and Mormonism, at most we would have had a few rather trivial sayings (which I’ll get to, in later chapters) by still another pedantic philosopher and/or soothsayer, namely, Jesus (maybe Jesus ben Pandera). As I’ll show you, all the “hype” that has been attached to what “Jesus the Christ” allegedly said and did was added by a bunch of silly old astrological-clerics – in a manner that probably made Walt Disney drool with envy!

¹¹ For these astrological symbols, see, e.g., http://en.wikipedia.org/wiki/Astrological_sign.

To try to show you the meaning of “precession of the equinoxes”, I’ll start by reminding you of some ideas about the solar system that you’ve already studied. To do so, I’ll draw additional crude pictures, but it would help you more if you’d redraw these pictures, yourself. Not only will you then be able to see the pictures better (!) but you’ll profit from drawing the pictures, rather than just looking at mine – which are hard to draw on this computer! In addition, in some cases, you may want to search on the internet (using key words that I’ll be mentioning) to see more complete (and colorful!) sketches of what I’ll be trying to draw.

First, I’ll use the sketch below to remind you about the cause of the seasons. The sketch tries to show the Earth’s rotation on its axis (defining each day, and with the axis of rotation pointing toward Polaris) and to show the Earth’s revolution around the Sun (defining each year). I’ve also put (or, I tried to put!) a “little stick-man” on the Earth, approximately at your latitude, which is my attempt to show a certain grandchild standing outside during winter and summer nights, looking at the stars!



By the way, Dear, there are two illustrations in this sketch of “the right-hand rule”, which I mentioned way back in the first chapter. This right-hand rule (or convention) is that if you curl the fingers of your right hand around to point in the direction of the spin (of the Earth about its axis or of the Earth about the sun), then your outstretched thumb points in what is then defined to be the direction of the axes of rotation. Thus, for the Earth’s daily rotation about its axis, your right thumb will point toward Polaris, and for the Earth’s annual revolution about the Sun, your right thumb will point “upward” or “northward” – but not directly toward Polaris.

That is, Dear, remember that the cause of the seasons is that the direction of the Earth's daily-rotation axis (toward Polaris) is tilted (at $\sim 23.5^\circ$) from the Earth's annual-revolution axis. Stated equivalently, if you imagine a plane through the Earth's equator (appropriately called "the Earth's equatorial plane" or just "the equatorial plane"), then this equatorial plane is tilted "up" at the same 23.5° from the "the solar plane" (i.e., the plane in which all the planets of the solar system revolve). As I mentioned before, this solar plane is also called "the ecliptic plane".¹²

Incidentally, Dear, you may want to search on the internet to investigate hypotheses for both why the Earth spins and why its spin axis is tilted. Spinning is common for all the planets (with a variety of different hours in their days), but normally their spin axes aren't tilted so much as the Earth's (although the spin axis of Uranus is titled at 98° , i.e., Uranus is almost "spinning on its side"). One hypothesis is that a large asteroid or planetesimal hit the young Earth, knocking a chunk of it (the Moon) into space, tilting the Earth's spin axis from the more-common nearly-vertical direction and resulting in the plane of the moon's orbit being tilted off from the ecliptic (or solar) plane by about 5° .

But whatever the cause of the Earth's tilt, you've learned that an important consequence is the Earth's changing seasons. Thus, as I tried to show in the above sketch, during what is called summer in the Northern Hemisphere (abbreviated as NH), we in the NH receive more than 12 hours of sunlight per day, resulting in warmer days, i.e., summer. Similarly, during NH winters (shown on the right-hand side of the sketch above), we in the NH receive fewer than 12 hours of sunlight per day.

¹² By the way, Dear, there is a "third plane" of great interest, namely, "the galactic plane". This is the "plane" (although it's not a perfect plane) in which our entire galaxy, the Milky Way Galaxy, lies (and rotates). As you probably know, our Sun is one of billions of stars in the Milky Way; we're located about $2/3$ the way out from the center, on one of its spiral arms. We see the rest of the stars in our own galaxy as "the Milky Way", which is a "milky stream of stars" – so many stars (approximately two hundred billion!) that they appear smeared out roughly in a line (or a plane) across the entire night sky, every night of the year (because whichever way we look, we see more of our own galaxy). In fact, at the correct time of the year, you can see a "bulge" in the Milky Way, which is the location of the center of our galaxy and where a Black Hole almost certainly resides, gobbling up stars! But the main point I want to make is that the plane of our galaxy (called "the road of the gods" by ancient people) isn't parallel to the solar plane (i.e., the plane of the ecliptic); it's tilted at quite a large angle; at some times of the year (e.g., in the winter), you'll see the Milky Way running from the Southeast to the Northwest, right through Orion's club, approximately between his two dogs (Canis Major and Canis Minor).

In fact, the farther one lives north of 23.5° from the North Pole (i.e., north of $90^\circ - 23.5^\circ = 66.5^\circ$ N latitude, known as “the Arctic Circle”), then the more winter days there will be during which the sun never rises. Of course, there’s some compensation for this failure for the sun to appear during the winter at these northern latitudes: during the summer at these latitudes, the sun never sets; instead, during “night”, the sun just skims along the horizon. I’ve never been far enough north to see that, but almost, and it’s a treat! That is, Dear, if you’re almost at the Arctic Circle during summer (in “the land of the midnight sun”), then if the clouds are right, you’ll get hours of beautiful sunset, followed shortly thereafter by hours of beautiful sunrise!

But I assume that, in school, you’ve learned about all that, and also, about the times of the two equinoxes, midway between the summer and winter extremes, i.e., midway between the summer and winter solstices. Yet, maybe I can add a little to your knowledge by mentioning the derivation of some of these words. For example, the word ‘solstice’ is Latin for Sol (i.e., the sun) “standing still”, with *sistere* meaning “to cause to stand still”, from *stare* “to stand” and maybe in turn from the Greek word *stasis* meaning ‘standing’. Thus, at the summer solstice, the Sun’s path stops climbing higher, seeming to stand still. Correspondingly, at the winter solstice, the Sun’s path stops falling lower in the sky each day, seeming to stand still.

And let me mention something, here, whose relevance will become clear, shortly. Thus, with primitive observations, primitive people thought the sun stood still for three days, i.e., “the sun god” seemed to die for three days, before it “rises from the dead”. Similarly and more obviously, the moon disappears from view (“dies”) for three days, before reappearing on the other side of the sky as “a new moon”. That is, Dear, if “the immortal gods” do die (or get lost) then “obviously” they die (or get lost) only for a little while, being “reborn” (or found) after only three days.

For example, when Jesus was 12 years old (the time for Jupiter = Jesus to complete one revolution about the sun!), and after he had been lost for three days, his parents found him in the temple. Then, he reportedly said (*Luke 2, 49*): “**What made you search?... Did you not know that I was bound to be in my Father’s house?**” Luke further adds: “**But they** [the parents of Jesus] **did not understand what he meant.**” What the astrological clerics meant, of course, was that Jesus was Jupiter, which obviously would be back in the same house of the Zodiac after its 12-year revolution around the Sun.

Further, as I mentioned in an earlier chapter, ‘Jupiter’ means “soul of the world” or “soul of the universe”, so the silly clerics are here proclaiming that, similar to the Egyptian’s goddess Ma’at, the Sumerian’s Mammu, and the Hindu’s Ritam (all identified at least 2,000 years earlier!), Jesus was “the soul of the universe” or “the logos” or “the Word”. Another example of Jesus being Jupiter is at *Luke 3, 21-23*:

During a general baptism of the people, when Jesus too had been baptized and was praying, heaven opened and the Holy Spirit descended on him in bodily form like a dove; and there came a voice from heaven “Thou art my Son, my Beloved; on thee my favor rests. [The New English Bible adds “Some witnesses read: ‘My son art thou; this day I have begotten thee’.”] When Jesus began his work he was about thirty years old...

I expect that Luke (who seems to have been the principal astrologer of the writers of the familiar “gospels”) claimed that the above occurred, because 30 years after Jesus (Jupiter) was allegedly born, Saturn (Yahweh) would again be in his “house”, after having completed its 30-year trek around the Sun, and as Alden mentions (on the webpage already referenced):

In mythological terms the Great Conjunctions were associated with a magnanimous motif in which “Father Time”, Saturn, King of the Planets, gives “... all the measures of the whole creation” to his son, Jupiter.

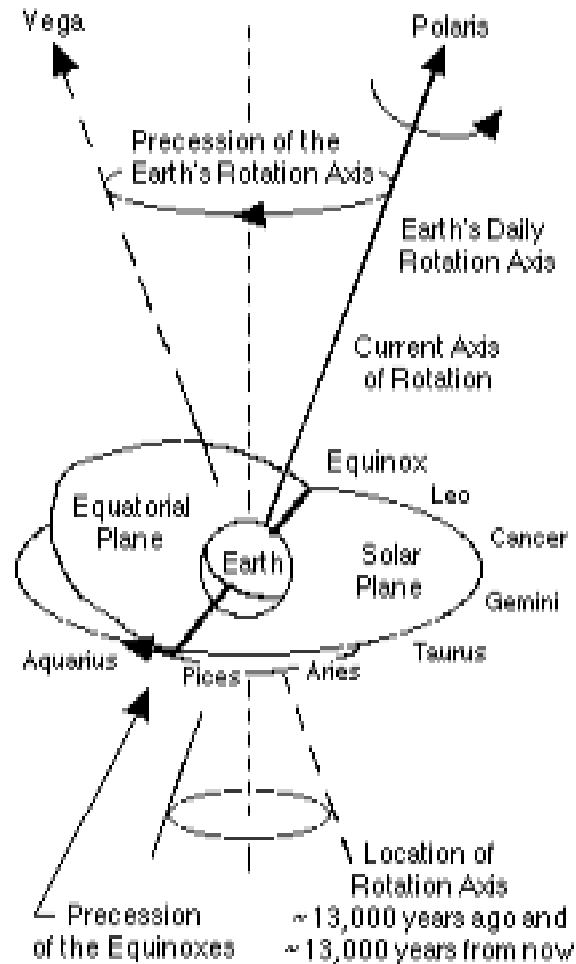
Thus, during the first Great Conjunction after the alleged birth of Jesus / Jupiter (which, as I’ll be showing you was claimed to occur during the prior Great Conjunction, which is the likely identification of the so-called Star of Bethlehem), then Yahweh / Saturn allegedly turns “authority for the universe” over to his son Jesus / Jupiter. And no, Dear, although it’s funny, many people consider this to be serious stuff, not a joke!

But setting such silliness aside, I’ll now return to consideration of the Earth’s motion about the Sun. What I was trying to get to was that, subsequent to the winter solstice, hours of sunlight per day begin to increase. Subsequently, midway between the extremes of the two solstices, everyone on Earth receives 12 hours equally of day and night (i.e., in Latin, *equinox* means “equal night”). And later it will also be relevant to have mentioned here that (as you can determine for yourself if you’ll look at the above sketch and think about the matter for a minute or so) at the spring (or vernal) and fall (or autumnal) equinoxes, everyone on Earth sees the Sun rise exactly in the East and set exactly in the West.

Now, Dear, with reference to the above sketch, think about what you'd see during the nights, i.e., when your side of the Earth is turned away from the Sun. What you'd see would depend on where you lived, and as an example, assume you lived in Ancient Egypt or Mesopotamia (i.e., approximately in the same latitude belt as Florida). During the winter in this latitude range, when even at noon the sun doesn't reach much more than 45° above the horizon (check the right-hand case in the sketch above), yet during the night, you (the little stick man in the sketch!) would see six signs of the Zodiac, whatever planets are visible (if you could recognize them!), and the Moon (if it's out!), i.e., you would see the solar plane or the plane of the ecliptic, almost overhead, running from east to west. That is, during the winter, although at such a latitude the Sun moves in a plane tilted down from overhead by about 45° , yet during winter nights, the solar plane is almost overhead.

During the summer, in contrast, when during the days the Sun at your latitude moves in a plane that's almost overhead, yet during the night, the solar plane (and therefore the Moon, planets, and the other six signs of the Zodiac) are quite low in the southern sky (in a plane approximately halfway between the horizon and "overhead", i.e., "the zenith"). During other seasons and at other locations on Earth, of course the locations of the solar plane would be different. For example, if you lived near the Earth's Equator, then during the spring and autumn equinoxes, the solar plane would be directly overhead, so not only the Sun but also the planets and the signs of the Zodiac would appear in a plane directly overhead.

I can now turn to the reason for reviewing the above, namely, to show you something ("the precession of the equinoxes") that maybe you didn't learn in school and that, as I'll eventually show you, had profound influences on the creations of new religions (such as Christianity and its main "competitor" at the time, i.e., Mithraism). In the above, I made a number of references to "the North-Pole Star" or Polaris. What I didn't mention (and what you possibly weren't taught in school) is that Polaris isn't always "the fixed star", about which all the other stars seem to rotate (i.e., it's not always along the Earth's daily rotation axis, which is why Polaris now seems not to move). Instead, Polaris is only (and only roughly) along the Earth's rotation axis now (and during the past thousand years or so), and it will be, again, ~26,000 years from now (where 26,000 years is known as one "great year"). That is, the Earth's rotation axis sweeps out a circle through Polaris, as I've attempted to show in the sketch below.



In this sketch (which I know is crude; redraw it for yourself! – or find a better sketch on the internet), I’ve tried to show that the Earth’s axis of rotation is currently pointing toward Polaris, but that, 13,000 years from now, it will be (and ~13,000 years ago it was) pointing elsewhere, namely, to “the fallen vulture”, Vega. I’ve also tried to show both the solar plane (with some of the signs of the Zodiac listed in appropriate locations) and the Earth’s equatorial plane (the plane that goes through the Earth’s equator), tilted up (at 23.5°) from the solar plane (or plane of the ecliptic). I would have you especially notice, Dear, the intersection of these two planes (which I’ve drawn as a darker line): if the Sun were located along this line, then we on Earth would experience “equinox” (i.e., nights of equal length), and as I’ll now try to show you, the precession of the Earth’s axis of rotation causes the “precession of the equinoxes” (that is, for example, the spring equinox precesses through different signs of the Zodiac).

The usual way to describe this precession of the Earth's rotation axis (or "wobble") is with analogy to a spinning top as it slows down. But actually, Dear, I don't remember that you ever had a spinning top; so, maybe the analogy isn't very useful for you! Anyway, if you've ever seen a spinning top (and if you haven't, then maybe you should initiate a lawsuit against a certain grandfather, seeking compensation for your not having received appropriate educational toys when you were a child!), then as its spinning slows (as does the Earth's, courtesy the Moon), it starts to tilt as if inclined to fall (but, Dear, the Earth won't fall!) – but then, the spinning top doesn't fall: it stays inclined at the same angle (which, in the case of the Earth, is at about 23.5°), but the axis of rotation "walks around in a circle", viz., it precesses.

Actually, Dear, there are some very significant consequences of this precession (as well as other factors) for the Earth's climate, and I could easily go off on a tangent, here, spending at least another chapter on the topic. But let me just mention some topics within a single (long!) paragraph, topics that someday you might want to investigate in detail by yourself (e.g., on the internet, using the search words "Milankovich Theory of the Climate" or "James Croll"). A summary statement is that changes in Earth-Sun "orbital parameters" have probably caused previous ice ages on Earth and our current, "interglacial" warm period. Some of the major factors in this theory are the following.

- 1) The Earth's orbit about the Sun is not spherical but elliptical, and during the current part of the precessional cycle, we are in the favorable (viz., warm) situation, with our nearest approach to the sun occurring during NH winters, inhibiting the formation of northern ice sheets (where they form more easily than in the SH, because there's more ocean in the SH),
- 2) The tilt of the Earth's rotation is not fixed at 23.5° but actually varies (or "nutates") from about 22.1° to 24.5° , with a period of about 41,000 years, and
- 3) The shape of the elliptic orbit of the Earth about the Sun (its "eccentricity") changes (with different periods near 100,000 and 400,000 years), which changes the total amount of sunlight reaching the Earth and therefore the climate.

Croll, Milankovich, and subsequent scientists have put these pieces together and done an amazingly good job of understanding what causes ice ages and interglacial warm periods, such as the one we're now enjoying. Of course, this theory also has predictive capability (e.g., if I recall the results correctly, the Earth will enter into its next ice age in about 50,000 years), but also, of

course, this theory neglects the influence of increasing concentration of “greenhouse gases”, which appear to be leading to climate warming.

COMPLICATIONS FROM CHANGING AGES

But, Dear, I didn't bring up precession of the Earth's rotation axis so that I could describe climate models. If that subject interests you, then please explore it on your own. Instead, here I want to show you the influences of this precession (of the Earth's rotation axis and therefore of the equinoxes) on the “stories” primitive people “read” in the stars. In total, though, this task is quite large, and in this chapter, I'll be able only to begin to show you these influences. I'll show you more in later chapters, and by the time I'm finished, maybe you'll understand my conclusion: the precession of the equinoxes caused a certain grandchild to be indoctrinated with the ridiculous idea that Jesus the Christ died on the cross to absolve her of her “original sin”. He didn't, Dear, and you don't have any “original sin”; the source of all such silliness is that the equinoxes precessed.

As I'll be trying to show you in later chapters, the precession of the equinoxes caused major problems for ancient people, especially the Egyptians priests (who possibly aligned the orientations and some of the chambers of pyramids with positions of various stars). What apparently happened, when both Ancient Egyptian and Mesopotamian priests became overwhelmingly involved in watching the stars, is that they marked on their star charts the constellations of the zodiac that appeared in the East just before sunrise on the first day of spring (i.e., when the Sun rose exactly from the East).

As a consequence, Dear, if you'll look again at the pictures of the signs of the Zodiac (and if they're similar to those in my dictionary), then you'll see that the spring equinox, “March 21”, is labeled halfway between Aires the lamb and Ichthus (or Pisces) the fish. But, Dear, if you go outside just before dawn on March 21 of this year (and if the sky is clear!), then you'll see (if you can recognize them!) that Aires is almost overhead, Pisces is in the southeastern sky, and Aquarius is about to “dawn”. That is, Dear, if the Zodiac sketched in your dictionary is similar to the one sketched in mine

(and almost certainly it is, for all have been “standardized”), then all the dates shown are wrong!¹³

The cause of this “error” is that the dates shown on most Zodiacs were drawn about 3,000 years ago (when they were correct), but the precession of the Earth’s rotation axis has caused the stars to appear to rotate “backwards”, by about one “sign” in the Zodiac each ~2200 years. That is, they appear to rotate a full circle in (12 “signs”) x (~2200 years per “sign”) = ~26,000 years (or, to be more exact, 12 “signs” x 2167 years = ~26,000 years), which is the time interval of “the Great Year”. Thus, ~8,600 years ago (if anyone noticed), Adam and Eve (i.e., Gemini) would have appeared just before dawn of the first day of spring; it would have been the start of “the Age of Gemini”. Then, ~6,400 years ago, apparently it was noticed (as I’ll show you in later chapters) that Taurus the bull “rose” just before dawn on the first day of spring; this was the start of “the Age of Taurus.” Next, ~4,200 years ago, it was Aries the Lamb: the Age of Aries. Next, ~2,000 years ago, it was Ichthus (or Pisces) the fish: the start of the Age of Pisces. And soon (in approximately 200 years) it will be Aquarius – which is the reason for the lyrics in the song that you might have heard: “This is the dawning of the Age of Aquarius...”

Of course, those aren’t accurate “definitions” of the various “ages”. These estimates are all crude, in part because the “signs of the Zodiac” are not equally spaced. For example (as was pointed out by Terry Alden in his already referenced article entitled “The Mill of Time”) “Virgo and Scorpio are as much as twice as big (i.e., subtend twice the angle) as some others [such as] Cancer and Libra.”

That complication, however, didn’t stop ancient astrologers from finding an accurate way to define the ages – or maybe stated better, this complication impelled them to find another way to define the beginnings of the different ages. To show you some of this, I’ll again quote from Alden’s article, who

¹³ Incidentally, Dear, another “error”, derived from the same cause, appears on every globe and atlas. All these identify at 23.5°N and 23.5°S latitude the “Tropic of Cancer” and the “Tropic of Capricorn”, respectively. The reason for these names is that, for the nights immediately following the days when the Sun reaches overhead at these locations (i.e., for the first day of “summer” at these locations), then the constellations Cancer and Capricorn, respectively, would be just arising at dawn – provided that Spring occurred as shown in the usual picture of the constellations of the Zodiac. But with precession of the equinoxes, this no longer occurs: they should now be called the “Tropic of Taurus” and the “Tropic of Scorpion”! But then, roughly every 2,000 years, they would need to be renamed – and rather than go to all that bother, I imagine that the current names will remain – which, besides, might encourage future grand children to learn what is meant by the precession of the equinoxes!

in turn relies heavily on ideas developed in the 1983 book by Giorgio de Santillana and Hertha von Dechend entitled *Hamlet's Mill: An essay on myth and the frame of time*.

[M]odern instruments are not, in fact, required [to identify the beginning of new “ages”] – only dedication and persistence in observing the major features of the heavens over long periods of time, at least a few centuries. This the ancients possessed in abundance. Festivals were held on the solstices and equinoxes. The spring equinox was particularly important. The Zodiacal constellation rising in the East before the Sun as night turned to dawn was memorialized in myth.

These celebrations went on year after year for centuries and precise astronomical records were also kept in many of the high civilizations of antiquity. After only a century or two, the changes due to precession would be noticeable to a trained astronomical priesthood. And after 2,000 years a whole new constellation would be rising before the Sun on the Vernal [i.e., “spring”] Equinox. The Equinox point, itself, moves backwards through the Zodiac at a rate of about one degree in 72 years, or one 30-degree sign in about 2160 years. De Santillana believed that the ancients not only knew about the phenomenon but were virtually obsessed by it.

This is not to say that precession was understood in the terms we know today... It only means that they were well capable of observing its long-term effects. They also knew the length of the precession cycle to some degree of accuracy. Plato is said to have used a figure of one degree per century which is a bit too slow, but the excellent star watchers of ancient Babylon and Persia may have had a more precise value.

De Santillana suggested that the Zodiacal figure rising before the Sun on the Vernal Equinox held a special place in the religious worship of ancient peoples and was celebrated in ritual and storytelling during its tenure, on the average about 2160 years, before the next constellation took its place. The period of the precession of the Vernal Equinox Point backwards through one Zodiacal group is referred to as a World Age, and each figure so rising before the Sun (called heliacal rising) gave its name to the Age.

In all of recorded history, covering a mere 6,000 years, only three World Ages have taken place. These are the Ages of Taurus (about 4400 - 2200 BCE), Aries (2200 - 0 BCE) and Pisces, the current era (about 1 - 2200 CE). In the Taurean Age, according to de Santillana, the Bull was worshipped as the chief religious symbol. In the Arian, it was the Ram or Lamb, and, in the Piscean, it is the Fishes, though this practice has been mostly forgotten now.

Probably the most serious example of lost meaning (an error that has infected approximately a billion people, including my grandchildren!) is the story about Jesus dying on the cross to absolve us of our sins. Dear: definitely he didn't! It wasn't “the savior” Jesus, “the lamb of God”, but the

constellation Aires, “the lamb of god”, that “died on the cross”! That is, prior to the Age of Pisces (or Ichthus), the lamb (Aires) was on the cross just before dawn on the first day of spring (with crosses made both by the solar plane intersecting the plane of the ecliptic and by the north-south line intersecting the line made by the sun, rising due east and setting due west). Then, because of precession of the Earth’s axis of rotation (and therefore of the equinoxes), at the start of the Age of Pisces (or Ichthus), Aires the lamb “died” (i.e., was no longer on) “the cross”.

That “death”, ~2,000 years ago, ended the Age of Aires, the lamb, and started the Age of Ichthus or Ichthys, the fish. This explains, for example, why so many people (almost certainly, unknowingly) have a picture of a fish as a bumper sticker, to show their “allegiance” to Jesus, the “fisher of men”. In fact, the early Christians were so convinced of all this that they created what was quite likely the world’s first “reverse acronym”: for them ICHTHUS (which, again, is the Greek word for ‘fish’) stood for “Iesous Chrystos Theou Uios Soter”, which in English is “Jesus Christ the Savior, Son of God” – the sign of the Zodiac, the fish, that started the “age of Ichthus” or the “age of Pisces” or the “age of the fish”, i.e., Christianity.

In spite of such silliness, however, the ingenuity that ancient astronomers displayed in concocting a method to accurately define the ages was really quite impressive. Also, they’re really quite important – at least for anyone who “believes” the stories they’ve been told about the cleric’s Jesus! The basis of the method (according to the book by Santillana and Dechend) was to use special features of the conjunctions of Saturn (Cronus, Yahweh) and Jupiter (Zeus, Jesus). As I already indicated, Jupiter (with its 12 year period of revolution about the Sun) catches up to Saturn (with its 30 year period) every ~ 20 years – but such conjunctions will be in “houses” (or sign of the Zodiac) different from the “house” of the prior conjunction, whereas every ~60 years, the conjunction will be in the same “house” – except for 1) the fact that the period isn’t exactly 60 years (see, again, Kepler’s sketch of three “trigons”) and 2) the small influence (approximately 9° every 60 years) from precession of the equinoxes.

Should you be interested, Dear, you can see the details of the method (probably used by the ancient astrologers to identify when new “ages” began) by reading the article by Terry Alden, referenced above, or by reading the referenced book written by Santillana and Dechend. And if you doubt that the ancient astrologers knew there was a 9° drift every 60 years

caused by precession of the equinoxes, here is how Santillana and Dechend suggest how they did it:

All that is needed to precisely mark the moment of the beginning of a New Age, however, is a unique but predictable event selected from a convenient and known system for breaking down world-age periods into smaller intervals. Here is how de Santillana believed it was done. The mythology prescribes a conjunction of Jupiter and Saturn “at the place of passage”, meaning as close as possible to the location of the Vernal Equinox Point as it precesses into the next World Age constellation. This is all that is required – with some judicious reasoning regarding constellation boundaries, to identify the exact moment when a New Age might commence. The two hands of the Cosmic Clock must coincide.

Now Dear, I plan to delay until the next chapter showing you how all this relates to stories about the clerics’ astrological Jesus. Nonetheless, let me just show you two examples, from which maybe you’ll get the hint that “something fishy is going on”.

- For example, one of the strangest stories in the New Testament is the one in which the clerics’ astrological Jesus advises Simon (*Matthew 17, 27*): “**Go and cast a line in the lake; take the first fish that comes to the hook, open its mouth, and you will find a silver coin...**” Surely you agree that this is a very strange suggestion – at least it must seem strange to those who have never looked at the constellation represented by the clerics’ astrological Jesus [i.e., Pisces (Ichthus)], never seen the “circle of stars” near the mouth of the first fish seen, and then never learned that the astrologers call this circle “the silver coin” or “the piece of money”!
- As another example, Dear, if (or when) you read the New Testament, you’ll find that the four “gospels” (reportedly by Matthew, Mark, Luke, and John) are rarely in agreement about details. Yet one story that’s almost identical is about Jesus “**feeding the multitude**” (“**some 5,000 men shared in this meal, to say nothing of women and children**”) with only “**five loaves and two fishes.**” Again, these “two fishes” are the constellations representing the clerics’ astrological Jesus, i.e., Pisces (or Ichthus), the two fish. Further, if you’ll search on the internet, you can also find pictures of the five loaves in the stars. Thereby, no wonder (according to *Matthew 13, 19*), before he fed the multitude with these loaves and fish, Jesus allegedly “**looked up to heaven [and] said the blessing...**” – because the only “multitude” fed with this “star food” was the multitude of stars!

And let me just throw in another “fish story”: the Chaldean name for “fish” is “Nun” – and therefore those women who devote their lives to “the love of Jesus” (i.e., nuns) are fish.

ANOTHER COMPLICATION: MULTI-IDENTIFICATIONS!

When trying to understand the meanings buried in various astro-tales (such as those of Jesus!), still another complication is that, even in a single myth, a “god” can be depicted as a planet (or constellation) in one part of the myth, and then in another part of the myth, the same “god” can be depicted as a different constellation (or maybe even a different planet). An example is given in the following quotation from Bob Trubshaw’s web page (also quoted in the previous chapter).¹⁴ It shows that, in some parts of the *Epic of Gilgamesh*, Gilgamesh is depicted as the constellation that we call Orion the hunter, whereas in other parts, he’s depicted as the planet Mercury.

[The constellation] Orion features heavily in the *Epic* [as I showed you earlier, Dear, leading to the suggestion that Gilgamesh was depicted as the constellation that we call Orion] as does the planet Mercury – especially its complicated motions about the sky which earned it the name “The Wanderer” and, no doubt, gave the Classical Greeks the notion that he was acting as messenger between the gods. One tablet bearing a few verses of the *Epic* also contains the astonishingly reliable information that Mercury had 2,673 heliacal risings every 848 years...¹⁵

As a specific example of how this information is encoded in the *Epic*, consider the statement which translates that Gilgamesh is “two-thirds god, one-third man.” But parents come in pairs. Nobody could be two-thirds English and one-third Irish. Clearly, we are being asked to look into the symbolism. As Gilgamesh was [also?] associated with Mercury [via his wanderings?], perhaps this is an attempt to embody the observation that this planet does not move through the whole zodiac. Instead, it moves through two-thirds of it.

Other statements relating to Mercury are encoded even more complexly. One tale involves the god Huwawa, cedar trees, and a door or gate. The latter word is cognate with ‘origin’ or ‘commencement’ and (in another early language of the region) ‘vagina’. The word for ‘cedar’ in Babylonian seems to have originally meant “the continual doer” – a very apt epithet for Mercury.

Moving on to the early Egyptian texts, the word for ‘cedar’ is ‘set’, the same as that for the planet Mercury and also the name given to a strange dog-like animal with a prominently forked tail. Masks depicting Huwawa (otherwise known as Hubaba, and

¹⁴ At <http://www.indigogroup.co.uk/edge/gilgamsh.htm>.

¹⁵ Actually, Dear, in the text quoted this word is misspelled as “helical”, which means “of or having the form of a helix or spiral”. In contrast, a “heliacal rising” has nothing do with a helix; it’s derived from the Greek word for the Sun, Helios. As given my dictionary, “heliacal rising” is a) “the apparent rising of a star [or planet] with it is first seen again after having been invisible because of its nearness to the sun” or b) “designating the last setting of a star [or planet] before it becomes invisible again in the sun’s rays.”

whose name may mean ‘the wicked one’) show the face covered with convoluted intestines – as noted, this mimics the complex path of Mercury in the sky. Similar cosmic complexities abound when the *Epic* refers to pillars, gateposts, bolts, and such like.

The Babylonian name for Mercury – Bibbu – might link with the Egyptian word *beb* ‘to go round’, ‘to revolve’, ‘to circulate’. However, Bibbu was also used to refer to Mars and Saturn. Perhaps the original meaning may have been something akin to ‘circler’, just as the Greek word for ‘planet’ originally meant ‘wanderer’...

So, Dear, if you’ve been wondering something similar to: “What’s grampa trying to say: that Jesus was the planet Jupiter or the constellation Ichthus (Pisces) the fish?” My answer is that he was depicted as both – as well as the son of God, the lamb of God, the Sun god, a Nazarene, a Gnostic, the teacher, and others.

That is, just as Gilgamesh was sometimes depicted as the constellation that we call Orion and sometimes as the planet Mercury, sometimes the clerics’ astrological Jesus is depicted as Jupiter, sometimes as the constellation Pisces, and sometimes as the Sun. So, Dear, when I wrote earlier that each of visible planets was considered to be a god or goddess by essentially every culture (as was each of many constellations, especially the constellations in the Zodiac), the statement is simultaneously correct and incorrect – which I expect only adds to your confusion.

The resolution is as President Clinton said in one of his most notorious statements: “It depends on what you mean by the word ‘is’ [or ‘was’]. To see what I mean, it would help if you’d consider how a child thinks – because it’s similar to how the primitive clerics who wrote the Bible thought. For example, if you watch a little boy play (assuming that little boys still play as I did!), then during the course of the day, he “is” many different things.

Thus, when I would “head for the beach” to swim, I’d tie the ends of the towel around my neck, and with the towel flowing behind me like a cape, I “was” superman. At another time, when I’d bounce the ball against the fence, I “was” the world’s greatest shortstop, Mickey Mantle. When I’d shoot the puck on the ice, of course I was “Rocket Richard”. And when I’d run, I was the world’s fastest runner, Roger Bannister. If you would ask the little boy if he truly “was” these different “heroes”, then of course he’d say “yes”, and if you would ask him how he could be so many different people in

a single day, he'd probably answer, "just 'cause I can." And I assume that you'd receive similar answers if you asked a little girl about being one or more of her heroines.

Similar was true for primitive people, not only for themselves but also for their gods and goddesses. Thus, Dear (and as I'll be showing you in more detail in later chapters), when he was "on Earth" becoming involved in human affairs, the powerful old "father god" of the Romans, Greeks, and Jews was, respectively, Saturn, Cronus, and Yahweh (or Jehovah), but when he was "in the heavens", he was the planet Saturn. Correspondingly, when the father-god's son was on Earth, then for these respective cultures he was Jupiter, Zeus, and Jesus, but when he was "in the heavens", he was the planet Jupiter – sometimes. For it depended on the story being told, just as a certain little boy was sometimes superman, sometimes Mickey Mantle, sometimes Rocket Richard, and sometimes Roger Bannister. As another example (which I'll show you in a later chapter), in some myths about him, the Egyptian god Osiris was Saturn, in others, he was the Sun, and in still others, he was Orion the hunter. Similarly, in some myths about him, Jesus was the planet Jupiter, in others, he's the Sun, and in still others, he's the sign of the Zodiac that's depicted as a fish (i.e., Ichthus or Pisces).

So, Dear, if you ask, "was Jesus the son of God, or the Sun god, or Jupiter, or Ichthus?" the answer depends on what you mean by "was". As I'll be showing you, he's different in different stories. In one story, he's born when the Sun is "reborn" each year (just after the winter solstice, on the same day when various other gods were claimed to be born); in other stories, he's "born again" in the Spring (as was the Egyptian god Horus); in another stories, he's born when "the star of Bethlehem" appears (which, as Terry Alden shows in his article "The Mill of Time", already referenced, was probably a series of views of retrograde motions during a conjunction of Jupiter and Saturn). Further, not only were there a huge number of "stories in the stars" used to describe Jesus, but as people "dumbed down" (i.e., as they became less capable of reading the stories in the stars, e.g., Sidney Rigdon and Joseph Smith, who were apparently unaware of such stories), then the stories became twisted, totally losing their original meaning.

And, Dear, if you're thinking, "it couldn't be this silly", be prepared for me to show you that it's even sillier! In subsequent chapters, I'll show you details of many more examples. In sum, as near as I can guarantee you anything, I guarantee you: 1) "the son of God" (Jesus / Jupiter) wasn't born

during the conjunction of Jupiter and Saturn that occurred at the start of the Age of Pisces, and 2) this “lamb of God” (Jesus / Aires) didn’t die on the cross for your sins. All of it’s just astrological silliness conveyed in astrotales. But, for now, that’s enough (more than enough?) of the clerics’ astrological silliness; now, it’s time for you to get some exercise!