

AN EAGLE IN MID-HEAVEN

A New Approach to the Riddle of the *Book of Revelation*

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In the province of Ancasmarca, which is five leagues from Cuzco, in the Antisuyu division, the Indians have the following fable. They say that a month before the flood came, their llamas displayed much sadness, eating no food in the daytime, and watching the stars at night. At last the shepherd who had charge of them asked what ailed them, and they said that the conjunction of stars showed that the world would be destroyed by water.

What they say is as follows. In ancient times the world was in danger of disappearing. A male llama, who was pastured on a hill with excellent fodder, knew that Mother Sea had decided to overflow, to fall down like a waterfall. This llama became very sad; he kept crying out "in, in" and didn't eat. The llama's master, very angry, hit him with an ear of maize. "Eat, dog" he said, "you are lying about on the best pastures." Then the llama, speaking as if he were a man, told the shepherd "Pay very close attention, and remember what I am going to tell you: five days from now the great ocean will be here and the whole world will be flooded". And the shepherd was stricken with fear; he believed the llama

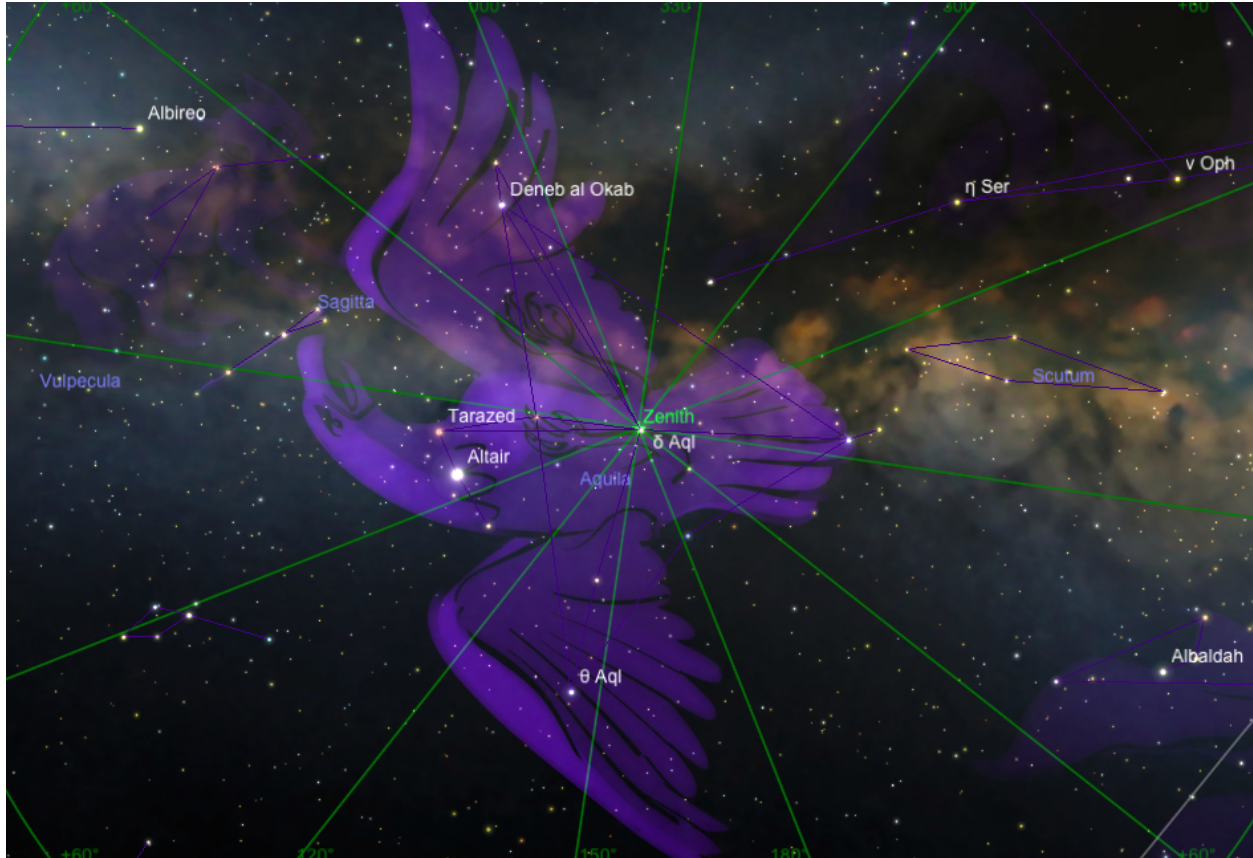
Two versions of the Inca flood myth¹

Then I looked, and I heard an eagle calling with a loud cry as it flew in mid-heaven: "Woe, woe, woe to the inhabitants of the earth when the trumpets sound which the three last angels must now blow!"

-Revelation, 8:13

¹ As recorded in Sullivan, *The Secret of the Incas* <https://www.chapters.indigo.ca/en-ca/books/the-secret-of-the-incas/9780517888513-item.html> at pp. 15-16 of paperback edition

The sky over Patmos, looking straight up, 8828 B.C.E. Reproduced from SkySafari 4 Pro planetarium software.



For Leonard, who made this happen.

*Quotations from Revelation are extracted from the New Revised Standard
Version Bible
(unless otherwise indicated)*

Prelude - The Hoover Dam

In 1935, a Norwegian-born, naturalized American sculptor named Oskar J.W. Hansen faced an interesting challenge. He'd been commissioned to design the spectacular statuary and artwork that now decorates the Hoover Dam, the Boulder Dam back then, and he wanted it to be more than just decorative. He wanted to leave a message, one that could be understood into the indefinite future.

The massive dam, it was known, would stand for a very long time. Properly maintained, it was theoretically possible it would last pretty much forever, and who knew, it might still be standing there, twice as ancient in its time as the Great Pyramids are to us, still being tended by people with whom we might have very little in common. Even untended, so long as the Colorado doesn't start sloshing over the top and eroding it away, it might still be standing in 5,000 years, to be discovered sitting there, stopping up a canyon in a barren desert, by a possibly nonplussed team of future archaeologists. A lot can change in a few thousand years. A lot can get lost. The long-distant admirers of the mysterious dam likely wouldn't share our language, our calendar, or our history, and they might not even know, any more, what civilization could have built it. Its architects might be the stuff of legend, dimly remembered, or utterly lost to history. Surely one of the first things they'd want to know, when stumbling over this monument of a lost civilization, would be how long it had been there.

Hansen wanted to embed something in the dam that would allow them, whoever and whenever they were, to calculate exactly when the structure was completed. It would do no good to leave a plaque that stated "Erected by the United States of America, and dedicated September 30, 1935" – that wouldn't mean a whole hell of a lot to anyone, any more than Egyptian hieroglyphs did to us before we found the Rosetta Stone. Even if they could translate it, and make sense of our numbers, what the heck is a "September"? What was "1935"? One thousand, nine hundred and thirty-five years, one supposes, but years since – what?

So how do you talk to people of the distant future about time, as measured by *their* reckoning and methods, not yours? How do you make it possible to fix our date of September 30, 1935 on *their* calendar, whatever it is? You'd need to reference some sort of universal, perpetual clock, one shared by, and accessible to, everyone throughout all of history.

Yes, and incredibly there is such a clock. Its gears turn in the sky over our heads, owing to a wobble in our planet's rotational axis that gives rise to an observable phenomenon known as the precession of the equinoxes. We don't perceive it in everyday casual star-gazing, but slowly over time – agonizingly slowly – this wobble causes the relative positions of the stars to change, as viewed at any

given time, from any given point on the Earth's surface. When you stare up at the sky from your back yard next year, the stars won't quite inhabit the same spots where they seemed fixed on the same date a year earlier. This won't be readily apparent, because the changes are so small and gradual - it takes about 72 years for precession to shift the astral positions as much as one degree - but it happens, and any civilization with a reasonable understanding of astronomy will know it, and know how long it takes. The astronomers of Western civilization have known it since the second century B.C.E., when a scholar in Rhodes named Hipparchus first worked it out.

Hansen knew it, too. If you ever visit the Hoover Dam, you'll see the monument he erected in the dam's dedication plaza, and at the base of that monument, embedded in the terrazzo floor, is a star map that depicts the sky as it appeared overhead at the moment of President Roosevelt's dedication of the dam.

Thousands of years from now, all any curious person needs is a little astronomical know-how, and the ability to look up, look down, and do the math. ²

² <http://www.usbr.gov/lc/hooverdam/history/essays/artwork.html>

This All Started...

I've been sitting on this for about 20 years.

It's May of 2016 as I write this. It was sometime during the winter of 1998 when I sat in front of a much less capable computer, running a program called Planetarium Pro, and playing a hunch. Planetarium Pro was a star-gazing program for amateur astronomers, and provided the user with a rather sophisticated ability to call up a picture of the night sky over numerous pre-programmed locations on the Earth's surface. It was possible to select the desired vertical viewing angle (elevation), direction of view (azimuth), and zoom or wide angle picture; crucially, it also allowed you a wide latitude to select a time. It was possible to look at the stars over Perth, Australia as they will appear on June 30 in the year 2500; it was possible to dial the clock back to 1776, or 1066, and far beyond in either direction. Apps you can download for free can do that nowadays, but to me, then, it seemed almost miraculous.

I was looking at a virtual sky from the perspective of Athens, Greece, at about 8,800 B.C.E., and I was looking straight up at the vault of the heavens, the zenith, like somebody lying on his back under the stars. Adjusting the "click speed", I accelerated the rotation of the heavens, so that one-minute increments passed by in tenths of a second; the stars rolled by on the screen. Before long, I saw what I was looking for. The constellation Aquila, the eagle, rotated into view, moved steadily towards the centre of the screen, and passed through the zenith. On a starry night in Greece 11,000 years ago, anyone who looked straight overhead at the right time of night would have seen the eagle situated perfectly in mid-heaven, something that never happens at that latitude today.

I guess at that point it became inevitable that I would write this book.

This is an investigation into the final and most controversial book of the Christian Bible, the Book of *Revelation*. An inquiry into *Revelation* is nothing new, but I think I've found something new to say (not quite so completely new as I'd long believed, sadly), and if even a small portion of the assertions made in this essay are accurate, much of what we know about the history of human civilization is due for a bit of a revision, just as others before me have insisted.

Seems crazy, I know. Some un-credentialed relative nobody, endowed of no particular gifts that anyone's seen fit to mention, figured out something that's eluded everybody else for close to 2,000 years? *Improbable*. Maybe a little less improbable when you understand that I didn't suss this all out by myself; I took what I think are some momentous discoveries others made, things I could never have worked out on my own, and applied them to the Apocalypse of John. That's all. If I have any claim to have seen farther, it's because I stand on the shoulders of giants, as Newton would have it. Still, yes – improbable.

Here's something else that's improbable, and somehow, to me, quite marvelous: this all started with my friend Leonard Collier watching a VHS tape of the movie *Ghostbusters* on Hallowe'en, 1997.

Leonard and I go back a long way, even back then we went back a long way, and we share a lot of interests, some of them esoteric, I suppose, (we are both fascinated by the study of UFOs, while trying to maintain a healthy skepticism), some of them perfectly mainstream (politics, history, military aviation, astronomy, cosmology, strategic studies). We come from similar backgrounds, had similar educations, and generally have similar ways of looking at things. For some months prior to this we'd been reading quite intensively about a theory that now, all of a sudden, was colliding most forcibly with the dialog of a Hollywood comedy.

The theory involved a purported mass of evidence supporting the existence of an advanced scientific culture prior to the end of the last ice age, thousands of years before the established date for the beginnings of human civilization. It was a field we stumbled into more or less by accident. Another friend of mine had told me about seeing a fantastic documentary that made wild assertions about the provenance of various ancient structures and artifacts. Not long after that, I spotted a paperback of Graham Hancock's *Fingerprints of the Gods*, while wandering around a bookstore looking for something to read on a long flight to Antigua. This looked to be on the same topic as the documentary. From the cover art and the blurb on the back, I expected something trashy, sensational and utterly foolish. After all, it was filed in the "occult" section of the bookstore, and sounded to me, both in title and content, a lot like *Chariots of the Gods*, that quintessential piece of nonsense by Erich von Daniken.

Not so much, it turned out. Hancock's book read like a solidly journalistic, and as such an entirely unnerving, treatise upon the many anomalies of the ancient world, the digestion of which so occupied my mind that my clearest memories of a trip to a tropical paradise involve sitting on a balcony and reading.

It wasn't long before I'd passed this on to Leonard, and the two of us became hooked. We read everything we could on topic, and spent a lot of time in scientific and historical textbooks looking for information that would gainsay the essential facts upon which Hancock based his thesis. This we didn't find. On the contrary, we repeatedly found that most of the amazing facts presented in *Fingerprints of the Gods* were simply conventional academic wisdom, often interpreted and spun in a way that was useful in advancing the argument, certainly, with perhaps a bit of cherry-picking, but hardly of the made-up von Daniken variety.

The real controversy lay in Hancock's take on the facts and his ultimate conclusions, which mainstream academia had barely gotten around to savaging,

as of course they have since, just as I knew from the outset they would - hey, I took Thomas Kuhn in university, I know about paradigm shifts and the brutality with which any new theory, valid or farcical, is apt to be greeted. The inevitable backlash couldn't settle it to my satisfaction. The howls of outraged orthodoxy are rarely dispositive when a new and radical idea gets floated. They'll howl regardless of the merits. They jumped all over evolution, ice ages, and continental drift, too.

Besides, Hancock's thesis was out there, all right, but it was also thoroughly fascinating. I very much wanted to find out more, and parallel Hancock's research for myself. Now, that wasn't easily compatible with holding down a paying job, but it became impossible to set the thing aside. Delving into Hancock's arguments in favour of the forgotten existence of a pre-historic, ice age civilization became more than a pastime; for me it turned into something of a second career.

So there was Leonard, with his VHS tape of *Ghostbusters*. As the movie works up towards its climax, Dan Aykroyd's character begins quoting from the book of *Revelation*, at 6:12 - the lamb of God is breaking the sixth of seven seals:

Then I watched as he broke the sixth seal. And there was a violent earthquake; the sun turned black as a funeral pall and the moon all red as blood; the stars in the sky fell to earth, like figs shaken down by a gale; the sky vanished, as a scroll is rolled up, and every mountain and island was moved from its place.

This passage continues:

After this I saw four angels stationed at the four corners of the earth, holding back the four winds so that no wind should blow upon sea or land or on any tree. Then I saw another angel rising out of the east, carrying the seal of the living God; and he called to the four angels, who had been given the power to ravage land and sea: "Do no damage to the sea or land or trees until we have set the seal of God upon the foreheads of his servants."

This was hard to believe. It made hairs stand on end. If accurate, this quotation placed a book of the Christian New Testament squarely within a set of mythologies that Hancock, drawing on the work of other scholars, had identified as a cross-cultural recounting of a real global catastrophe at the end of the last ice age. The language and metaphors were eerily similar to quotations, set out in Hancock's book, from other, entirely unrelated mythologies.

Like me, Leonard was no Bible scholar, and had never read the Book of *Revelation*, but he had a King James translation in his collection, and ran to it. Flipping through the text he soon discovered that Aykroyd had recited it verbatim; the precise passage was there in the KJV Bible, and a hell of a lot more. There was, for starters, this, at 9:13 - the seven angels that stand in the presence of God are blowing their trumpets in turn:

Then the sixth angel blew his trumpet, and I heard a voice from the four horns of the golden altar before God, saying to the sixth angel who had the trumpet, "Release the four angels who are bound at the great river Euphrates!" So the four angels were released, who had been held ready for this very hour, day, month and year to kill a third of humankind.

Then the seven angels empty their bowls:

The seventh angel poured his bowl into the air, and a loud voice came out of the temple, from the throne, saying, "It is done!" And there came flashes of lightning, rumblings, peals of thunder, and a violent earthquake, such as had not occurred since people were upon the earth, so violent was that earthquake. The great city was split into three parts, and the cities of nations fell. God remembered great Babylon and gave her the wine cup of the fury of his wrath. And every island fled away, and no mountains were to be found, and huge hailstones, each weighing a hundred pounds, dropped from heaven onto people, until they cursed God for the plague of hail, so fearful was it.

At *Revelation 18:17*, the destruction of the "great city" is witnessed by merchants in vessels out to sea:

And all shipmasters and seafarers, sailors and all whose trade is on the sea, stood far off and cried out as they saw the smoke of her burning, "What city was like the great city?" And they threw dust on their heads as they wept and mourned, crying out, "Alas, alas, great city, where all who had ships at sea grew rich by her wealth! For in one hour she has been laid waste!"

Soon a vengeful angel arrives to finish the destruction:

Then a mighty angel took up a stone like a great millstone and threw it into the sea, saying, "With such great violence Babylon the great city will be thrown down, and will be found no more; and the sound of harpists and minstrels and flutists

and trumpeters will be heard in you no more; and an artisan of any trade will be found in you no more; and the sound of the millstone will be heard in you no more; and the light of the lamp will shine in you no more; and the voice of the bridegroom and bride will be heard in you no more; for your merchants were the magnates of the earth, and all nations were deceived by your sorcery.

In Christian thinking, this is a prediction of the demise of Rome. Yet, having read even a little bit of the vast literature available on ancient mythology, there's a decidedly familiar ring to this story of the destruction of a great seafaring city. Particularly intriguing is this business about angels at the corners of the earth, and a millstone; and in spite of the gloating of the vindictive Christian angel, this destruction seems a lamentable thing, like an end to civilization itself. There will be no more trade, no more music, no more artists or artisans, no more light. It's all so vivid, and at the same time surreal, not so much like pure imagination as it is like something authentic, but distorted through the lens of folklore.

Like a distant memory of a real event, long past, recast as a warning of another, yet to come.

Leonard called me the next morning, said "What does this sound like?", and quoted the passage from 6:12, which I identified as *Ragnarok*, a prophetic Norse destruction myth that Hancock had discussed in his book. I spent the rest of the day digging out and poring through my own copy of *Revelation*, and noticed something else – a very familiar-looking set of numbers, also much discussed in Hancock's book, which scholars had long since identified as oddities, sprinkled throughout world mythologies. Hancock, drawing in particular upon the work of Jane Sellers, argued that these enigmatic numbers were factors designed to lead us toward calculating a planetary orbital phenomenon, the precession of the equinoxes.

According to Hancock, you were supposed to do nothing more than simple arithmetic with the numerical raw material, and numbers related to the precessional cycle will pop right up. So I pulled out a calculator, and divided one of *Revelation's* most prominent numbers, 144,000, by its most famous, 666.

I got 216.216216216.

Thus I started down a long road towards conclusions that even I find incredible, if unavoidable. If the reader sticks with me, I hope to explain why the effortless generation of a division product like 216.216216216 repeating, which must at the outset prompt a bit of a "so what?" reaction, shot me through with adrenaline.

It still does, every time I do it. I think I half expect that one day, it won't work.

Before diving in, though, I need to be clear about a couple of things. This doesn't come from the lunatic fringe. I'm not a member of the Tinfoil Hat Brigade. I'm a corporate lawyer. I don't think the Twin Towers were brought down by a controlled implosion by the CIA so Bush would have a reason to attack the Middle East. Sure, I may be out to lunch on what I think I'm seeing here, believe me, the thought *has* occurred, but this thesis has nothing in common with mystical nonsense like *The Bible Code*. I don't think anything supernatural is going on, I don't think the message I discern just below the surface of *Revelation* was planted there by God, and I don't think *Revelation* has even the smallest thing to say about who's going to be assassinated, when global markets will next collapse, or when and where the evil dictatorship that finally blows up the world will spring into being. Nostradamus, this ain't.

Still, I write it knowing full well how silly it might sound, afflicted by a sad sort of fatalism. This may never see the light of day, and likely woe to me if it does, since scorn will be heaped upon it, and I'll be made to feel foolish, which after all, maybe I should. While some days I'm sure I'm on to something, other days I take a step back and think "sure, Jack". I guess on balance I'm not really sure what I think.

I do think this, though, and this is what drives me forward: if Hancock is so profoundly misguided about the possibility of a lost predecessor civilization, why do I seem to find everything that he told me to look for, in a place he never looked? On the details, on the precise recounting of all the relevant facts, Hancock might be legitimately assailed. Yet the core premise – that somebody we've forgotten might have been back there – I began to feel certain was true. So I'll set this down. I'll worry later what to do with it.

Troubled Times

A Lost Civilization

Let's start with a summary of the theory this essay seeks to support, as promoted by Graham Hancock and others.

In Hancock's *Fingerprints of the Gods*,³ and many works that both preceded and followed it, the assertion is made that evidence abounds, all over the world, indicating the existence of a fairly advanced civilization that thrived during what we call pre-history. This evidence, it's argued, is found not only in anomalous ancient monuments, but in mythologies, languages, systems of math and measurement, and religions, particularly cults centered around astrology. This lost civilization was literate, scientific, seafaring, and wide-ranging, and it spread its ideas and technologies all around the world, where they were eventually adopted to varying degrees by all sorts of disparate cultures.

Then, so the story goes, calamity destroyed them. This happened so long ago that it seems we can't find any trace of them, today, except in the legacy they bequeathed to other, less ancient civilizations now believed to have been the first of their kind. They weren't; they were the inheritors of knowledge and traditions that they carried on, and thus the memory of the lost predecessor civilization, and the cataclysm that destroyed it, lived on in their stories, religions and folklore. Somewhere back there, a high culture was almost, but not quite, totally eradicated, and today we know of them only through legend.

Sound familiar? Unfortunately, for anyone wishing to be taken seriously, there is no way to tell this story while avoiding the topic of Atlantis. I could tip-toe around it, but really, this is about Atlantis, or rather, about the possibility that something quite real could have given rise to that legend. No doubt this is where many of my hypothetical readers immediately check out, muttering *I knew it. Buddy here swore he wasn't a member of the Tinfoil Hat Brigade, but he protested too much. Atlantis?*

Oh for the love of God.

But think about it. Even though Hancock himself places no particular emphasis on the Atlantis myth, we have in that story the most famous and universally fascinating account of the very thing he's talking about, the destruction of a pre-historic civilization now lost to history, wiped from the face of the Earth by a catastrophe that came upon them faster than they could react. Is the myth of Atlantis, after all, the echo of a real event?

³ <https://www.amazon.ca/gp/search?index=books&linkCode=qs&keywords=9780517887295>

Nobody can be blamed for ridiculing this idea. For one thing, the provenance of the myth gives us every reason to suspect it was just something made up in order to make a point, since the story comes down to us from a single source: Plato, purportedly via a fellow Greek named Solon, who himself supposedly got the story from an Egyptian high priest named Sonchis.

The tale is set out in two of Plato's dialogues, *Timaeus* and *Critias*, which are framed as transcripts of conversations between fellow Greeks Socrates, Hermocrates, Timaeus, and Critias. All save Timaeus are known to history; Socrates, of course, was the great philosopher, and Plato's teacher; Hermocrates was a statesman of ancient Syracuse; Critias was Plato's great grandfather. Other figures mentioned in the works are real as well, most notably Solon, who was a sort of Greek renaissance man that lived in the seventh century B.C.E., one of the Sages, and a statesman and poet who travelled in search of knowledge. It is Solon who, in the story, travelled to Egypt and was told the history of Atlantis by the priests at Sais, particularly one named Sonchis. In *Timaeus*, the conversation turns to the story of Atlantis in the midst of a philosophical discussion of the attributes of the ideal civil society, and the tale can thus reasonably be seen as a sort of fanciful predecessor to Thomas More's *Utopia*.

While Plato's account does have its absurd elements, and could clearly have been cut from whole cloth for purely rhetorical purposes, it's surprising, as a modern reader, to revisit the original account and read what the high priest Sonchis is supposed to have said. There's an air of reality to this Egyptian. His voice is strong, and clear, and he doesn't sound much like a garden-variety soothsayer or mystic. To me, he seems more like a post-Enlightenment scientist trying to communicate a few essential truths to a set of people too primitive to understand how he knows them to be true.

Paraphrasing only slightly, Plato has the priest telling his visitors: *Solon, you Greeks are like children, you have no knowledge that is old, and thus you have no idea that the Earth is plagued by cycles of destruction, which periodically eradicate the works of civilization and force human society to start again from nothing. Myths familiar to you are metaphorical accounts, now badly garbled, of real but dimly remembered global disasters. You no longer understand them. But we have records going back thousands of years, to before the most recent deluge, and have preserved them here, in the Nile valley, which is one of the best places in the world to ride out the catastrophe however it manifests itself. It is not always by flood, but sometimes by fire. It last happened 9,000 years ago to the citizens of Atlantis.*

Maybe it's the will to believe, but to me, that doesn't sound like something Plato just made up.

The Universal Myth

Curiously, many of the essential elements of the Atlantis story, conventionally thought of as a flight of Greek fancy, are now known to be repeated in myths all over the globe, some of them extremely ancient, some of them a little more recent. The destruction of a great culture so wise and powerful as to arouse the jealousy of the Gods themselves is commonplace, and what's more, the very word "Atlantis" has a resonance throughout the ancient traditions of the world. In India, it was known as "Atyantica". To the Toltecs and Aztecs it was "Aztlán". In Celtic tradition it was "Avalon". The Phoenecians called it "Antilla", the Berbers of North Africa referred to "Attala", the Norse had their legends of "Atland" and the Basques peoples spoke of the lost civilization of "Atlantica". Some scholars attribute most of this cross-cultural similarity to the spread of Greek culture, and as we'll discuss, modern archaeology has subscribed to the theory that the Atlantis myth refers to the volcanic destruction of the Mediterranean island of Thera, about 900 years before Plato. But such explanations don't seem complete: if this is about a local event in the Mediterranean just 2,900 years ago, why are the Aztecs telling a story of an ancient lost homeland called "Aztlán"?

The Egyptians in Plato's dialogues were quite clear on the point. Atlantis was no Island in the Mediterranean. It was a vast island continent beyond the tiny inlet of the Mediterranean, residing in the centre of the one true ocean, far away from Egypt.

Once you get into a certain frame of mind, it's easy to view the Atlantis myth and its apparent cousins as a mere variant of a wider, and even more ancient tradition: the story of the Flood. There's almost nothing with greater cross-cultural resonance than accounts of a great flood in ancient times that drowned the whole world. This in itself is strange enough within our current view of history, but what really intrigues is the close structural similarity between the various flood stories.

In their essential elements, the myths are always the same, whether told by the Incas, the Greeks, Native Americans, Hindus, the authors of Genesis, or the Sumerians. Warning signs are ignored. A deity or some other messenger (sometimes a prophetic dream) warns one good citizen, or sometimes a small group, to build a ship, a great raft, a lodge on a mountain, or some other safe haven, into which this person leads his family and often a selection of animals (in the Inca story the warning, charmingly, comes from a Llama that speaks to its owner, saying "Pay very close attention, and remember what I am about to tell you"). The majority ridicules the builders of the ark/raft/safe haven, but those who laugh are swept away when the deluge comes. After the flood, the return of dry land is often heralded by the return of a released bird with a branch or some leaves. Have a read:

When mankind were overwhelmed with the deluge, none were preserved but a man named Coxcox ... and a woman called Xochiquetzal, who saved themselves in a little bark, and having afterwards got to land upon a mountain called by them Colhuacan, had there a great many children; ... these children were all born dumb, until a dove from a lofty tree imparted to them languages, but differing so much that they could not understand one another.

That's not the Bible. It's not the work of anyone who ever heard of Noah, or the Tower of Babel. It's a story told by the Aztecs. There are over 500 flood myths around the world, and when you find out that various peoples in a given part of the world share the story, well O.K., their cultures could well have cross-pollinated. When you find the same thing not just in the Middle East, Greece, and India, but also in Aztec and Inca culture, and among the myths of North American indigenous peoples like the Choktaw tribe, the Aboriginal Australians, the ancient Chinese, the Scandinavians...doesn't this all imply a common source for the narrative, an original draft that spread all over the world?

A classic in this genre is the Sumerian *Epic of Gilgamesh*, the oldest story we've ever found committed to writing, which combines all the elements: a great civilization so knowledgeable and proud that it bellowed like a bull, until the clamour angered the gods; a heavenly plot to destroy mankind for its pride and wickedness; a timely warning to one good man by a friendly deity; the construction of an ark, and the preservation of animals. The Noah figure, Utnapishitim, opens the flood story by telling Gilgamesh "I will reveal to you a mystery, I will tell you a secret of the gods".

A World in Turmoil

It's only recently that our own science has independently confirmed for us what may be one or two of those divine secrets. If it strains credulity to contend that the flood myths are so similar because they all stem from an original story, promulgated by the survivors of some lost civilization, it can nevertheless be credibly asserted that the reason everybody has a flood myth is that *there really was a global flood*. Thousands of years ago, before the dawn of the first civilizations we know about, a great deluge really did occur, on such a cataclysmic scale that it would be strange if most global cultures *didn't* preserve its memory in their folklore.

We like to think of the world as a more or less stable place. While climate changes arising from global warming are starting to shake our confidence in the stability of our world's environment, it's still easy to believe that things like temperatures and sea levels are not all that volatile. All through recorded history, back to when people established the very first towns and settlements known to our archaeology, we've been living in a relatively stable, relatively benign climatic

soap bubble amenable to the growth of societies, and the agriculture and infrastructure that support them.

Stories of cataclysm thus seem like ghost stories, superstitious nonsense, derided as “catastrophism” by the emerging science of geology in the 18th and 19th centuries. We’ve come to understand that many of the world’s dramatic geographic features, like mountain ranges and deep scars in the landscape, things which might appear like the products of catastrophe to the unschooled eye, are simply the result of the steady, gradual forces of erosion and geology working over huge lengths of time. The Grand Canyon was once a shallow river bed, but let the river run for millions of years, and you get a trench a mile deep. That’s how it always is. The new school of “gradualism” was proudly at odds with misguided religious beliefs in silliness like floods that came on suddenly to drown the whole world. Those things don’t happen. That isn’t how it works.

Except yes, sometimes it is, actually.

First, we now know that there really do exist what amount to cycles of destruction, called ice ages, the most recent of which indeed ended catastrophically, for reasons still not fully understood, in a final spasm that occurred over a span only 11,000 to 9,000 years ago.

The realization that for much of the Earth’s history, great stretches of the planet have been locked beneath titanic sheets of ice, must rank as one of the most startling of modern science. Our planet, as we know and love it today, is not its usual self, at least, not compared to its average condition during the many frigid periods in the distant – and the shockingly recent – geological past. We now believe that over the past two million years, the wink of an eye in geological terms, there have been over twenty glacial advances and retreats, not all of the same severity, but every one of them an ice age.

We live today in the immediate aftermath – or more accurately, within a brief interval – of the Wisconsin Ice Age, the most recent of four particularly intense periods of glaciation that have lately smothered the Northern Hemisphere. The Wisconsin Ice Age dates from about 80,000 years ago. At its peak, an ice cap over a mile thick blanketed much of Europe, and Russia. At the same time, hard as it is to credit, an even thicker sheet over two miles deep buried much of Canada and the United States, stretching as far south as present-day Philadelphia, and covering vast stretches of the American Mid-West. The huge North American sheet, thicker in places than ten times the height of the Chrysler Building, was centered over Hudson’s Bay, Canada. It was so heavy that even today, the land that once sat beneath it continues to rebound, like the foam underlay of a carpet slowly bouncing back after the removal of a heavy piece of furniture.

So much water was locked up in the ice sheets that global sea levels were dramatically lower than they are today, by as much as 400 feet. The lowering of sea levels exposed what today are sub-oceanic mountain peaks, continental shelves, and submerged land bridges. Human beings are supposed to have migrated to North America over one of these land bridges, which stretched between present-day Alaska and Siberia. Areas that are now underwater would then have been fertile plains and lowlands, ideal for human occupation.

The Wisconsin Ice Age reached its zenith between 26,000 and 16,000 years ago (estimates vary somewhat). Then, a long process of warming and glacial retreat began. It appears that most of the glacial melting was fairly gradual, with oceans rising at a rate of about a metre per century, but there may have been catastrophically sudden bursts of melting. Michel Baigent recounts in his iconoclastic book *Ancient Traces* that core samples extracted from Greenland evidence a radical change at around 8,700 B.C.E., involving a rise in average global temperatures of seven degrees Celsius in only twenty years. Throughout the period starting about 19,000 years ago, there seem to have been four episodes of “meltwater pulse”, occurring at intervals of about 4,000 years. More recent surveys indicate that there were two periods – a window between 15,000 and 13,000 years ago, and another between 11,000 and 9,000 years ago - when the melting was particularly accelerated and sea levels rose about 2.5 metres per century.

That may not sound like all that much, but it would depend greatly on where you lived – and where do people usually live? A 2 metre sea level rise today would swamp most of the cities of the American east coast, and a rise of about 7 metres would be enough to submerge London (which is one of many very good reasons why climatologists are so worried about global warming).

The rapid melting was accompanied by wholesale changes to the Earth’s climate and geography. Accustomed, as we are, to viewing relatively minor climatic changes as severe – for the harmful effects of even minor change can be great – it’s hard to really comprehend what went on just a few thousand years ago. In total, sea levels rose anything up to 400 feet, and with the rise in the oceans coastal areas submerged, islands sank, and land bridges vanished underwater. There is every indication that the onset of global change was in some instances rapid and violent.

Where Did All the Furry Things Go?

Paradoxically, as the glaciers retreated in some areas, and sea levels rose, arctic cold may have descended upon some formerly temperate regions with undogly speed.

This is highly controversial. Some contend that a deep freeze descended so quickly at higher latitudes that woolly mammoth were literally flash frozen, half-chewed grass between their molars. It's easy to find accounts of mammoth that are said to have been pulled from the Siberian tundra, where they stood, frozen upright beneath the permafrost, in the company of frozen fruit trees and other flora and fauna typical of a temperate grassland. This is hotly disputed by some scientists, who contend that these stories are either outright fabrications, or distortions of far less spectacular finds, but it's incontrovertible that sometimes, we do stumble over specimens of Pleistocene megafauna that seem to have died in mysterious ways. In recent years, examples of mammoths have been found so well preserved in permafrost that their carcasses still ooze blood, and harbour cells that might still be viable enough to clone.

This may only seem odd to the dabbler who doesn't know enough to understand the processes at work, and the debate over the extinction of the mammoths, which paleontology would characterize as an argument between fact and pseudo-science, is too involved to get into here.⁴ We can note one thing, though: the existence of the remains of a huge and healthy mammoth population at high latitudes is certain proof that climate change can be vast and radical. These things were bigger than modern elephants. They needed a lot to eat. As woolly and well-adapted to a temperate climate as they were, they could not have existed on the barren, frozen landscape above the tree line where we find their remains today.

Certainly, some sort of ongoing catastrophe afflicted the mammal populations of North America at or around the end of the last ice age, and in geological terms it was certainly sudden. Along with the mammoth went the sabre-tooth cats, great dire wolves, huge ground dwelling sloths, the horse (which evolved in North America and became extinct here), giant elk, enormous armadillos, and a whole host of weird and wonderful mammals that populated our part of the world not in the remote past, but as recently as 13,000 years ago. The question is, what sort of catastrophe? The conventional wisdom holds that the mass extinction had nothing to do with the upheavals of Biblical floods and their attendant changes, but was instead the outcome of encountering a deadly super-predator, new to the continent, which none of them had been armed by nature to evade or resist – human beings.

Perhaps. It's plausible. Heaven knows, rapacious predation that drives species to extinction is very much our thing. One wonders, though, why it is that the first human migrants to North America butchered almost everything on four legs with such terrible alacrity, millions upon perhaps billions of creatures, yet their

⁴ One thing that matters greatly as a counterpoint to the catastrophist theorizing is that the various mammoth in question are rarely from the same time period, but sometimes separated by several thousands of years.

equivalents were, before the arrival of Europeans, able to co-exist with bison populations big enough to cover several US States, never showing any sign they might wipe them out. One wonders, too, just how ravenously, indiscriminately hungry these hunters, known to us as the Clovis People, must have been. We can show, from kill sites and other evidence, that they quite liked mammoth meat. But they were eating giant ground sloths, too? Outsize armadillos? Horses and camels? Great Dire Wolves? Cave bears that look so big you'd expect their *cubs* to be the size of modern grizzlies? Or perhaps they eradicated all of these species for the sheer bloody-minded fun of it?

Maybe there were other factors at play?

Imagine being alive in those days, as the great melting unfolded around you. Never mind putting yourself in the place of the hypothetical citizens of a pre-historic city-state, just suppose you were a simple nomad trailing herds of animals and living off the land. Within a single lifetime, the whole landscape might change around you, and on a few occasions your whole world could be turned upside-down almost overnight. The collapse of the ice sheets was sometimes gradual, and sometimes changed nothing at all, for a time, but only while huge amounts of melt water, quantities that dwarf the Great Lakes, built up behind ice dams, storing cataclysmic potential energies that were apt to be unleashed suddenly.

A classic example of the sudden catastrophic potential of disintegrating ice sheets can be found in America's Pacific North West. There you can tour the Channeled Scablands, a weirdly devastated area of Washington State. What happened there was long a mystery, and it took the broad geological community many years to accept the theory, first proposed by geologist Harlan Bretz back in the 1920s, that the Scablands are the residue of enormous floods, when some mechanism, what we now know to be ice dams holding back vast quantities of water left behind by melting glaciers, ruptured and spilled their contents. We now believe that upwards of 500 cubic miles of water at a time were released in several outpourings, wreaking enormous havoc over an area of about 2000 square miles.

The landscape evidences unbelievably violent erosion, whole strata scraped away in many places, and Bretz realized that the Scablands bore all the features of the channel of an enormous and fast-moving river, except at many times the usual scale. There are holes apparently drilled by large eddies, and smooth, rounded features that resemble patterns left in sand on the beach. There are huge boulders left strewn in odd places. There's even a formation - "Dry Falls" - that looks like the crescent-shaped cliffs Niagara Falls would leave behind if you diverted the Niagara river. Since at the time there was no obvious source for the volumes of water required, Bretz was ridiculed by his peers, and accused of trying to revive the dreaded school of catastrophism.

Not everyone was cowed. Another geologist named Pardee figured it out as early as 1925, and worked for decades gathering the evidence to prove that the Scablands were carved by glacial melt. Today, it seems so obviously the only possible explanation that you wonder why anybody doubted it.

Pause and consider – *hundreds of cubic miles* of water, released in a stroke, rushing toward the distant coast, the cascading mass carrying all before it.

The deluge that reshaped the Scablands was not an isolated incident. Geologists refer to such events as “outburst floods”, and they occurred with some frequency in the period from 15,000 – 8,000 years ago. This excerpt from the relevant Wikipedia article (https://en.wikipedia.org/wiki/Outburst_flood) summarizes it nicely:

Glacial floods in North America (8,000 to 15,000 years ago)

In North America, during glacial maximum, there were no Great Lakes as we know them, but "proglacial" (ice-frontage) lakes formed and shifted. They lay in the areas of the modern lakes, but their drainage sometimes passed south, into the Mississippi system, sometimes into the Arctic, or east into the Atlantic. The most famous of these proglacial lakes was Lake Agassiz. A series of floods, as ice-dam configurations failed, created a series of great floods from Lake Agassiz, resulting in massive pulses of freshwater added to the world's oceans.

The Missoula Floods of Oregon and Washington states were also caused by breaking ice dams, resulting in the Channeled Scablands.

Lake Bonneville burst catastrophically in the Bonneville Flood, due to its water overflowing and washing away a sill composed of two opposing alluvial fans which had blocked a gorge. Lake Bonneville was not a glacial lake, but post-glacial climate change determined the lake level and its overflow.

The last of the North American proglacial lakes, north of the present Great Lakes, has been designated Glacial Lake Ojibway by geologists. It reached its largest volume around 8,500 years ago, when joined with Lake Agassiz. But its outlet was blocked by the great wall of the glaciers and it drained by tributaries, into the Ottawa and St. Lawrence Rivers far to the south. About 8,300 to 7,700 years ago, the melting ice dam over Hudson Bay's southernmost extension narrowed to the point where pressure and its buoyancy lifted it free, and the ice-dam failed catastrophically. Lake Ojibway's beach terraces

show that it was 250 metres (820 ft) above sea level. The volume of Lake Ojibway is commonly estimated to have been about 163,000 cubic kilometres, more than enough water to cover a flattened-out Antarctica with a sheet of water 10 metres (33 ft) deep. That volume was added to the world's oceans in a matter of months.

163,000 cubic kilometers of water poured into the ocean in a matter of months. Global sea levels would have risen, and halfway around the world, as your immediate surroundings vanished under water, you'd have no way of imagining that this was because of some distant event on another continent. You'd figure somebody up there had it in for you.

So we now have ample evidence to support the reality of a global upheaval in pre-history so monumental that if there really was some civilization back there, perhaps close to the shore, as civilizations are wont to be, it could certainly have been swamped, and quite quickly. Maybe very, very quickly - if any sort of prototypical organized society found itself in the path of an outburst flood, it would have been scraped right off the face of the Earth.

This solid scientific basis for the possible reality of the events described in the myths and fables seems to me more than enough to make one wonder if, just maybe, they contain a grain of essential truth. Moreover, as we'll see (he said, enigmatically), there's evidence that the global meltdown may not have been the only sort of calamity faced by whoever was trying to get along back then. In any case, the changes the world experienced were such that it makes no sense to conclude that since we've never found any trace of the capital city of some lost civilization, there couldn't have been one. It would probably be underwater. It might even have been bulldozed into obscurity by a wall of water tearing across the coastal plain where its citizens had put down stakes.

Fine, but is there anything else? Anything tangible? What, beyond old stories and theoretical possibilities, exists to attest to the reality of a lost culture on a par with mythical Atlantis?

The Anomaly Pile

As we researched and read just about everything we could get our hands on, Leonard and I started referring to all the extraordinary claims being made for apparent mysteries of the past as fodder for “the anomaly pile”. Ideas that establish organizing principles, once accepted, have a way of sustaining themselves even as anomalous facts that don’t fit the theory start to pile up, until finally, the pile becomes too great and you get a “paradigm shift”. The accepted version of the history of human civilization was, it seemed, starting to accumulate its own pile, and if you took at face value everything we’d been digging through, it wasn’t so much a pile as a great frigging hummock.

To understand why I was primed to become a quasi-obsessive analyst of John’s apocalypse, it helps to have a briefing on all the things that seemed to be upsetting history’s apple cart. I don’t want to reiterate the literature at great length (well, not *too* great, I hope), I just want to supply enough context for the reader to understand the prism through which I found myself examining a very strange book of the Bible. Brace yourself, then, for a bit of a whirlwind tour through a slew of fantastic ideas; in the next few pages I’m condensing literally dozens of books from all manner of sources, and years of reading.

A huge constituent of the anomaly pile concerned ancient architecture and archaeology. Many authors, apart from Hancock, were looking at the genuinely amazing monuments left behind by civilizations all over the world, and posing some heretical questions. Starting mainly in the 1990s, several authors, some firmly within the scientific mainstream, most not, contended that they were uncovering physical evidence of a predecessor civilization hewn into the stone of ancient structures.

The Monuments of Egypt

Among the most compelling of the new breed of iconoclasts is geologist Robert Schoch, in league with rogue Egyptologist John Anthony West. They claim to have demonstrated that the Great Sphinx at Giza bears the scars of having suffered through a great deluge, if not floods then torrential rains, no more recently than 7,000 years ago, which makes it far too old to be an artifact of any civilization we know of.⁵

The walls of the statue’s enclosure, in particular, show the signs of the sort of water erosion that could not have occurred in historical times, yet is known to

⁵ See Schoch, *Voices of the Rocks*, in particular Chapter 2:

<https://www.amazon.ca/gp/search?index=books&linkCode=qs&keywords=9780609603697>

have been possible thousands of years earlier, when the climate in Egypt was much more temperate and rainy. Schoch recalls taking pictures of the enclosure walls around to colleagues, and asking their opinions, without telling them where the eroded rock faces were. Pretty much all of them were fully confident that patterns of erosion in the photos could only have been caused by large quantities of flowing water. Then Schoch would tell them these were the walls of the Sphinx Enclosure. *Oh*. In that case it was certainly the product of wind-blown sand.

Schoch doesn't think so. Yet the Sphinx is attributed to a much later Egyptian civilization, in part, plausibly enough, because it features the head of a Pharaoh. There are oddities about that head though; it's too small for the lion's body, and Schoch thinks it was re-carved in antiquity from a larger original that likely depicted the ordinary head of a big cat. The re-carving probably happened thousands of years after the original was finished. If a monument like the Sphinx existed thousands of years before the rise of ancient Egypt, then it follows that there must have been some sort of civilization back there that carved it, that had already existed for an unknown length of time. Nomadic hunter-gatherers don't leave giant supine stone cats in their wake.

The ancient Egyptians, themselves, apparently thought they were far from being among the first civilizations. They revered the great leaders who came to Egypt thousands of years earlier in the *zep tepi*, the "first time", and some believe they commemorated this era in the site plan of the pyramids at Giza. This thought first occurred to an archaeological outsider, engineer Robert Bauval. He was engaged in a project in Saudi Arabia, and looked up one night to observe the constellation Orion, with its glittering belt of three prominent stars. It suddenly occurred to him that the way the stars were laid out, and their relative magnitudes, was powerfully reminiscent of the layout and relative sizes of the pyramids at Giza.

Orion was associated by the Egyptians with their great founder figure, Osiris. Was the site plan of the pyramids a tribute to their god? Is this what was implied by the old Egyptian saying "as above, so below", a phrase that echoes down to our times in Christianity's "on Earth as it is in Heaven"? It was an intoxicating idea that Bauval developed further, noting that the orientation of the pyramids to the Nile would well match the orientation of Orion's belt as against the Milky Way, which the Egyptians conceived of as a Heavenly Nile, if you were looking up at roughly our year 10,500 B.C.E. Incredibly, Bauval concluded, the Egyptians rendered in stone a star map commemorating a single moment in history, precisely matching the sky over the Nile at the time that the Egyptians believed was the *zep tepi*.⁶

⁶ See Bauval, *The Orion Mystery* <http://www.penguinrandomhouse.com/books/9809/the-orion-mystery-by-robert-bauval/9780307558862>

Archaeologists responded that this was nonsense, magical thinking. The arrangement of the pyramids, with one off-set a little, does *look* like the belt stars of Orion, but it's just a coincidence; the off-set results because the straight line the ancient architects plotted to lay out the placement of the pyramids ran along the outside corners of the planned structures, not the centers. Simple.

That's plausible; a straight line along the outside corners of the pyramids does indeed cause them to line up in a fashion reminiscent of the belt stars. Still, it doesn't seem to be the intuitive way you'd plot a line for the arrangement of three large pointed structures - wouldn't you line up the points? - and the resemblance to the stars above goes beyond location; the relative brightness of the stars matches fairly well the relative sizes of the corresponding pyramids.

Turkey's Subterranean World

The *zep tepi* may roughly coincide with another, largely overlooked wonder of the world, according to Andrew Collins, in his book *From the Ashes of Angels*.⁷ In Turkey, whole underground cities exist, the least obscure of which is located at a place called Cappadocia. These were unknown to modern archaeology until the mid-1960s. Supposedly, they were hewn from the volcanic rock sometime around 650 C.E. by Christians fleeing Muslim military incursions, but this beggars belief. The subterranean cities were constructed by someone with the engineering prowess to dig enormous complexes down to 20 stories underground, there to house upwards of 200,000 people semi-permanently below the Earth. The underground complexes were supplied with water, ventilation, food, private lodgings, and connected to other such underground communities by tunnels as much as six miles long, through which people can march four abreast. The ventilation system, the wells, the latrines, all are designed perfectly. No modern bomb shelter, and it is to bomb shelters that one feels driven to look for the nearest modern analogy, would offer anything like the comfort and security provided by the architects of Cappadocia. One complex has a staggering 15,000 air vents, most only four inches or less in diameter. The air below is fresh and circulating to this day. Without fires running, the temperature is a constant six - seven degrees Celsius. This was no half-assed hole in the ground.

Cappadocia is not science fiction. The underground cities are there. The engineering challenges inherent in their construction are somewhat reminiscent of those faced during the Cold War, when military installations on both sides of the Iron Curtain were buried beneath the earth or within mountains, the better to

⁷ <https://www.chapters.indigo.ca/en-ca/books/from-the-ashes-of-angels/9781879181724-item.html>

resist nuclear attack. The subterranean complexes of Cappadocia are certainly not that sophisticated or grand (and would of course be no use in case of nuclear attack), but they're impressive enough; they should almost certainly have been beyond an early Medieval people not otherwise known for this sort of subterranean architecture. Collins submits that nobody really knows how old these buried cities are, or who built them. Somebody relatively advanced, obviously, driven by some powerful motivation to dig in, implying a response to the sort of problem that can be solved by living underground.

It does seem fair to note that the mere presence of Christian artifacts in some higher chambers of the buried cities proves only that Medieval Christians happened to find them. By that time, Collins believes, they'd probably already been there for as much as 11,000 years. After all, there are no signs of the construction. Archaeologists have located no rubble, and no piles of excavated stone. Anyone familiar with WW II POW camp movies will recall that even a 200 foot tunnel through which a man can just manage to crawl creates an astounding volume of dirt and stone that has to be dealt with somehow. The corridors at Cappadocia provide close to seven feet of headroom. We have to assume that enormous volumes of volcanic rock, millions of tons, were removed and piled somewhere, and the passage of time has eroded the evidence away. That would take a hell of a long time.

Far longer than people have been civilized, as far as we know.

Consider the disquieting implications. The underground cities of Cappadocia may date not from medieval times, but to a much earlier era, one we now know to have been tumultuous and prone to catastrophe. The people who constructed them were apparently fleeing something, and it would make no sense to flee human attackers by settling down for a protracted period in a known location and undertaking a mammoth construction project. They were fleeing something else. Something that forced them underground, into what appears like an ancient and highly sophisticated system of bomb shelters. The engineering and organizational skill of these people, whoever they were, is clearly evident, but for all their mastery, something had them on the run.

What were they afraid of? What pushed them underground? Why did they need what seem eerily like bomb shelters?

Meanwhile, Half a World Away...

If you buy into everything asserted by the "alternative history" school, the whole world is liberally sprinkled with such apparently anomalous engineering and organizational triumphs, some as famous as the Pyramids at Giza, some as neglected as Cappadocia. In the latter group are such monolithic structures as the temple of Baalbeck in Lebanon (the base of which contains the largest stone

blocks ever hewn and moved) and the enigmatic remains of Tiahuanaco, purportedly a port city constructed on the former shores of the Bolivian mountain lake Titticaca (the current shores of Titticaca now lie miles from the piers of Tiahuanaco, seeming to make the site very ancient, but the idea that the site so often identified as a port was any such thing is hotly disputed⁸). If you're inclined to believe that ancient peoples using ropes and rollers could never have shifted such masonry, you can put it all together and arrive at a case that we're actually looking at the handiwork of someone we've never heard of.

One thing is inarguable – even if you stick to mainstream history, you constantly find yourself reading of monuments made by people for whom the movement and assembly of millions of tons of stones, quarried tens or hundreds of miles from their final resting places and fitted together with almost Swiss watch precision, was apparently an irresistible compulsion. We find monuments all over the world assembled by various cultures, at different times, but there seems to be something universal to the drive that spurred their construction.

When we think about massive ancient monuments, it's natural for the mind to turn to Egypt. Everyone is familiar with the Pyramids at Giza. Everyone knows they are a wonder. They so dominate the popular consciousness that it seems to have been forgotten that these great structures, fantastic though they are, are but one example from a global collection of cyclopiian stone monuments, the quantity and scale of which come close to defying all reason. A number of outstanding examples can be found a world away from Giza, in South America, where there are structures that are in their own way even more impressive than the Great Pyramid, so vast is their scale and so breathtaking the apparent ease with which they were completed.

Near Cuzco, in Peru, is the site of Sacsayhuaman. Westerners first set eyes on it in the 16th century, during the Spanish Conquest, when preservation of local history and oral tradition was far from the priority of gold-hungry Conquistadors. Yet Spanish chroniclers did take the time to ask the natives about Sacsayhuaman. These were the Inca, whose amazing empire fell to the Spanish with a rapidity that remains one of the great surprises – and horrors – of the history of civilization. The Inca claimed they had nothing to do with those who had built the bulk of the structures. They were ancient. An earlier people, a race of giants, had made them. Today, of course, such stories are dismissed, though we do believe the site pre-dates the Incas, and was built by a culture known as the Killke, who occupied the area sometime around the end of the first millennium, until about 1200 C.E. The Inca later augmented them. We don't really know who did what.

⁸ <https://skeptoid.com/episodes/4202>

So what, in our current conception, did the Killke and their Inca successors build? Walls. Great walls, apparently the bulwarks of a fortress that could shelter 10,000 men, made of stones that are anything up to 15 feet in height, and weigh upwards of 300 tons. Stones that have been individually cut to fit together, such that not even a knife blade, not even a sheet of paper, can be slid between them, stones that are not square, but contain angles and facets and notches so that they fit together into an enormously strong polygonal mass that makes the formidable parapets of any medieval castle appear rather sad.⁹

The stones still in place are there because the Spanish, who cannibalized much of the structure for their own buildings, couldn't take them away. They were far too big. The remaining walls at Sacsayhuaman laugh off earthquakes, and the ravages of time. They stand there, made of these inconceivably huge rocks – brought, we are told, from quarries 25 km. away, 40 km. away, even over 70 km. away – and but for them standing there, nobody sensible would believe it was possible. The Spanish, themselves indeed standing there and looking right at them, *still* couldn't believe it. They attributed the construction to spirits and demons.

What sort of resources would have to be committed to such an effort? In Peru, the Inca lacked even beasts of burden, aside from the Llama, a useful creature, no doubt, but nothing like an ox. These people, we're told, knew nothing of the wheel. They didn't have iron implements, much less steel, but only tools made of bronze and copper. It wouldn't be a simple thing to quarry a 300-ton boulder, and haul it tens of kilometers in some sort of cross-country stone-hauling derby, and we can leave off discussing the cutting, fitting, and assembling of the giant blocks once they arrived at their destination. Just imagine, for a moment, a group of men with ropes pulling a 300-ton rock across any piece of geography with which you're familiar in your own experience. Imagine that it's even a trek across kilometer upon kilometer of smooth level ground. Would you want to take that on? One supposes that it could be done, yes. Given enough willing hands, enough wooden rollers, enough ingenuity, presumably it could be done. Obviously, they could even stomach doing it dozens, hundreds of times. But why?

Why did they need such walls? And if they needed them, why did they need to be made of such huge rocks? And if they needed to be made of tremendous stones, why was it so important that they fit together in such elaborate fashion, so that even an ant would never crawl through? It doesn't seem rational.

The truth is, few of these ancient wonders seem entirely rational. Even the Pyramids, perhaps especially the Pyramids, defy logical explanation: here we have a set of presumed neo-primitives, without iron tools, who apparently

⁹ Have a look: <http://www.amusingplanet.com/2014/02/the-walls-of-sacsayhuaman.html>

devoted the entire energy of their civilization to the construction of piles of stone, using hemp, and rollers, and copper chisels, and (some have said) ramps two miles long, all of it used by as many as 100,000 men who apparently laid one three ton block every two minutes, 12 hours a day, 365 days a year, for 20 years, just to get a single pyramid built. Why bother? Didn't they have families to raise, crops to grow, wars to fight?

The Works of Our Lost Atlanteans?

Even the almost ludicrously oversized rocks at Sacsayhuaman are dwarfed by the stones at Baalbeck.¹⁰ Looking at structures like that, it's no wonder some people leap to the conclusion that the various monuments of the ancient world were left there by the lost architects of Atlantis. The impression, accurate or not, derived from these monolithic structures all over the world is one not of monumental effort, but of almost contemptuous ease. *We did this because it was simple.* Our civilization does the same thing all the time; for us, something like that is almost a mere stunt, and we do it simply to revel in the fact that we can. In Toronto, where I live, stands the CN Tower, a needle that soars over 1,800 feet into the sky. What would the Pharaohs have given for such a thing? Yet the huge and magnificent structure isn't the product of brute force, or societal commitment, or the mastery of our leaders over the masses. It is, rather, a monument to pure skill; a tiny specialist fragment of our culture flung it to a height of 1,815 feet without involving the public at all, except as spectators. No sacrifices were made, no perturbation of the lives of ordinary people was required. This is just the impression one gets from the temples with their stones larger than diesel locomotives sitting balanced on pillars 40 feet high.

Impressions, though, can be deceiving. It seems to me that some enigmatic sites, like the massive stones of Baalbeck, the walls at Sacsayhuaman, and the buried cities of Cappadocia, *do* prompt speculation that we might actually be looking at the handiwork of some culture we've forgotten, left there a long, long time ago – another more debatable example might be the ruins at Tiahuanaco, which are supposed to be quite young, less than 2,000 years old, yet which include carvings that some think resemble animal species, like elephants, and the Toxodon, that vanished at the end of the Pleistocene, an interpretation that

¹⁰ The site at Baalbek was undoubtedly used by the Romans for one of their most impressive temple complexes, but speculation persists concerning the huge foundation stones upon which the Roman buildings sat: http://www.bibliotecapleyades.net/esp_baalbek_1.htm

and: <http://www.newyorker.com/tech/elements/baalbek-myth-megalith>

and: <http://www.ancient-origins.net/news-history-archaeology/largest-known-megalithic-block-antiquity-revealed-baalbek-002385>

perhaps relies a bit on the power of suggestion.¹¹ My own view is that some ancient monuments may be built on the sites of older ones, and that there are some that involve stones so huge and precisely cut that we really don't have any good explanation for how it was done with the technology supposed to have been on hand. Yet it goes much too far to accept the New Age notion that most or even many of these structures, all over the world, were built not by the people we've always been told built them, but by unknown ancients, and thus represent the actual works of our hypothetical lost civilization. The Maya built their pyramids, the Egyptians built theirs.

So yes, for now I'll bow to orthodoxy on the true origins of the vast bulk of these structures. I may be intrigued by the possibilities, but I'm not here to insist, as some have, that there is no conceivable theory within which the peoples to whom we attribute these mammoth structures could really have built them, so they must have been built by somebody else. Ancient peoples were no less intelligent than we, and it's always a mistake to underestimate the potential cleverness of people in accomplishing things that seem, to us, beyond their cultural level. That our solution today is to bring in cranes and trucks – or better still, to pour concrete – certainly doesn't suggest that without cranes, trucks, or concrete, a solution can't be found. There's no need to invoke demons or ancient astronauts, or assert that there must have been pre-historic technologies as sophisticated as ours.¹²

There's just something fascinatingly suggestive in the similarities between these structures, and while it's unscientific, one can't help but wonder whether the impetus to build them, and the techniques used in doing so, reflect a distant common ancestry, and even elements of a common inherited knowledge. Sometimes it can be hard to believe that their builders weren't all employing some bag of tricks, some techniques we don't understand, to throw them together. It often seems that widely-separated ancient peoples knew something, maybe the *same* thing, about manipulating stone that we've forgotten, and I'd

¹¹ A link to a photo of the "elephant" is included in the article posted here:
<https://skeptoid.com/episodes/4202>

¹² However, and without any suggestion that the video's creator has the credentials to know what he's talking about (Brian Foerster is hugely controversial and has some wild ideas), if you want to see why one's untutored gut reaction is to consider the contrary, see this video:

<https://www.youtube.com/watch?v=66x9VLwZaDQ...>

and this: <https://www.youtube.com/watch?v=ky6s9VUN55g>

and this: <https://www.youtube.com/watch?v=p5ucwGAYmUg>

wager if that's the case, and we figure it out some day, it'll be a forehead-slapper, something that makes you ask "why didn't I think of that?"¹³

In any case, whether they had tricks up their sleeves that made it easier than it looks, or simply dedicated the resources necessary to pursue brute force solutions, it's hard to believe it was all done just for show, not if it involved anything close to the degree of difficulty which the assembly of these structures, unknown techniques or not, must have entailed; it just isn't credible that they would dedicate themselves to the assembly of blocks 10 times as big as they needed to be for any practical purpose, unless something important was at stake.

I sometimes wonder whether the ancient architects had a powerful motive, derived from their own legends, to build things bigger and stronger than required for any ordinary purpose, or to ride out any ordinary threat. Did they know that anything that means to withstand the test of time might one day have to contend with natural forces far greater than those in evidence in their day? What could prompt such a fear?

There's something else that's strangely consistent about many of the ancient monuments, which may have a great deal to do with why so many resources were dedicated to their construction. They seem to reflect a preoccupation with the sky above, and keeping track of time by reference to the stars, and events like the yearly solstices and equinoxes. Stonehenge is the most famous of these, and every year people gather there on the morning of the Summer and Winter solstices to watch the sun rise within frames of stone that were clearly aligned quite deliberately, in order to create dramatic visual effects to mark those events.

This turns out to be a very common feature of ancient monuments, from New Grange in Ireland to Chitzen Itza in the Yucatan. My personal favourite is the Inca complex of Machu Picchu, a true lost city in the Andes that was abandoned by its builders sometime in the 14th century. While known to the locals, the Spanish Conquistadors never discovered it, and it remained unknown to Western archaeology until 1911. A small city situated amidst hundreds of agricultural terraces, much of the complex is characterized by the expertly intricate stone work so typical of Inca masonry, polygonal blocks fitted together without mortar to tolerances so fine that the joints rebuff a sheet of paper. Whatever your stand on the significance and underlying purpose of ancient structures, Machu Picchu,

¹³ See some fascinating ideas about pyramid construction here, including an intriguing idea that the famous grand gallery of the Great Pyramid of Khufu was a ramp containing a counterweight that eased the hoisting of the building blocks: <http://thefeasiblepyramid.blogspot.ca>

See also a theory concerning a vertical elevator here: <http://www.thestructuralengineer.info/news-center/news/item/185-did-the-great-pyramid-have-an-elevator>

in a spectacular setting about 8,000 feet up a mountain in Cuzco, Peru, is literally an awesome place, the sort of thing you'd expect to see in a movie, the amazing discovery of somebody like Indiana Jones.

We don't really know what purpose it fulfilled – it might have been a stronghold, or even a sort of retreat for Incan royalty, but one can't help but suspect that it had important ritual and ceremonial purposes. Among its most interesting features is a carved stone that looks almost like a scaled-up rifle sight, referred to these days as “the hitching post of the sun”. It's oriented such that on both equinoxes each year the Sun stands directly above, and the stone casts no shadow.

As we've learned more about the various celestial alignments inherent in ancient structures, a whole new field, “archaeo-astronomy”, has developed. It's hard to shake the impression that this shared obsession with solstices and equinoxes, the rising of stars at fixed points of the year, the phases of the moon, and so on, is more than just an artifact of coincidence, or a common and quite mundane desire to keep track of the seasons. One gets the spooky sense that the universality and precision of all of this sky-watching betrays a common ancestry of ideas, and had to do with much more than simply marking, say, the onset of Spring. It seems to have been awfully important to an awful lot of cultures to keep tabs on the heavens. It was central to the construction of many of the greatest monuments of ancient civilizations, all over the world.

Peoples unknown to each other, separated by gulfs of space and time, were going about the same things, in pretty much the same way. Each, perhaps, carrying on a tradition with a single, original source. Each, perhaps, marking time on the basis of something they knew, but we've forgotten. The reason such vast resources were committed to these structures, it now seems clear, was a shared obsession with seeking some sort of confirmation of the unchanging rhythms of the heavens, as if seeking reassurance, making sure that the Sun stayed hitched to its post, taking careful stock of the solstices and equinoxes, noting the yearly rise and fall of important stars. As we'll see, and as incredible as it may sound, I think the last book of the New Testament may tell us why. I think that they were waiting for something to happen up there. Something disruptive.

A Scattering of Weird Anachronisms

Ghostly suggestions of an ancient, lost knowledge linked to an obsession with the stars come in forms other than stone. A wonderful example is the “Antikythera mechanism”, the remains of some sort of clockwork device hauled out of an ancient shipwreck in the Mediterranean, reliably dated to around 70 B.C.E. Now, everyone knows that clockwork, in such a sophisticated form, did not exist in the world of 70 B.C.E., so it comes as something of a surprise to be presented with incontrovertible evidence to the contrary, in the form of small

metal gears and cogwheels, the provenance of which cannot be disputed. Even more astonishing is that this clockwork was not, it would seem, the stuff of any mundane time piece.¹⁴

Rob S. Rice has written an informative article about the Antikythera mechanism subtitled *Physical and Intellectual Salvage from the 1st Century B.C.E.*. It's posted on the Internet.¹⁵ In this piece, Rice discussed the detective work that led British physicist and historian of science Derek De Solla Price to conclude that the mechanism amounted to an analog computer for calculating the future motions of the stars and planets:

The Antikythera mechanism was an arrangement of calibrated differential gears inscribed and configured to produce solar and lunar positions in synchronization with the calendar year. By rotating a shaft protruding from its now disintegrated wooden case, its owner could read on its front and back dials the progressions of the lunar synodic months over four year cycles. He could predict the movement of heavenly bodies regardless of his local government's erratic calendar.

Price linked the mechanism to Rhodes, which happened also to be the location from which the Greek sage Hipparchus calculated the rate of the precession of the equinoxes, that odd wobble in the earth's rotation we've mentioned before, and will soon be talking about a great deal more. A book detailing Price's conclusions was published in 1975, and much has been done since by various groups of fascinated scientists and archaeologists.¹⁶

Who built this device? It clearly wasn't a crude first attempt. How much earlier, and by whom, was the knowledge, and the mechanical know-how, developed to come up with it? Are we looking at the legacy of somebody lost to our history?

¹⁴ See this documentary: <https://www.youtube.com/watch?v=nZXjUqLMgxM>

¹⁵ http://ccat.sas.upenn.edu/rice/usna_pap.html

¹⁶ The Antikythera Mechanism Research Project: <http://www.antikythera-mechanism.gr/>

Latest news on the Antikythera Mechanism: <http://www.newscientist.com/article/m...>

Guardian science podcast from 9/2/15: <http://www.theguardian.com/science/au...>

Smithsonian Magazine article from February 2015: <http://www.smithsonianmag.com/history...>

Jo Marchant's book on the subject: http://www.amazon.co.uk/s/ref=nb_sb_n...

Since 1975, while a great deal has been done to reconstruct how this mechanism worked, not much has been done to address the enormous implications of its existence, and I'd wager that the reader has never even heard of the Antikythera mechanism. The dogma is that the device was the first of its kind, and some trace it to Archimedes – one wonders, though, if it was really the first (or for that matter, the last).

Like as not, the reader has never heard of the Dogon either. The Dogon are an obscure tribe of Central West Africa, occupying Mali in the former French Sudan. As detailed in Robert Temple's book *The Sirius Mystery*,¹⁷ the high priests of the Dogon have been preserving for millennia a body of oral tradition that was kept secret from all outsiders until a few decades ago. It only came to the attention of Western science when revealed to a French anthropologist, Marcel Griaule, a man whom the Dogon learned over many years to trust. The oral tradition of the Dogon is concerned with astronomy, and in particular, with detailed and specific information that they would seem to have no business knowing.

The Dogon are very interested in the star Sirius, which was also crucial to the ancient Egyptians, and which is the brightest star in the night sky to the naked eye. Sirius is unique because its own "proper" motion through space, along with its proximity to the Earth, combine to allow it, alone among the stars, to defy the effects of precession. Sirius and the Sun maintain their relative annual positions through the centuries, even as all the other stars and constellations succumb to the precessional scrolling effect – perhaps this is one reason why it was so important to the ancient Egyptians. So there's nothing odd about singling out Sirius as a star to watch, or to make that star an important part of folklore or mythology. What is decidedly odd is that the Dogon beliefs don't seem to be mere folklore, mythology or religious belief. They seem entirely factual.

To the Dogon, the focus of attention is not Sirius itself, but its companion star, Sirius B. Sirius B is invisible to the naked eye. No one without the aid of powerful telescopes can detect it. No one among the Dogon has ever seen it, yet to them, Sirius B is the most important object in the heavens. They say it is exceedingly tiny, dense, heavy and dark. They say it orbits bright Sirius along an elliptical path. They say its orbit around Sirius takes 50 years. And they are exactly right.

The Dogon also disclose that Sirius B rotates on its axis (right – all stars do) and they say its rotational period is one year (our science has no idea). The Dogon also know that Sirius B, so dense and tiny, is composed of material that cannot exist on Earth, something so heavy that all the earthly beings combined could not lift a sample. Not a bad description of the compressed matter of a white dwarf star.

¹⁷ <https://www.amazon.ca/gp/search?index=books&linkCode=qs&keywords=9780892811632>

Dogon knowledge is not, however, restricted to Sirius. Rather than populate the moon with mythical men or creatures, they state flatly that the Earth's satellite is dry and dead. They know that Saturn has a ring. They know the planets revolve around the Sun. They know Jupiter has four major moons.

According to Temple and his adherents, there is no reason to doubt that the Dogon have known all this for millennia. Their oral tradition isn't the product of cultural pollution. It's ancient wisdom. In his book, Temple carefully shows how the knowledge was derived from ancient Egypt (which makes sense, given the Egyptians' own preoccupation with Sirius). This of course prompts the further question: if so, how did the Egyptians know any of these things? It requires telescopes to figure this stuff out. The four major moons of Jupiter, long known to the Dogon, are called "Galilean" by us, because we suppose Galileo was the first ever to see them through his freshly invented telescope.

So who told the Egyptians?

Temple, at a loss for any other rational explanation, feels that some sort of contact with extra-terrestrial civilization must have occurred. But perhaps the civilization was entirely terrestrial, if no less alien to our conception of things?

Extra-terrestrials have also been invoked, by Erich von Daniken and others, as the source of another noteworthy collection of anachronistic oddities. These are written onto parchment, in the form of mariners' maps which, if the claims surrounding them are true, have no business existing within the authorized version of history. It's contended that while ancient and medieval cartographers were making fairly crude maps that just barely located places properly in the Mediterranean region, ancient and Medieval navigators were quietly using their own maps passed down through generations of sailors. Those that remain are still, it's claimed, more accurate in some respects than modern highway maps, and barely less accurate than our finest marine charts, in spite of being copied and recompiled by hand dozens of times.

These maps, which medieval navigators called "portolans", seem to show the whole world, including places that Europeans had never gone, and they seem to show these places not as they appeared in Medieval times, but as they appeared 10,000 years ago, before the meltdown at the end of the last ice age. Sunken islands are charted. The land bridge to Asia is there connecting to North America. Coastlines and river mouths are charted as we now know they once were, before sea levels rose. It's asserted that these maps are drafted as spherical trigonometric projections, using a sort of math not invented, we suppose, until recent times, and further that they incorporate completely accurate measurements of longitude, which is impossible, as the measurement of longitude is inconceivable absent the invention of the marine chronometer.

Keep in mind there's really nothing secret about these maps. Originals can be viewed at the Library of Congress. Despite the claims made for them, mainstream scholars have largely ignored them, as they seem to ignore so many purported anomalies, even while others speculate that the key players of the age of exploration made full use of these portolans, and that such groups as the Knights Templar, and later the Freemasons, were crucial in promoting the drive westward to the continents across the ocean because they had access to maps that showed them what was there.

For example, far from blundering about in the hope of hitting Asia, Columbus, who set out with a Templar cross on his mainsail, seems to have known just what he was looking for, and how far it should be. He lacked the means to chart accurately his own progress, since he couldn't measure longitude. But he proceeded as if he knew that sooner or later he would hit a great land mass, and speaks in his logs of mysterious maps that tell him so.

It's claimed that other giants of the age of exploration, like Prince Henry the Navigator and Vasco da Gama, were similarly navigating according to portolans, looking for the straits and continents that they knew had to be there - the maps never lied! And in this business the Portuguese and Spanish were latecomers, as one Henry Sinclair, prince of the Orkneys and apparent heir to the Templar tradition, may well have used the same portolans to hit our own Nova Scotia more than a hundred years earlier. It's quite possible that Sinclair is the "Glooscap" of Mik'maq legend, though mainstream scholarship dismisses the notion. Before Sinclair, of course, came the Norse, who navigated with high confidence to the New World - did they, too, have use of the portolans?

The assertions surrounding these maps are disquieting. If they really are spherical trigonometric projections of pre-historic times, they just shouldn't *be*. One famous example, the "Piri Re'is" map (named after the Turkish admiral who owned it) is said to be a fragment of a global map showing the Atlantic seaboard of Central and South America, down to Antarctica, in a strangely distorted projection. Study of this map by cartographic experts of the United States Air Force is supposed to have revealed that the entire map, of which the Piri Re'is chart is just a small piece, must have been a spherical trigonometric projection centered directly above the Giza Plateau. This is where modern spherical projections of the whole planet are sometimes centered by the Air Force as well, since Giza just happens to be located at the centre of all of the world's landmasses.

You can read all about the portolans in a book by Charles Hapgood named *Maps of the Ancient Sea Kings* ¹⁸ (subtitled *Evidence of Advanced Civilization in the Ice*

¹⁸ <https://www.chapters.indigo.ca/en-ca/books/maps-of-the-ancient-sea/9780932813428-item.html>

Age).¹⁹ If Hapgood is right, and of course there's been plenty of scorn heaped upon him, no one known to our history could have made the portolans. He thinks they show things that their users knew nothing of, like the exact location of the Falkland Islands, or the existence of an island (long since absorbed into the mainland) at the former mouth of the Amazon River. Most mysteriously, Hapgood perceives Antarctica, a land not discovered by Europeans until the 19th century, as fully mapped in some of the portolans, but *without the ice*. It's claimed that the sub-glacial topography of the Antarctic coastline is accurately portrayed in the Piri Re's map. In other portolans, Antarctica appears as an archipelago, with two main islands, mountains, rivers, and fertile lowlands.

Did somebody map the entire globe just about as well as we have, and before the end of the last ice age, when whoever it was apparently perceived no ice sheets on Antarctica?

Or is there nothing to these portolans, and the claims about their use during the Age of Exploration? Is it simply the case that anybody with a reasonable ability to navigate across oceans need only head West from Europe to be assured of hitting something, and need only follow coastlines and the stars to circumnavigate the world?

The Ratchet Effect? Or Facts on the Ground?

I could go on, but you get the idea.

There's no end to this vein of historical speculation. The foregoing is just a smattering of the things you can find filed under "New Age" and "Occult" in your local Chapters. If you subsist on a steady diet of this stuff, you can succumb to the "ratchet effect", the phenomenon by which the acceptance of something you would once have thought utterly fantastic clears the way for the subsequent acceptance of something more fantastic still. I try to resist that, hence a constant refrain that may have caught your attention: I'm always saying "it's claimed", "it's asserted", "if that's true, then...", and so on. This is an attempt at intellectual honesty. There's just no way for me to know. There was a time, decades ago, when I was quite sure about these things, but I'm not sure about much anymore, and I haven't even begun to track down all the orthodox counter-arguments to

¹⁹ An interesting article discussing a doctoral thesis on the impossible accuracy of the portolans can be found here: <http://bigthink.com/strange-maps/648-portolan-charts-too-accurate-to-be-medieval>

The author is quoted: "Perhaps we should re-evaluate what we think was the state of science in Antiquity", says Nicolai. "As long as this doesn't generate any speculation on so-called lost civilisations".

Hapgood's book: <https://www.amazon.com/Maps-Ancient-Sea-Kings-Civilization/dp/0932813429>

everything discussed above (though I'll discuss some of it later on). You may rest assured, though, that those counter-arguments exist, in droves, and it should always give one pause when the overwhelming majority of those who should know, the professionals, scoff at an idea.²⁰

And yet, I wonder. The infallible guardians of orthodoxy have scoffed at a lot of things that later turned out to be true. To me, it's not necessarily enough that the suggestion seems Cuckoo for Cocoa Puffs. So does the idea that the continents crawl around on the Earth's surface, I mean, really. Sure. So does the idea that the Earth's magnetic field reverses polarity at certain intervals. I'm supposed to believe that some day, compass needles will point to Antarctica? So did the idea, once, that iron rocks fell out of the sky.

I've been vacillating now for almost 20 years. Since I started down this road, I've periodically revisited the original draft of what you're reading, completed in 1999, and considered whether I should carry on, re-write it, refine my arguments and conclusions – but it never seemed like I had the time, the energy, or the confidence. I'm glad, now, that I dithered. I've discovered some things along the way that I think strengthen my case greatly, and meanwhile, archaeologists have found things that make ideas about lost civilizations seem a lot less preposterous. A *lot* less.

Ladies and gentlemen, I give you Gobekli Tepe.

Gobekli Tepe is a site in southeastern Turkey, and it's being described as one of the most astounding archaeological finds in history. Serious archaeological exploration began there around 1994, and over the years the findings have become ever more astonishing. I'd never heard of it in 1999, and it's only in the past few years that I began to notice any detailed discussion of its implications.

It's thought, at this point, to have been a massive temple of some sort, or a religious sanctuary, and here again we see the fascination with huge stones. T-shaped, they stand in rings, some as tall as 20 feet and weighing up to 20 tons. The largest stone so far found on site weighs roughly 50 tons. To date, 200 of these pillars have been found, in 20 circles, each sunk into sockets in the bedrock. Many of them are adorned with carved images of animals. These include gazelles, bulls, lions, foxes, boars, snakes and other reptiles, birds – they seem to have had a particular interest in vultures – and even insects and spiders.

²⁰ A scathing critique of Hancock that makes some valid points can be found here:

<https://badarchaeology.wordpress.com/tag/tiwanaku/>

This is obviously the product of an organized culture capable of marshalling a skilled labour force, and evidences the ever-present ability to tote huge stones about, though not, in this case, very far – the quarries for the pillars seem to be about half a kilometer away.

None of that makes Gobekli Tepe particularly exciting to those of us who've grown accustomed to wrapping our minds around Inca stone masonry. What's wild about the site - and this is incontrovertible and unchallenged, established by radio-carbon dating and accepted by the archaeological community – is that it's about 11,000 years old. It pre-dates the pyramids, and Stonehenge, by *6,000 years*.

That means that this complex was erected in Turkey before there are supposed to have been any of the developments we would expect to have been necessary to support its construction, and the provisioning of the gangs of organized workers who must have toiled there. It pre-dates settlements and organized cohabitation. It pre-dates metallurgy. It pre-dates the wheel. It pre-dates writing. It pre-dates *pottery*, for the love of God, it even pre-dates agriculture and animal husbandry – or so we're forced to conclude, if the authorized version of history is still thought to be correct. It was used for centuries, maybe as a shrine, or a place of religious pilgrimage, and then, when it was abandoned, we think in the 9th millennium B.C.E., its last users didn't just walk away. For some reason they deliberately buried it. There are signs that it was periodically buried and reconstructed at times before that.

What all this means is still being worked out. As if in order to preserve some semblance of the established chronology of civilization, it's being argued that Gobekli Tepe was built by primitive, nomadic hunter gatherers, before the rise of civilization, and that therefore, it may be the case that civilization as we know it, the sort that grows crops, breeds domestic animals, hauls things around in carts, and writes things down, is a result of the demands of building such complexes. "First came the temple, then the city", is the way principal archaeologist Klaus Schmidt put it. Nevertheless, no responsible scientist or historian seems to doubt that this find changes everything, and while I'm just some guy reading *National Geographic*, I feel secure in concluding that Gobekli Tepe was no fumbling first effort. It looks like whoever built it knew well how to do it when they did.²¹

The ancient world still has surprises in store for us, it seems. So I remain curious. Maybe someday they'll find something that makes Gobekli Tepe seem recent. What will they say then?

²¹ Have a look: <http://gobeklitepe.info/>

When Leo Reigns

The era in which Gobekli Tepe was in active use, whatever that use was, is a bit shocking within the established chronology of human civilization, but seems less so to anyone who's been struck, as I have, by a common thread running through all of the unrelated, usually amateur, challenges to orthodoxy described above. We *always* hear about something that appears to date to "about 10,000 - 13,000 years ago". The Egyptians told Solon that Atlantis had been destroyed 9,000 years prior to Greek times. The last ice age melted down between 11,000 and 9,000 years ago. The cities at Cappadocia are said to appear to be 11,000 years old. The site plan at Giza is said to commemorate a zep tepi of 10,500 B.C.E. Lake Titticaca may have last sat beneath the piers at Tiahuanaco 10,000 years ago. The portolans are supposed to depict an ice age geography. And the Great Sphinx was scourged by torrential rain no more recently than 7,000 years ago, and perhaps earlier. Perhaps in the same time frame?

Gobekli Tepe, too, fits right into the 11,000 – 9,000-year-old window. Whoever built it must have been contending, successfully it seems, with the upheavals of climate and geography then ongoing.

Another thing, and this looms large in the Biblical exegesis to come: that time frame, 10,000 - 13,000 years ago, corresponds in astrological terms to the Age of Leo. Whether the assertion is apparently fantastic, like the age of the buried cities of Cappadocia, or incontrovertible, like the timing of the great melting at the end of the last ice age, the action is always occurring in or around the Age of Leo, the age established by the relentless grinding millwheel of the precession of the equinoxes. We'll be talking a whole lot about precession soon, but for now, it bears emphasis that the Age of Leo is exactly what people like Hancock and Bauval believe to be commemorated in both the myths and monuments of the ancient world.

The Sphinx is a lion; it gazes directly each morning at the rising Sun, and Hancock thinks it may be a monument to a time when that Sun rose against the backdrop of the constellation Leo on the morning of each Spring Equinox. The pyramids at Giza, claims Bauval, are arranged to pay homage to a time corresponding to that very same era, the "first time" of the Egyptians. Hancock believes that the temple complex at Angkor Thom in Cambodia is laid out as an earthly model of the constellation Draco, oriented to its heavenly counterpart not as it would have appeared at the time of its construction, but during the Age of Leo. The circular Dendera Zodiac, carved in the ceiling of a chapel dedicated to Osiris in the Hathor temple at Dendera, Egypt, places special emphasis on Leo. Hancock has written a whole book, *Heaven's Mirror*, showing what he thinks is a global commemoration of the Age of Leo in ancient architecture. These claims are beyond controversial, and have been openly ridiculed, but as we'll see,

whatever the strength of their evidence, I think I've found something that indicates that Hancock and Bauval are on the right track.

The Age of Leo was a tumultuous time for our species. Amidst terrible upheavals, people everywhere, whatever their stage of cultural development, would have faced severe threats to their survival. With the general rise of sea levels, any settled populations would have been displaced, for people always populate the banks of great rivers or the shorelines of the sea. Enormous animal migrations, and the extinction of numerous species of large mammals, would have changed the hunting and subsistence habits of nomadic hunter-gatherers. Were there also farmers, townsfolk and civilized societies that bore the brunt of the cataclysm? Did their culture disappear into the darkness of myth and fable, to be dimly remembered in garbled tales of Aztlan or Atlantis?

It's a radical idea, no doubt. Extraordinary theories require extraordinary proof, as Carl Sagan used to remind us. The will to believe can be a powerfully distorting thing, and must be guarded against whenever you're sure you're seeing the proof of something you very much wish to be true. If you don't watch yourself, you can end up writing papers on Piltdown Man. You can sit there with Percival Lowell sketching the engineered canals feeding water to the equatorial cities of Mars.

Maybe that's me. Let's assume that anything set out above that runs counter to established wisdom is likely to be bunk. Let's accept that it's not reliable evidence of any sort of truth. It's just what some people think, a lot of them with no relevant expertise, and we all know what that sort of thinking tends to be worth. No matter. It had me hooked, and had me wondering. It's admissible here as it goes to state of mind, your honour. It's what made *Revelation* intriguing to me in the first place.

And as I started delving into *Revelation*, one thing immediately grabbed my attention. Atlantis is said to have been destroyed rapidly, in a stroke. From Plato's account:

But afterwards there occurred violent earthquakes and floods; and in a single day and night of misfortune all your warlike men in a body sank into the earth, and the island of Atlantis in like manner disappeared in the depths of the sea.

It seems a curious coincidence that in *Revelation*, we find this passage, already quoted above:

And all shipmasters and seafarers, sailors and all whose trade is on the sea, stood far off and cried out as they saw the smoke of her burning, "What city was like the great city?" And they threw dust on their heads as they wept and mourned,

crying out, "Alas, alas, great city, where all who had ships at sea grew rich by her wealth! For in one hour she has been laid waste!"

What city was like the great city? Were the unknown writers of Revelation inspired by Plato's account in their own tale of cataclysm, or were both drawing upon a more ancient tradition?

Hail Atlantis?

Every few years, it seems, somebody will announce they've found it. It will be off the coast of a Caribbean island, buried in a Central American Jungle, or submerged beneath a mud flat in Europe. Atlantis! Eureka! There'll be a flurry of publicity, a luke-warm or outright disdainful response from the archaeologists, or geologists, and then, nothing (or lingering controversy on the fringe, amounting to little). The lost civilization seems always out of reach, yet so nearly within our grasp.

In my lifetime, the first of these "Al Capone's Vault" affairs occurred in 1968, with the discovery, under about 20 feet of water off the island of Bimini in the Bahamas, of what looked like a road, or a wall, made of regular hewn blocks. This caused a wave of excitement among the New Age crowd because the rise of Atlantis in 1968 was predicted decades before by a modern Nostradamus-like figure named Edgar Cayce (if you don't know anything about Edgar Cayce and his reams of "prophecies", good for you, and let's keep it that way). To the untrained eye the Bimini Road does indeed look artificial, and most of us would assume that natural processes can't create rectangular stones formed of right angles, but sadly, that isn't so. The formation off Bimini has been exhaustively studied. It's composed of a particular type of stone called "beach rock", and the way it has broken up into rectangular blocks along natural joints is entirely the result of ordinary processes of erosion.²²

In 1987, divers off Yonaguni, one of Japan's Ryuku islands, noticed a massive underwater stone formation that looked like it might well be man-made. It's an enigmatic site, full of huge terraces and straight lines that could be interpreted to be artificial, and it got a great deal of attention in the late 1990s. Again, the appearance of right angles, parallel features, and flat level surfaces gives the eerie impression of human intervention, but there isn't much coherence to the various ledges and apparent huge steps. Debate still rages, but geologist Robert Schoch, mentioned earlier with respect to his conclusions concerning the age of the Sphinx at Giza, notes that the formation is made of sandstone, and fractures along straight lines in that sort of rock are nothing to get excited about. Others disagree, pointing to apparent drilled holes in some places, and triangular features, as well as the absence of natural rubble that should accompany ordinary erosion and the fracturing of blocks. A compromise suggestion was that it was a natural formation that people had long ago modified, perhaps for some ritual purpose, but no one really knows, and again, the furore died down leaving nothing much but doubt in its wake. The reader should go on line and look at

²² https://en.wikipedia.org/wiki/Bimini_Road

some images.²³ The purported monument really does look artificial; but as we discovered in Bimini, nature can play tricks with stone.

In 2001, marine engineers working on a survey project for the Cuban government located, under about 2,000 feet of water off the Western tip of the island, what looked to them like a 2 square km. grid plan reminiscent of a modern urban streetscape. Images assembled from sidescan sonar data even looked like submerged pyramids, if you held your mouth the right way, and the find was taken seriously enough for National Geographic to get involved. It wasn't a hoax, but the expert interpretation of the sonar images was that they were suggestive, perhaps, but didn't really provide solid evidence of anything. It's often said that interpreting sidescan sonar imagery, especially at the resolution gathered by this underwater survey, is a lot like interpreting ink blots. There was talk of further investigations to come, and the story just petered out after that.²⁴

Quite recently, beginning around 2011, there was a general uproar about the evident discovery by Richard Freund, a Professor of Judaic Studies from Hartford University in Connecticut, of a lost civilization buried under mud flats in Spain. These were about 60 miles inland, swamped, it seemed, by a tsunami about 4,000 years ago (too recent to be Atlantis, many argued, if Plato's chronology had any merit). He was drawn to the area by anomalous findings of German scientists, analyzing satellite photos in 2003. Freund began an expedition at the site, located in a national park North of Cadiz, in 2009, and a National Geographic special about his findings was produced in 2011. Headlines around the world trumpeted that Atlantis might well have been found. Not much has been said since.²⁵

A 2014 a book by Mark Adams titled "*Meet Me in Atlantis*" argued the lost city was in Morocco, a bit South of Casablanca.²⁶

²³ <http://www.yonaguni.ws/>

https://en.wikipedia.org/wiki/Yonaguni_Monument

²⁴ https://en.wikipedia.org/wiki/Cuban_underwater_city

²⁵ <http://www.americanscientist.org/science/pub/-1810>

²⁶ <http://news.nationalgeographic.com/2015/03/150318-atlantis-morocco-santorini-plato-adams-ngbooktalk/>

The relevant Wikipedia article lists no fewer than 32 locations that have been seriously proposed over the years, many of them supported by intriguing evidence²⁷.

The amount of energy that's been dedicated to the quest for Atlantis might have bemused Plato, if he really did invent the story as a rhetorical device. Scholars are sure that's the case, but it can be hard to accept – the tale is just so full of detail, so much so that it gets tedious (read it for yourself in Appendix B), but detail undeniably evocative of something that sounds real. Garbled, maybe, but what a strangely elaborate story to invent!

So Here's the Story

According to Plato, Atlantis was what amounted to a Bronze Age civilization existing thousands of years prior to the Bronze Age, about 9,000 years prior to his own time, or 11,000 B.C.E. from our perspective. It was based on a large island continent somewhere in the Atlantic Ocean, which to Plato means the one true ocean, not necessarily the body of water we call "Atlantic" today. The island, bigger than Libya and Asia combined, lay somewhere opposite the Pillars of Heracles, meaning opposite the entrance to the Mediterranean Sea.

Atlantis itself was a city state laid out in a circular pattern, protected by giant walls covered in gleaming metal – including a mysterious substance called "Orichalcum" – and ringed by enormous canals. The central canal from the sea was 300 feet wide and 100 feet deep; the outer wall of the city was about 11 miles in diameter. Bridges over the canals were themselves 100 feet wide. The city state was located on a great level plain over 300 miles long, and 100 miles wide, open on the South to the sea, surrounded to the North by mountains. The hinterland was abundant in minerals and game; among the creatures said to have been plentiful are elephants. The weather was tropical, or sub-tropical, with a growing season that permitted two harvests a year. Irrigation, again by canal, was extensive.

There are undoubtedly problems with Plato's account, undermining its credibility. For one thing, the confounding theme of the tale is an attempt by the mighty Atlantean empire to conquer large parts of the Mediterranean world, thwarted, according to the story, by Athenian military prowess. This is supposed to be a story about events 9,000 years prior to Plato; surely there was no Athens then!

Was Plato just confused? Or did he perpetrate a sort of hoax on history? Did he expect his readership to understand that the story was a fiction – was he an ancient antecedent to Orson Welles, whose radio play of *War of the Worlds* was

²⁷ https://en.wikipedia.org/wiki/Location_hypotheses_of_Atlantis

taken seriously by listeners, and for a time caused general panic? I'll say this much: if he's up there somewhere *laughing*, he deserves a kick upside the head. A lot of people have expended the very best of themselves trying to get to the bottom of his little fairy tale, if that's what it is.

Ignatius Donnelly – Atlantis in the Azores

The mystery of Atlantis is a honey trap for all sorts of people, amateurs and professionals, charlatans and sober intellectuals, the serious and the not-so-serious, and people like me, who're either open-minded, or just gullible, depending on how you see it.

It wasn't always this way. Plato's story was largely forgotten in the intervening millennia, and we owe our modern fascination with Atlantis in great measure to a 19th century American named Ignatius Donnelly. Now here's somebody that inspires the sort of people who spend their free time dissecting ancient myths and belief systems for clues to hidden knowledge. He was just our kind of guy, and boy, did he go at it with a vengeance. Ignatius Donnelly wasn't the first person since Plato to discuss the Atlantis legend at length (we'll be referring to the ruminations of Francis Bacon in a moment), but he's the one who propelled it into the spotlight, and made it an ongoing obsession for Western society.

He was a U.S. Senator in the late 1870's when, disgruntled with partisan politics, and seeking a greater truth, he quit his seat and began spending his days in the Library of Congress. There, among one of history's most impressive collections of knowledge, he sought evidence to substantiate Plato's tale. He was too early to see the portolans, which came into the possession of that greatest of libraries a few decades later, but he completed a translation of Plato's writings on Atlantis (many modern writers still choose his English version of *Timaeus* and *Critias*), and found a good deal of other evidence that convinced him that there was more to this fable than the fertile imagination of a Greek philosopher. Beating the trail so many of us have since travelled, he looked into what was known of the lost Mayan civilization of Central America. He studied the mythologies of the world, and noted their similarities. Attempting an entirely historical and scholarly approach (with mixed results, perhaps), he compared all manner of ancient fables, religions, myths, and languages, and concluded that Atlantis must have been real.

In 1882 he published *Atlantis: The Antediluvian World*,²⁸ a wildly successful work that remains in print to this day, and began a popular craze that never abated.

²⁸ <https://play.google.com/store/books/details?id=9hs7AAAAYAAJ&rdid=book-9hs7AAAAYAAJ&rdot=1>

Donnelly stated that his book was intended to prove that Atlantis was not a myth, but “veritable history”, that Atlantis was the place where humankind first achieved civilization, that it had been a mighty empire with outposts in North America, Africa, the Mediterranean and other locales, and that it lay behind the various myths of a lost paradise that populate the folklore of so many diverse cultures. Donnelly believed ancient Egypt to have been an Atlantean colony, and thought that the Phoenician alphabet, from which many modern alphabets, including our own, in part derive, was an Atlantean legacy. He also thought he knew where Atlantis had been.

The late 19th century was an age of many technological wonders, and among these, looming large at the time Donnelly was writing his book, was the laying of the transatlantic telegraph cable. This was achieved in 1866 by the magnificent vessel *Great Eastern*, a 700 foot long, 32,000-ton masterpiece of the English engineering genius Isambard K. Brunel. It was an accomplishment that our modern world, accustomed as it is to satellite communication and cell phones, is no longer able to appreciate properly. All of a sudden, it became possible to transmit messages instantaneously over a cable that stretched all the way from North America to Europe. This meant no more waiting a week or so for some trans-Atlantic steamer to deliver your message, and it must have seemed a miracle.

The science behind this was formidable, and as might be expected, the cable had not been laid haphazardly. British, French, American and German naval vessels had laid the groundwork, as it were, by taking extensive soundings of the Atlantic Ocean, attempting to plot a safe path for the thousands of miles of unbroken telegraph line.

What these soundings revealed was enormously exciting to Donnelly: a sub-oceanic mountain range running the whole length of the ocean, extending virtually from one arctic circle to the other, which at spots was over 500 miles wide. We call this the “Mid-Atlantic Ridge”, today. Wrote Donnelly:

Deep-sea soundings have been made by ships of different nations; the United States ship Dolphin, the German frigate Gazelle, and the British ships Hydra, Porcupine, and Challenger have mapped out the bottom of the Atlantic, and the result is the revelation of a great elevation...evidence that this elevation was once dry land is found in the fact that “the inequalities, the mountains and valleys of its surface, could never have been produced in accordance with any laws for the deposition of sediment, nor by submarine elevation; but, on the contrary, must have been carved by agencies acting above the water level” (Scientific American, July 28th, 1877).

Moreover, just opposite the Pillars of Heracles, across from the entrance to the Mediterranean, were the exposed peaks of this submarine mountain system, the Azores. Right where Plato, in the most obvious interpretation, had said Atlantis had submerged – in mid-Atlantic, opposite the Pillars – it seemed that the highest mountains of Atlantis still poked above the water. Donnelly's enthusiasm, his sheer excitement, at having been led to this conclusion by the finest modern science is palpable, and thoroughly charming. There's a lesson in this that the reader would do well to remember as this equally enthusiastic book progresses; for Donnelly was just plain, flat-out, dead wrong.

Scientific American had told him that no then-known oceanic force, no deposition of sediments, could account for the peaks and craggy valleys of the Mid-Atlantic ridge. This was true enough, as in his day no such force had been explicated. The further conclusion that atmospheric erosional forces must therefore have been at work, and that the whole Mid-Atlantic Ridge must once have been dry land is, sadly, totally incorrect. The force of nature that Donnelly could have known nothing about, and which shapes the Ridge, is plate-tectonics. The vast Atlantic mountain range marks the crack at which the restless, constantly-recycling crust of the Earth emerges and spreads out on either side, causing continental drift, and a spreading-apart of the opposing continents that modern science has measured to a fine tolerance.

The Azores are not the peaks of a great sunken island that matches Plato's description of Atlantis. They're just particularly high peaks of the Ridge. Today's maps of the Atlantic sea floor are minutely detailed and comprehensive, and there's no lost island continent anywhere near the Azores – or indeed, anywhere else beneath the Atlantic Ocean.

Antarctica?

While it's sobering, and a little sad really, to have debunked Donnelly's conclusions, it should be remembered that in gathering the evidence that led him to take seriously Plato's story, he scored many valid points. He did a wonderful job, I think, with what he had. Indeed, his book was a lot like *Fingerprints of the Gods*, and remains similarly engrossing. While wrong, in the end, he may have been on the right track. He just failed to understand that what Plato meant by the Atlantic, and what we mean today, are two different things – or so say some who've tried to solve Plato's riddle over the last few years.

Just to give you an idea of how elaborate and numerous the theories have become, let's look at a few of the more interesting modern Atlantis-hunters. When I began this effort in the late 1990s, I thought I might actually discover the answer, and read books by all sorts of authors.

Among them are a couple named Rand and Rose Flem-Ath (their strange surname is a combination of their individual names prior to becoming married), Canadians who developed a passion for Atlantis over 40 years ago. They're amateurs, intelligent amateurs, but apt to be derided as misguided purveyors of pseudo-science.

Their thesis is a stretch, it must be admitted: in their book *When the Sky Fell*,²⁹ they reach the conclusion that Charles Hapgood, the author of the previously discussed tome on ancient nautical charts, and also the originator of a wild theory of what he called *crustal displacement*, had been right. Hapgood believed that at certain intervals, the spin energy of the Earth might build up an inertial force in the solid crust that would cause it to slip over the liquid mantle, shifting everything on the planet in a calamitous lurch toward different latitudes and longitudes. The Flem-Aths thought they saw solid evidence that the crust of the Earth *did* displace several thousand years ago, and in that case, there was an explanation for both the demise of the great civilization and our modern inability to locate it. Atlantis had moved. It was still on every map, but at a lower latitude than it had occupied in its heyday before the cataclysm. It now laid buried beneath miles of ice, in the throes of an ice age that afflicts it for the same reason that an ice age once afflicted North America – because it now resides at one of the poles. Atlantis, they concluded, was none other than Antarctica.

This is of course preposterous, but when you read their case it's amazing how persuasive it sounds. They based part of it upon an examination of Plato's description in terms of the ancient Greek appreciation of global geography, rather than our own. To really understand, they argue, we need to reset our terms of reference, and conceive of things like "Libya", "Asia", and "the Atlantic" in the same way that Plato did, and then look for the location of Atlantis.

To start with, Plato said the island on which Atlantis resided was bigger than Libya and Asia combined. In Greek times, the habitable world was conceived of as a sort of island itself, made up of known Europe, North Africa ("Libya") and the Middle East ("Asia"). Plato is saying that Atlantis was located on another island, bigger than the sum of the parts of North Africa and the Middle East known to the Greeks.

Plato places the lost island somewhere beyond, or opposite to, or in front of, the Pillars of Heracles (depending on the translation). The "Pillars of Heracles", recall, refers to what we know as the Strait of Gibraltar, the narrow inlet to the Mediterranean Sea. To the Greeks, this was the Western limit of the known world; beyond that was ocean, and what was in that ocean, nobody knew. This is

²⁹ <https://www.amazon.ca/gp/search?index=books&linkCode=qs&keywords=9780312964016>

not quite right - we are aware, today, that in Plato's time there were undoubtedly some, perhaps many, who had a very good idea what lay beyond the Pillars. Certainly the mysterious Phoenicians, seafaring masters of the ancient world, had sailed well beyond them, though how far, we can't say. The main point, however, is that when a Greek says something lay opposite to, or in front of, or beyond the Pillars of Heracles, what he means is, it was somewhere in the middle of the great *out there*, in the ocean beyond anything we know. He doesn't mean it lay on a straight line directly opposite Gibraltar in the North Atlantic.

In Greek times, the "Atlantic" was the vast world ocean, not the "Atlantic" we picture today on our maps. Look at Plato's description: Atlantis was situated in the middle of the real ocean, the true ocean, compared to which the Mediterranean was just a miserable little inlet, a bay:

This power came forth out of the Atlantic Ocean, for in those days the Atlantic was navigable; and there was an island situated in front of the straits which are by you called the Pillars of Heracles; the island was larger than Libya and Asia put together, and was the way to other islands, and from these you might pass to the whole of the opposite continent which surrounded the true ocean; for this sea which is within the Straits of Heracles is only a harbour, having a narrow entrance, but that other is a real sea, and the surrounding land may be most truly called a boundless continent.

Surrounding Atlantis, then, was the true ocean, the one real ocean, and surrounding that ocean was the whole of the opposite, boundless continent. Look at how the island, bigger than Libya and Asia, is described by Plato: it has mountains, but these surround a large level plain, a sort of plateau, as the entire island is raised high above sea-level:

The whole country was said by him to be very lofty and precipitous on the side of the sea, but the country immediately about and surrounding the city was a level plain, itself surrounded by mountains which descended towards the sea; it was smooth and even, and of an oblong shape, extending in one direction three thousand stadia, but across the centre inland it was two thousand stadia. This part of the island looked towards the south, and was sheltered from the north.

Well, Antarctica is an island of great size, bigger than the Libya and Asia of Plato's world. It is the highest continent on the planet, an average of 6,500 feet in elevation, and its coastlines do indeed dip precipitously to the sea. If we draw a global map centred upon Antarctica, the appeal of the Flem-Ath's argument

becomes readily apparent – there, surrounding the southern continent, is a global sea that circles the whole world, for, just as Plato said, there is really only one true ocean; oceanographers call it the “World Ocean” today. Our distinctions between Atlantic, Pacific and so on only make sense if you draw maps like we do, centred on North America or Europe, which make it appear as if there are separate bodies of water. There are not; and you can see this quite easily on a map projection that treats Antarctica as the centre. Moreover, on the rim of the one ocean, all around Antarctica, is the rest of the world, appearing like a ring of land that encircles the entire globe. A vast opposing continent, just as Plato described it.

A large plain ringed by mountains on a huge island located at the centre of the one true ocean, surrounded on all sides by the vast opposing continent that ringed the true ocean. The more you think about it, the more this seems a perfect description of the Antarctic continent – particularly in the ice-age world of 9,000 years prior to Plato, when a great land bridge connected Eurasia to North and South America, creating a gigantic, boundless continent encircling Antarctica!

Particularly interesting in this view is that there are old maps that purport to show the island continent of Atlantis, and these present a landmass plausibly similar to Antarctica. One of these, the “Kircher Map”, was published in the 1665 book *Mundus Subterraneus* by Athanasius Kircher, a Jesuit Priest. The map was supposedly stolen from Egypt, probably by the Romans, after the fall of Cleopatra - over 1500 years before published by Kircher. It shows a great island, with landmasses poking toward it on either side. Kircher, attempting to make sense of the map – which points to North as being “down”, opposite the orientation on modern maps – labelled the landmasses as Africa, Spain, and America, and interpreted the map to be upside-down. This placed America on the right-hand side of the map, and Africa on the left.

The Flem-Aths show how this map, divested of its labels, looks very like a map of Antarctica, with the tips of Africa (including Madagascar) and South America pointing towards it from opposite sides, as they do. The indication of North as “down” is perfectly sensible; it matches Egyptian ideas (the Egyptians viewed the source of the Nile, “South” and “down” to us, as “North” and “up”), and anyway, from the perspective of the South Pole, any direction can be North, or “up”.

All well and good, but how can Antarctica be proposed seriously as a location for Atlantis? Plato describes a lush, fertile plain, irrigated, with abundant wildlife and two growing seasons – not the South Pole! This is where the theories of Charles Hapgood come in. As we’ve discussed, Hapgood believed that the entire crust of the planet was prone to displacement over the soft mantle, and when that happened, the continents would migrate. While neither Hapgood nor the Flem-Aths are contending that the spin axis of the Earth itself can be knocked off-kilter,

the effect is more or less the same, since the land situated at the poles may well be moved in a displacement. Frozen polar wastelands may be shifted to more temperate climes; lush temperate zones may be plunged into arctic zones. This is why the ice caps of previous ice ages were centred at such unlikely spots, and why the distribution of ice sheets seems never to quite match our expectations, says Hapgood; the ice is always radiating out from the poles, but the poles are moving around! This means that ice ages don't end, so much as move – currently, Antarctica is in an ice age.

But maybe it wasn't always. The Flem-Aths list a great deal of evidence in support of the conclusion that very recently, geologically speaking, conditions on at least part of Antarctica must have been much balmier than they are today. This is correct. While conventional wisdom, up into the late 1970s, had the Antarctic ice cap as a semi-permanent sheet over 50 million years old, it's now clear that this is too simplistic. The fossilized remains of trees have been found near the South Pole, and these are dated to only 2 or 3 million years ago. At the same time, it appears that the Western Antarctic ice sheet may be less stable than the bulk of the vast glacier that smothers the continent – it appears to be prone to melting, and in fact is melting today. This ice sheet, which covers "Lesser Antarctica", is certainly much more shallow than the one that covers the bulk of the continent, yet it's in Lesser Antarctica that annual snowfalls are the greatest. Greater Antarctica is now a polar desert, and the Flem-Aths argue it can't have been at its current latitude very long, in geological time, given there were forests in place near the South Pole only 3 million years ago. Maybe it moved there more recently?

Paleo-climatologists would reply that it was simply global warming, run amok for some reason. But the fossil trees are there, without question, and polar latitudes don't support the growth of trees very well, hence the Northern "tree line". This remains a bit of a mystery.

The Flem-Aths contend that there's also evidence of a much warmer climate in Antarctica not millions of years ago, but only a few thousand – yesterday, by geological standards. Sedimentary cores collected from the bottom of the Ross Sea provide proof that great rivers flowed off the Antarctic continent, carrying with them the characteristic deposits of fine-grained sediments, as recently as 6,000 years ago. Great rivers don't flow in a frozen wasteland; the continent must have been temperate. How is that possible? The answer is that glaciers creeping off the continent are actually the agents of deposition, but at this point, it seems almost churlish to point that out.

It all makes sense to the Flem-Aths if we postulate that Antarctica has moved. Lesser Antarctica must once have been free of ice, and perhaps other stretches of the Antarctic coastline were ice-free as well – which may explain why some of

the portolans, including the famous Piri Re's map, discussed in Chapter 1, show the sub-glacial topography of the coastline. Greater Antarctica must likewise have been at higher latitude, in a zone of high precipitation like that presently occupied by Lesser Antarctica, with sufficient annual snowfall to account for its enormously thick glaciers. There isn't enough snowfall these days to account for them.

That's true, but climate changes, and so, probably, do ocean currents, and with them relative temperatures and flows of relatively warm, moist air.

The Flem-Aths nevertheless conclude that we're seeing the aftermath of crustal displacement, and think the pre-displacement position of Antarctica would have been about 2,000 miles further North than it is today. Atlantis would have been situated on Lesser Antarctica, enjoying a temperate climate not unlike that of Chile, when the displacement hit, just when Plato said it did.

You have to admire the audacity, the sheer chutzpa, of the Flem-Ath's thesis. Atlantis isn't lost, it's just buried. Under the ice of Lesser Antarctica, they predict, are the ruins of a great civilization, and someday somebody will find them.

If only a notion that romantic could possibly be true. I do wonder, though. Does Antarctica really have to move around on the surface of the globe to have periods of balmy weather? Not 3 million years ago, it seems. We know so little about ocean currents and how they may change over time. Could it be that Lesser Antarctica was once bathed, somehow, in a warm current, much as how Northern Europe is now bathed in the Gulf Stream? Perhaps there was some sort of *el Nino* effect at play?

Mesoamerica, Then?

Along the way, whatever the truth of it, the Flem-Aths do cite a fair bit of evidence in support of Plato's date for the cataclysm. They note that it's just about when Plato said Atlantis disappeared that modern Archaeology has discovered a rather abrupt and apparently simultaneous "invention" of agriculture and city-life in relatively high regions all over the world. At about 9,600 B.C.E., we find agricultural settlements springing up in such diverse locations as Lake Titticaca in Bolivia, Catal Huyak in Turkey, and Spirit Cave in Thailand, all highlands that the Flem-Aths are certain remained within the temperate zone in spite of the displacement. Agriculture was not suddenly and simultaneously invented on opposite sides of the globe; it was re-established in safer regions by the survivors of Atlantis, fanning outward around the world. The legends of the Aymara people, who still live on the shores of lake Titticaca, say just that: agriculture was brought to the region by a race of civilizers who came after the deluge to begin a new life.

This is very much in keeping with a widespread tradition in Central and South America of great leaders, almost messianic figures, appearing from the sea in ships without oars following a time of great upheaval, to teach the people the arts of civilized life. These civilizers were not, by their descriptions in the fables, of the same ethnic strain as the natives they encountered. They're described as white men, tall, and bearded. The various cults of these ocean-borne masters were thriving when the Spanish, similarly coming by sea, arrived to wreak havoc.

It's often asserted that this turned out to be unfortunate for the Aztecs, whose memory of Quetzlcoatl, their incarnation of the god-like leader of the ancient race (who bears a striking resemblance to the Viracocha of South American fable), was a factor in their conquest. The Aztecs reportedly thought that Cortez and his men were the fulfilment of ancient prophecy.³⁰ Some stories claim that by diabolical coincidence, Cortez hit the beach at almost precisely the time that Aztec mythology indicated Quetzlcoatl could be expected; Montezuma, the Aztec emperor, had sentries watching the beaches in case the prophecy proved true. This is almost certainly apocryphal, but it makes for a great story - one can only imagine the stunning effect of receiving the report that the Second Coming was underway, that the great god Quetzlcoatl, ocean-borne just as before, was now ashore.³¹

The prevalence of the legends of the Viracocha and their like prompts other Atlantis hunters to focus on a more obvious possibility – that lost Atlantis may have been located somewhere much closer to the peoples its mariners came to civilize. It must have been somewhere in the Americas. This is actually a very old suggestion. Sir Francis Bacon, in *The New Atlantis*, asserted as far back as 1627 that Atlantis was located in the Americas, an idea he may have borrowed from Francisco Lopez de Gomara, who claimed the same thing in the English translation of *Istoria de las Indias*, published in 1555.

Ivar Zapp, in his book *Atlantis in America*,³² reasons that Central America, where later Mayan and then Aztec civilizations thrived, is the most likely site. He thought he could place it in or around Costa Rica, where the surroundings are a good match for Plato's description, as it relates to local geography, flora, fauna, and

³⁰ See, for example: <http://rptimes.com/rosarie-salerno/2011/12/did-montezuma-think-cortez-was-the-god-quetzalcoatl/>

³¹ There's reason to believe that the whole idea of Cortez being mistaken for a god was a Spanish invention: <http://rptimes.com/rosarie-salerno/2011/12/did-montezuma-think-cortez-was-the-god-quetzalcoatl/>

³² <https://www.chapters.indigo.ca/en-ca/books/atlantis-in-america-navigators-of/9780932813527-item.html>

climate, and to the location of Atlantis in the middle of a great island continent, surrounded by ocean on all sides, somewhere opposite the Pillars of Heracles.

What most interested Zapp is another one of those puzzles wrought in stone. Here's one more for the anomaly pile: the jungles of Costa Rica are littered with stone spheres, most very nearly perfect to the unaided eye. They're carved from various types of stone and seem to have been polished with sand. The majority are made of a rock called granodiorite, which is comparable to granite in hardness, and couldn't have been all that easy to shape and sand smooth. They range anywhere from grapefruit-sized (or even smaller; some sources quote a minimum diameter of only an inch) to eight feet in diameter. They can weigh anything up to 15-20 tons (available figures vary). Concentrated most densely in the Diquis River delta, they have obviously been laying about for a long time – many lie half-buried in the earth – and they were obviously fabricated by people who had no trouble getting things right when manipulating huge blocks of hard rock.

Literally thousands of these balls have been found, yet there is no local source for the granite-like stone of which they are made (note how, when investigating these sorts of things, there never seems to be a local source for the rock). No stone-working tools of any kind have been found anywhere near the spheres. Some of them are located 50 miles from the nearest possible quarry. While scattered all over, there is something about the organization of those that lie in their original positions that suggests a design – a not-quite-randomness that makes little sense, yet which employs obvious geometric patterns, especially the triangle, repeatedly. Some of the spheres sit in clusters, while others sit off by themselves. A great many, sadly, have been moved about haphazardly. Many are mounted as ornaments in front of buildings in San Jose.

By now, it will come as no surprise to the reader to learn that nobody has a solid answer as to who placed these spheres, or why they did it. Sometimes, a feeble suggestion is made that an ancient warlike society, the Chibcha, who did build some fortified towns in the region, are the ones responsible. Really, this is nothing more than linking the objects to somebody we happen to know shared space with them. They're thought to have been made about 1,000 years ago, based on stratigraphy, but we don't really know that either.

Zapp was fascinated by the spheres. While teaching architecture at the University of Costa Rica, he scouted them out, studied surveys of their locations, and reached a startling conclusion – their enigmatic distribution on the ground had celestial, astronomical significance. The spheres were navigational tools. Zapp based this deduction on the work of John Michell, who published, in the book *Mystery of the Stones*, his own conclusions concerning the orientation of equally enigmatic standing stones found throughout Great Britain. At

Stonehenge, and numerous less famous sites, Michell had discovered what are known as “ley lines”, stones which many think are oriented such that lines drawn between them point precisely to significant navigational points, or sometimes stars, or important spots on the Earth’s surface – usually, spots that the people supposed to have erected the stones should have known nothing about. Michell believed he could prove that the Celtic peoples that laid the stones in the British Isles was linked to the civilization that erected the temple of Baalbeck in Lebanon, and the pyramids at Giza.

Zapp decided to apply Michell’s methodology to the spheres of Costa Rica, and obtained the same consistently accurate results. Ley lines drawn through the spheres were oriented to obvious navigational co-ordinates, from magnetic North to significant, but distant, locations around the world. He could draw lines that pointed to Easter Island, Stonehenge, Malta (another site where enigmatic, monolithic structures can be found) and Giza. He could draw lines that pointed to tiny islands, like the Galapagos, and to important navigational waypoints like the Strait of Gibraltar.

The reasonable skeptic should ask, at this point, about the sheer likelihood of simple coincidence. After all, scatter enough fixed points around, and sooner or later you’ll be able to find two of them that you can connect with a straight line that extends to some significant point on the globe. A hundred marbles scattered randomly on the floor will probably produce “ley lines” too. I wondered whether the will to believe was leading Zapp astray, as the reader may soon wonder too, about me.

Convinced by the profusion of ley lines he thought he’d found, Zapp postulates that Costa Rica may have been the centre of a great navigational empire, and that a location in Central America fits well with Plato’s description of Atlantis. Suppose that Plato’s great island opposite the Strait of Gibraltar was the single landmass formed by North and South America – certainly, a vast continent, surrounded by water on all sides. Costa Rica is in the middle of this landmass, just as Plato’s account requires; it has the sort of plains surrounded by mountains that Plato describes; it fits with the description of a lush hinterland that accommodated two growing seasons.

Yes, but it’s doubtful that the stone spheres are anywhere near as old as necessary to be an Atlantean legacy, and one has to be dubious about this business of ley lines.³³

³³ I’ve always wondered whether they were originally arranged in the shape of constellations, their different sizes representing the different magnitudes of the equivalent stars. As above, so below. But we’ll never know now, what with so many having been shifted about.

Still, Zapp sees other traces of the lost civilization in the methods and architecture of Central America and Mexico. Plato's Atlantis was a city laid out within a ring of circular canals, on a plain irrigated by a huge grid of further canals, and Zapp points to compelling evidence of similarly extensive canal building throughout Central America. Invisible at ground level, and even from aircraft or orbiting satellites when observed in the wavelengths of visible light, enormous and elaborate canal systems, long buried in the jungles of Guatemala, Chiapas, the Yucatan, and Belize, show up on NASA radar imagery. It's generally agreed that the Maya built these canals as part of a sophisticated system of water management, and that makes them far, far too young to have serviced Plato's Atlantis (by about 10,000 years!). Still, there's hard evidence of much older water systems in Central and South America. Thus far, the oldest of them, located in Peru, are thought to have been dug about 5,400 years ago, but even if all such canals post-date the supposed demise of Atlantis by millennia, they might represent a cultural inheritance, a continuation by later societies of ancient methods and practices.

Certainly, the Conquistadors of Cortez encountered modern cities that bore a striking resemblance to Plato's description. In particular, the Aztec capital of Tenochtitlan, now buried beneath modern Mexico City, was situated on an island, and surrounded by concentric rings of canals. Cortez and his men were awe-struck by what they saw at Tenochtitlan - floating gardens, wide boulevards, great stone monuments. There was no city in Europe that surpassed its elegance, or its size. When the Spanish arrived it was home to perhaps 300,000 inhabitants (and certainly no fewer than 200,000); at that time, the populations of Rome and London were each about 50,000. Zapp doesn't suggest that Tenochtitlan must therefore have been Atlantis, but rather that this great metropolis represented a continuation of inherited wisdom in the Americas. Millennia after the cataclysm, the civilizations of Mesoamerica were still laying out their cities in the pattern of their Atlantean forbears, the pattern described by Plato.

In the first years of the Spanish conquest, there were those who reached this very conclusion. Listening to Aztec tales of the lost homeland of Aztlan, taking in the geography, the architecture, and the civic engineering, Don Carlos Sigüenza, a priest who learned the Nahuatl language and studied the local literature, concluded he was walking among the descendants of Atlantis. We mock this today, and assume that Sigüenza was simply a misguided and unscientific observer from a time before the invention of proper, historical scholarship. Yet, the priest was closer to the source than we. He spoke to people who had preserved the ancient traditions, he studied the architecture that now lays buried, he learned of the peoples who came before the Aztecs, the Toltecs, and the more ancient Olmecs, and he saw ancient manuscripts and drawings long since lost to history.

Maybe we shouldn't snicker.

Perhaps South America?

Among those who take Siguenza seriously is J.M. Allen, who, like Ivar Zapp, is certain that a location in the Americas must represent the true site of Atlantis. In *Atlantis: The Andes Solution*,³⁴ as its title indicates, he simply places the heart of that civilization in a different place.

One of the strands of evidence picked up by Allen is the prevalence of the word "atl" in central and South American languages, particularly the Nahuatl tongue of the Aztecs (which itself uses "atl" as a suffix). "Atl" means "water" in Nahuatl; it can be found in such words as "atl-atl", the name of spear-throwing device, and Quetzlcoatl, the Aztec name for the god-like civilizer commemorated in their mythology. On its own, this is intriguing, but easy to write off as coincidence. Allen further notes, however, the common usage of another word that seems to fit into the puzzle: "antis". "Antis" means "copper" in the Quechua language of the Inca, the tribe whose empire occupied Peru and radiated out from there at the time of the Spanish conquest. One of the four divisions or provinces of the Inca Empire was the Antisuyo, and "Antis" was also a name given to an Indian tribe that populated the Eastern slopes of the Andes mountains. The word "Andes" itself is nothing more than a corruption of the word "antis".

Could it be that the name "Atlantis" is nothing more than a compound word: "atl-antis"?

Again, taking Plato's account as a starting point, and this time assuming that the Inca, rather than the Aztecs, were closest to the original location of Atlantis, Allen located a promising site, high in the Andes mountains. It's known as the Altiplano today, and is a huge, level plain, ringed by mountains, about midway along the Andes chain. Located not far from lake Titicaca, and therefore close to the ancient and mysterious city of Tiahuanaco, the Altiplano does indeed match the geography and dimensions given by Plato to a surprising degree. If it is the site of Atlantis, then the great island, bigger than Libya and Asia combined, must be the continent of South America. Allen notes that the spectacular mineral reserves attested to in Plato's account, particular the excessive quantities of tin and the bronze-like alloy "orichalcum", match perfectly the mineral-rich deposits of Bolivia and Peru. Allen also produces satellite imagery showing evidence of large-scale canal construction on the Altiplano plain.

³⁴ <https://www.amazon.ca/gp/search?index=books&linkCode=qs&keywords=9780312219239>

As ever, the evidence is suggestive, but inconclusive.

None of the Above

The reader, perhaps worn out at this point, will have gathered that there are *a lot* of locales that can be associated in one way or another with Plato's account. O.K, so it's in Spain. No, it's in the Andes. Don't be silly, it's underwater off Cuba – or Japan. Or buried under the ice of Antarctica. Wait, it's in Morocco. Hold the phone – it was in Provost frickin Utah. Anyone could be forgiven for concluding, by now, that this is all futile. Everybody's got a theory, nobody can prove any of them, and we'll just never know. The archaeological community, however, suspects that we *do* know the origin of the Atlantis myth. It wasn't just a story, not completely. Something similar really did happen. It did indeed involve a real culture, and a real catastrophe of appalling proportions, and we know where and when it was.

This is a fairly recent development. For almost a century following the publication of Ignatius Donnelly's theory of Atlantis, orthodox archaeology had very little to say on the matter. In the late 1960s, all that changed when Professor A.G. Galanopoulos and Dr. Spiridon Marinotos promulgated their theory that the Atlantis myth was really about the destruction by volcanic eruption of an Aegean island, Thera, also known as Santorini.

The island of Thera was an important part of Minoan civilization, which was based in the neighbouring island of Crete. Thera's city of Akrotiri was a thriving port when, sometime between 1500 and 1400 B.C.E., it was utterly destroyed by volcanic eruption. The island blew up, essentially, and it was over fast. Within archaeological circles, this is regarded as perhaps the most violent catastrophe to ever befall a civilized society. An active volcano remains at the heart of the devastated island, a water-filled caldera at its center, testifying to the severity of the event; at the same time as the huge eruption that hollowed the middle out of modern Santorini, Minoan civilization suffered a collapse, the reasons for which have been a long-standing mystery. It's possible that the obliteration of Minoan Thera played a part in the downfall of wider Minoan culture; certainly, the eruption that destroyed the island would have resulted in tidal waves and a rain of volcanic ash as far as Crete.

Plato spoke of Atlantis as an advanced but aggressive state, extending its influence into the Mediterranean, only to be thwarted by a military confederacy led by Athenians. A Greek-led military alliance is a preposterous notion if we are taking Plato literally, and accept that the conflict took place sometime around 9,000 B.C.E. But what if Plato – or the Egyptian priests who related the story to

Solon – got the dates wrong? Could the whole story relate to Minoan civilization and the catastrophe at Thera?

There's much to commend this interpretation. To begin with, Plato's accounts of the sacrifices of bulls fit in perfectly with what we know of the bull cults of Minoan. We know Minoan to have been a highly advanced society, of just the sort described by Plato – advanced, that is, but not implausibly advanced beyond the level of later Greek civilization. Minoan, like legendary Atlantis, was a seafaring nation *par excellence*, with an enormous fleet and a far-flung maritime empire – Minoan sea control extended throughout North Africa, the Mediterranean, and Asia Minor. Plato even speaks of the Atlantean use of white, red and black stone; stone of these three colours is still to be found in the cliffs of modern Thera. The remains of Crete and Thera include sophisticated waterworks, sewage, baths, and even hot and cold running water, much as Plato described.

All in all, it seems a tidy answer. As to the timing discrepancy, perhaps Solon, or Plato, or the Egyptian priests were simply misplacing the decimal; perhaps Plato should have been talking about events 900 years past, not 9,000. It is pointed out that in the original script of the Minoans, called "Linear A", in which the legend may first have been recorded, the symbols for "100" and "1,000" are deceptively similar. Maybe it's as simple as that.

Maybe. Many archaeologists would tell you today that the mystery of Atlantis has been solved. Yet, there's much here that doesn't jibe at all with Plato's account. First, though the influence of Minoan culture and sea-faring economic might was widespread, by no means was any island in their realm, be it Thera or Crete, bigger than Libya and Asia combined. Second, many of the most important features of Plato's version of the story – the wildlife, the canals, the limitless mineral reserves, including the mysterious "orichalcum" – remain largely unaccounted for in the Thera explanation. Third, Plato was clear that the vast island of Atlantis lay in the centre of the one true ocean, beyond the Mediterranean, which was, by comparison, just a minor inlet.

The pat answer is that these elements of the story are fiction; only those that fit in with the Thera explanation are true. So maybe that's that, and when I cling to my conviction that the Atlantis myth is an echo of a much more ancient event, and a true lost civilization's destruction, I'm just being stubborn, irrational, and none too clever to boot.

Yet, isn't it odd, if Plato, or Solon, merely misplaced the decimal, that a global catastrophe really did shake the planet 9,000 years prior to Greek times?

Perhaps a plausible explanation is that the story of Minoan civilization, and its decline, did get itself tangled in with a similar tale of the death of a much greater

culture, many thousands of years earlier. By the time Solon was told the story, it must have gone through repeated retellings; and maybe Solon himself, or indeed Plato, garbled some of the elements. It's obviously the case that the verifiable history of Minoan civilization and its demise has many congruent elements with Plato's version of the Atlantis myth. But maybe that's just conflation at work.

Maybe. I like to think so. If I'm refusing to wake up and smell the orichalcum, I'm in good (or at least well-populated) company, that much is certain. The honey trap keeps luring us all in. Everybody and their dog has a theory, it seems, and those presented in this limited survey are really just a smattering. For my part, I gave up long ago. I have no idea where the lost predecessor civilization could have resided, or whether, supposing it existed, it was really called by the name "Atlantis" or something like it. None of us may ever know.

However, there's one potent argument that militates against its never having existed at all, or having existed only as an island in the Mediterranean: that ancient cross-cultural tradition, the almost universal legends of floods and the destruction of a great civilization. I always find myself coming back to those myths, and the improbable similarities between them, similarities that embrace more than narrative.

There's something oddly coincidental about their use of imagery, symbols, and metaphors, and something strange about certain numbers that they seem always to be at pains to set out, for no immediately discernible reason. There are those who've studied this odd phenomenon closely, and concluded that before it vanished, a great civilization bequeathed us all a universal code. This code, discernible all over the planet, and almost inconceivably ancient, relies on a particular type of metaphorical imagery, and a special set of numbers. The numbers relate to phenomena that could only be identified by an advanced science. One that existed a long, long time ago.

By the time I'm through here, I will have tried to convince you that one place where I discern this ancient code is in the last book of the Christian Bible. I know, I know. *Improbable*.

The Grinding of the Mill Wheel

In trying to analyze *Revelation*, we tread upon well-trammeled ground. Dozens of scholarly books exist that attempt to reconcile the text of this spooky apocalypse with the assumed religious and historical context of its authorship. *Revelation* has been studied, dissected, used and abused more than any other part of the New Testament, and is always a staple of whacked-out religious cults, from Charles Manson's "family" to the more recent crew of Branch Davidians at Waco. This is a work that contains honestly chilling prophecies of mass destruction, and remains a disturbing read, even for the stone atheist.

In this, it is by no means alone; indeed, what's remarkable is that the imagery and metaphors employed in this relatively recent work (*Revelation* was, scholars believe, composed between 70 and 100 C.E.) should be so much in keeping not only with prior Judeo-Christian works like the Book of Ezekial, but also with the destruction myths of all manner of cultures from numerous historical periods and locations. Compare the previous extracts from *Revelation* with this Teutonic myth of the prior cataclysm:

Abandoned by the gods, men were driven from their hearths and the human race was swept from the surface of the earth. The earth itself was beginning to lose its shape. Already the stars were coming adrift from the sky and falling into the gaping void.... the giant Surt set the whole earth on fire; the universe was no longer more than an immense furnace. Flames spurted from rocks; everywhere there was the hissing of steam. All living things, all plant life, was blotted out.³⁵

This is from 'The Vala's Prophecy' from the *Edda*, a collection of Norse myths and sagas:

Hrym steers from the east, the waters rise, the mundane snake is coiled in the rage of the fire-giant. The worm beats the water, and the eagle screams: the pale of beak tears carcasses... The stony hills are dashed together, the giantesses totter, men tread the path of Hel, and heaven is cloven... The sun darkens, earth in ocean sinks, fall from heaven the bright stars, fire's breath assails the all-nourishing tree, towering fire plays against heaven itself.³⁶

³⁵ At p.205

³⁶ <https://www.spaceandintelligence.com/index.php/evolution-of-man/165-are-dragons-a-representation-of-comet-impacts>

Recall the passage from *Revelation* describing the four angels at the four corners of the Earth, and their power to destroy humankind, and compare it to this Mayan belief in gods called Bacabs, as described by Diego De Landa in the 16th century (quoted in *Fingerprints of the Gods*):

*Among the multitude of gods worshipped by these people were four whom they called by the name of Bacab. These were, they say, four brothers placed by God when he created the world at its four corners to sustain the heavens lest they fall. They also say that these Bacabs escaped when the world was destroyed in a deluge.*³⁷

A Strangely Similar Way of Looking at Things

This uniformity of symbolism in apocalyptic mythology was canvassed about 80 years ago by a pair of academics, George de Santillana and Hertha von Dechend, in what used to be a little-known book called *Hamlet's Mill*.³⁸ This seminal work went largely unnoticed until discussed by Hancock in *Fingerprints of the Gods* (I know I never heard of it before that!). *Hamlet's Mill* investigates the existence of what appears to be a standard symbolic and metaphorical "kit" in ancient mythologies which, in the authors' view, contains (among other things) an encoded set of allusions to the passage of astronomical time, as measured by reference to the phenomenon we've been talking about already, the precession of the equinoxes.

Any even vaguely scientific culture that pays attention to the night sky for a long period is apt to notice that over time, the yearly positions of celestial objects change at a slow, steady pace. This is caused by a rather stately, gyroscopic wobble of our planet as it spins on its axis (just as you can see in a spinning top), which is manifested most particularly in the juxtaposition of the Sun against the celestial backdrop on the morning of the spring equinox each year. As the Earth wobbles, and the apparent positions of the stars change, the constellations of the Zodiac (12 in all) scroll around as if on the hub of a giant millwheel in the sky. Over very long periods of time, one Zodiacal constellation replaces another as the one directly behind the rising Sun on the morning of the vernal equinox. This is how astrologers have always determined what astrological "Age" we inhabit;

³⁷ At p.249

³⁸ https://play.google.com/store/books/details?id=ql7ATHGee50C&rdid=book-ql7ATHGee50C&rdot=1&source=gbs_vpt_read&pcampaignid=books_booksearch_viewport

the vernal equinox has special status, though of course the same precessional effect is apparent on each of the other three cardinal points of the year.

It takes about 2,160 years, on average, for the precession to rotate the heavenly backdrop sufficiently for the equinoctial Sun to rise in front of a new constellation. This is a painfully slow process, measured in human terms. It takes roughly 72 years – a full life span – for the Sun's position against the Zodiac to shift a single degree in the sky. Since there are 12 signs of the Zodiac, and 360 degrees in the entire circle of sky, each individual constellation occupies (on average) 30 degrees of sky. Therefore, to traverse one constellation of the Zodiac, the Sun requires 30 degrees times roughly 72 years, or about 2,160 years.

When this occurs, we change astrological Age. For the past 2000 years or so, the Sun has risen in front of Pisces on the Spring equinox, so we've been in the Age of Pisces. Now, at the end of the 20th century, many have concluded that we really are at the dawning of the Age of Aquarius, just as the song proclaims. According to various astrological sources - opinions vary - within the next century or so the Sun will rise against the backdrop of Aquarius on the morning of the Spring Equinox (opinions vary because the stars of the constellations overlap, and it isn't exactly clear when the Sun can be said to have left one "house" and entered another). We'll see that I don't agree on the timing, but the important thing for now is that at some point, a real Age of Aquarius, manifested by an observable astronomical phenomenon, will dawn.

The whole precession through the 12 constellations of the Zodiac takes approximately 25,920 years to complete - roughly five times as long as human civilization is supposed to have existed.

There's ample evidence that the ancients were fully aware of the precession, and that it was important to them. Minoan civilization, which thrived during the Age of Taurus, used the bull as a constant motif. The sacred symbol of the cult of the god Mithras, which probably arose during the subsequent age of Aries, and remained popular into the 4th century C.E., featured the slaying of a bull – that is, an image evocative of the end of the prior age of Taurus. You see this in the Bible too. Moses, a child of the Age of Aries, was the "Ram of God", and his destruction of the golden calf upon descending from Mt. Sinai may be seen as symbolic of the end of the prior Age of Taurus.

I believe precessional symbolism goes back a great deal further than that, and the evidence may exist in the form of what is now a reviled badge of pure evil, though it wasn't until modern times: the swastika. Most people, these days, are surprised to learn that the swastika, dreaded emblem of the Nazis, was actually Hitler's appropriation (or better, misappropriation) of the oldest symbol known to history. The swastika has significance as a symbol and talisman all around the globe, in almost every culture, back into deepest antiquity. It's been found in

carvings over 12,000 years old.³⁹ It's quite often found, much to the surprise of modern viewers, as a motif employed in old cathedrals across Europe. Until Adolph and his henchmen happened upon the scene, there was nothing in the least bit controversial or objectionable about it, as hard as that now is to believe (and even when you know it's the incontrovertible truth, it remains hard to believe).⁴⁰

To me, the swastika has an obvious relationship with one of the most fundamental pagan symbols for the Zodiac, a cross within a circle, referred to within Bronze Age cultures as the Cross of the Sun – the circle, of course, represents the 12 signs of the Zodiac, and the cross seems an obvious representation of the four cardinal points, the four constellations associated with the solstices and equinoxes at any given time. I'd argue that the extra lines of the swastika, out at the tips, represent rotation, the constant travel of the Sun through the 12 signs – in other words, the precession.⁴¹ So far, I've found no scholarly support for this notion, nor any scholarly explanation for how the swastika became almost universal throughout global societies beginning in the distant past.

The authors of *Hamlet's Mill* focused on metaphorical language, not ancient iconography, and believed they'd found numerous encoded references to the precession of the equinoxes in various mythologies, most prominent being the image of the grinding millwheel. To them, millwheels grinding seemed an apt allusion to the grinding of the great wheel overhead, as the constellations of the Zodiac each take their turn housing the morning of the spring equinox.

The depiction of a special, often magical millwheel, or sometimes something analogous like a churn, or a whirlpool, is certainly widespread. Drawing upon *Hamlet's Mill*, Hancock, in *Fingerprints of the Gods*, cites numerous examples from Greek, Norse, Indian, Japanese, Central American and even Biblical sources (like the story of Samson, bound with slaves at the millstone).

Most intriguing to the university-educated Westerner is the Norse story of Amlodhi, sometimes also called Amleth, which is but one expression of an almost universal myth, the narrative elements of which are repeated in Shakespeare's

³⁹ A fascinating article: <http://www.worldglobetrotters.com/Links/Swastika/swastika.htm>

See also: https://en.wikipedia.org/wiki/Swastika#Theories_of_origin

⁴⁰ From the BBC: <http://www.bbc.com/news/magazine-29644591>

⁴¹ It is, incidentally, the pagan Zodiac cross that was borrowed to be a symbol of Christianity. This is an interesting video: <https://www.youtube.com/watch?v=6c2Q9QHURGU>

Hamlet. This was the sort of fable that inspired Joseph Campbell, the great American student of world mythologies, to speak of the “monomyth”; a murdered father, killed by his brother, and an unhappy and indecisive son who eventually avenges his father’s death. This basic story is everywhere, and it never goes away. Anyone who has seen Disney’s *The Lion King* has seen a more recent version of the tale.

The myth of Amlodhi varies from the modern story of Hamlet by the inclusion of a great mill, or quern, that grinds out peace and plenty. Yet the good times cannot last; the mill is torn asunder, in some versions owing to the vengeance of the two giantesses who turn the millwheel, and are forced to work day and night without respite. The props are torn away, the rivets burst, and the millwheel ends up at the bottom of the sea, where it continues to spin, forming a great whirlpool.

Wheels turning and turning, churns churning, whirlpools spinning, the inescapable motif. It’s not just a facet of the stories we all view as myths, it’s in the Bible too. Remember the story of Ezekial?

As I spent hours watching the heavens rotate within my desktop planetarium, I had occasion to wonder about Ezekial’s description of wheels moving within wheels, and I realized that the Old Testament book of prophecy was not describing a mystical vision: it was supplying us with a conceptual model of the sky. Listen to Ezekial:

As I looked at the living creatures, I saw wheels on the ground, one beside each of the four living creatures. The wheels had the sparkling appearance of chrysolite, and all four of them looked the same; they were constructed as though one wheel were within another. They could move in any of the four directions they faced without veering as they moved. The four of them had rims, and I saw that their rims were full of eyes all around. When the living creatures moved, the wheels moved with them; and when the living creatures were raised from the ground, the wheels also raised...for the spirit of the living creatures was in the wheels.

Ezekial saw a wheel a-turning, way in the middle of the air, as the old hymn goes. So many complex conjectures have been made on the meaning of this vision, right up to the possibility of an ancient UFO sighting, that something much simpler has been overlooked. Ezekial is talking about the way that astronomers conceive of the three dimensional sky. Note the reference to “eyes”, studding the rims of the wheels; the “eyes”, I realized, are stars. The star-studded wheels are the hoops of the “celestial colure”, a series of imaginary *circles within circles* around the Earth representing astronomical coordinates.

The spherical Earth can be thought of as being surrounded by numerous of these hoops. One represents the plane of our solar system, the “plane of the ecliptic”,

to which the Earth is oriented at an angle corresponding to the tilt of its spin axis. It is along this wheel that the planets and constellations of the Zodiac rotate.

Another, the “celestial equator”, represents an extension of the Earth’s own equator into space, and as the Earth is at an angle to the ecliptic, so too does the circle around its equator sit an angle to the circle representing the plane of the ecliptic.

A third hoop extends around the North and South poles of the Earth, vertically right around the spin axis, and thus at a right angle to the equatorial hoop.

A fourth extends vertically around the Earth at a right angle to the circle of the ecliptic.

There you have it - Ezekial’s four wheels within wheels.

The wheels are “on the ground” – yes, each of them intersects the horizon (one of them *is* the horizon). Yet the wheels move up into the sky, and when they do, the living creatures move with them - this is exactly the case, as the spinning of the Earth causes an apparent rotation of the wheels, and of the constellations that are notionally affixed to them.

There is one wheel beside each of the four animals - it makes sense to think of the wheels as being oriented during any given astronomical age such that each of the four equinoctial and solstitial constellations is affixed to at least one of them (and all are affixed to the wheel representing the celestial equator). The wheels move in their directions without veering; right again, the orientation of the wheels in the conceptual model is fixed, and however they spin above us, they do not veer from that orientation. The “spirit of the living creatures is in the wheels”; what a lovely way to describe it, as the very *anima* of the constellations, the essence of their apparent motion, is in the spinning of the wheels from our perspective beneath them on the surface of our little spinning world.

Imagery of wheels isn’t the only point of congruence among the mythologies and sacred texts of the ancient world. As we see in Ezekial, also prominent are references to four posts, or markers, or angels, or animals, or deities, usually stationed at the four corners of the earth or sky - a reference to the four cardinal points of the year, equinoxes and solstices, and the constellations that mark them. Ezekial provides but one example of a simple code wherein animals in the story stand in for prominent constellations occupying the equinoctial and solstitial portions of the Zodiac.

This is odd in its own right, since this implies that numerous cultures throughout the world, separated by thousands of miles and sometimes thousands of years, hadn’t just independently noticed that the precession was taking place, they’d decided to describe it in exactly the same metaphorical language. Disparate cultures were also using the common device of describing the constellations that

resided at the cardinal points at certain eras in the precessional cycle, thus fixing the story to a window of time.

And there was more. It was almost universal in ancient mythologies that the grinding of the mill wheels eventually brought terror and catastrophe. Just as in the tale of Amlodhi, the great mill wheels always grind to the point of collapse and destruction.

There was *still* more. This is where any doubt about the existence of some sort of cross-cultural system must surely evaporate. It isn't just imagery that keeps recurring. There's another consistent code of some kind, based upon simple arithmetic, and a common set of factors.

It's hard to believe, yet easy to confirm, that the ancient mythologies all harp upon apparently arbitrary numbers, all of which, upon closer inspection, can be seen to belong within one special set. This has been noticed by a number of scholars and authors, most notably Jane Sellers, who looked at the ancient Egyptian Osiris legend, and by Graham Hancock, as well as Joseph Campbell.

This question of recurring numbers will be of central importance to this book, and the significance of these numbers, and the ways in which they interact, will be a topic of almost constant discussion. None of these ideas originated with me, of course, but over the years I've become a sort of Zen master of the ancient number game we're about to explore. The concepts are a little difficult, perhaps, but the numerical code scattered throughout the world's ancient mythologies is actually quite simple, in practice. Most people seem to dislike numbers, and number puzzles, but bear with me. This one seems designed to be dead simple to discern and solve, if you just approach it in the right frame of mind.

The Universal Number Game

As I read ever more deeply into the topic, I was informed that anyone who studies the religions and mythologies of the world will probably note, at first perhaps only in passing, that certain numbers seem to crop up again and again. This is odd, but might not seem earth-shaking until the scope of the inquiry is enlarged beyond religions and mythologies to include weights and measures, architecture, calendars, and just about anything else that civilization measures in numbers, or defines as having a number.

Look: how many inches are there in an Imperial foot? How many disciples followed Jesus? How many sons did Jacob have? How many were the stations of the cross? How many were the Tribes of Israel? How many Israelites were in each Tribe? How many hours on the face of a clock? How many were the labours of Hercules? How many Olympians populated the pantheon? How many sons did the Norse god Odin have? How many battles did King Arthur win against Saxon invaders? Traditionally, how many are the days of Christmas? How many months make up a year?

How many constellations compose the Zodiac?

Twelve, along with its multiples, is a number that keeps recurring, and is just one of a set that seems related to the awareness and calculation of the precession of the equinoxes. Look for yourself. The strange repetition is bound to become apparent, as will the strangeness of emphasizing certain other numbers that would seem to have no narrative significance.

Once you know what to look for, the pattern is simple to detect. You might, for example, have occasion to peruse an ancient myth as part of some course you take in school, or maybe some book you read. Somewhere in the mythological narrative, you might note that a peculiar stress is placed upon a few numbers, even though the numbers appear to add nothing to the overall message of the story. What will seem strange is that the storyteller will have taken obvious care to insert those numbers, as if they're noteworthy, when there is nothing obviously significant about them. What does it matter how many warriors ran through how many doors, how many inhabitants lived in a town visited by the hero, how many poles that hero had to cut to push a raft across a lake, or for that matter how long each of those poles was? How does that advance the plot?

When you see an apparently arbitrary number singled out with loving attention to detail, you've found it, and here's the thing: odds are excellent that this number will be 72, or 144, or 432, or 108, or 1296, or 1728, or 216. You'll see twelves placed close to sixes, and sixes in the company of twenty-fours, there waiting to be multiplied together to produce 72, and 144.

Soon you'll be attuned to it, and you'll never stop finding the numbers that belong to this series:

- 54, 108, 216, 432, 648, 864, 1,080, 1,296, 1,728, 2,592

and this one:

- 36, 72, 144, 288, 576;

and you'll never stop noticing further numbers that can be broken back down into the numbers with which you're already all too familiar. All of these numbers are related – you often see similar series in IQ tests, when they give the first few numbers, and ask you to fill in the blanks that follow - and there's a point to them: they can be used to derive, through simple arithmetic, a key numerical component of a very ancient message.

This is where it all leads, so remember this number: **25,920**. All of the numbers listed above can be used to derive that final figure. What's so special about 25,920? We were just discussing it in the last chapter, for this is a very close approximation of how many years it takes for the Earth to complete an entire gyroscopic wobble on its axis and go through a full precession of the equinoxes. In roughly 25,920 years, the Sun will have risen against the backdrop of all 12 signs of the Zodiac on the morning of the Spring equinox, and will have returned to the zodiacal "house" in which it started, almost 26,000 years earlier.

"25,920" is the number from which the investigator of global mythologies, beliefs, systems and cultural artifacts can never escape. It always seems to be lurking there, never just set out, but there to be calculated from a common set of factors, what I think of as the "precessional code numbers". They're everywhere. Very often, they have different numbers of zeroes on the end, so you might see 12, or 120; 432, or 4,320; 144, or 144,000; place value doesn't seem to have mattered to whomever placed them in the relevant text or system.

I'm often told this welter of numbers is dense and difficult to understand. If you start to feel like you're wallowing in a quicksand of integers, you can skip to the "CliffsNotes" section at the end of this chapter. Those who want a detailed explanation of how the game works, and why there are those of us who are certain of its widespread promulgation, may read on, undaunted I hope, because really, it's simple.

There's an elegance to the whole scheme that is perhaps best laid bare by setting out the precessional code as a sort of Root 12 counting system. All of the code numbers are simply multiples of 12, and 12, the number of signs in the Zodiac, can be thought of as the system's irreducible and fundamental number:

CODE NUMBER	RELATIONSHIP TO 12
12	*
36	3 X 12
72	6 X 12
108	9 X 12
144	12 X 12
216	18 X 12
432	36 X 12
864	72 X 12
1,296	108 x 12
1,728	144 X 12
2,592	216 X 12

Note that eventually, inevitably, the code numbers on the left start to get repeated as the relevant multiples of 12 on the right. This is because all of these numbers belong to the family of factors which can be used to calculate the precessional number, 25,920.

It isn't usually so clearly presented, in practice. All sorts of variations are possible, and it can at first be confounding that any number of zeroes can be at the end. The code, too, is rarely perfect and complete within any one source. It seems scattered about in fragments. Thus if a particular source doesn't embody the numbers to get you directly to 25,920, it will have the numbers that get you to one of the factors, or a multiple, of 25,920. In my experience, almost every number you're apt to encounter is in the table above. In any single myth, number system, and so on, you may be given enough numbers to perform an equation, or you might only be given one key precessional factor – 432 is very common, as are 72 and 144 – it being left up to you to catch on. You'll see the occasional 54, a number not set out in the table above, which actually doesn't divide evenly by 12, but is half of 108, which does.

Another way of looking at it is that all these derivatives of twelve have a simple relationship with the key factors 2,160 (or 216, 21,600 etc.) and 72 (720 etc.) – 12, 72, and 2,160 are at the heart of it, you could call them the "true key

numbers”. Why those in particular? Because the object of the exercise, the prize, is to realize that 12, 72 and 2,160 are the essential real-world factors of 25,920. There are 12 ages of the Zodiac. Each age lasts an average of 2,160 years, and $12 \times 2,160$ equals 25,920. It takes 72 years for the precession to traverse one degree of the 360 degree circle of the Zodiac, and 360×72 equals 25,920. That’s the message, leading you back always to the figure 25,920, the number of years in the full precession, and whenever you see any of the many other derivatives of those numbers, that’s where you’re supposed to be headed.

The base number, 12, will usually be presented right out in the open, but the code often dances around the key factors 72 and 2,160, giving you multiples or divisors instead. This, on top of playing games with decimal points, is what adds the gloss of complexity to the thing, and confuses many when I try to explain it to them, but once you realize the trick, they can throw any set of derivatives at you, and you’ll immediately recognize their relationship to the key numbers you’re really supposed to be thinking about. Look:

Commonly Used Derivatives of 216	Commonly Used Derivatives of 72
54 - 54 is 216 / 4	12 – 12 is 72 / 6
72 - 72 is 216 / 3	36 – 36 is 72 / 2
108 – 108 is 216 / 2	144 – 144 is 72 x 2
432 – 432 is 216 x 2	216 – 216 is 72 x 3
864 – 864 is 216 x 4	432 - 432 is 72 x 6
1,296 – 1,296 is 216 x 6	864 – 864 is 72 x 12
1,728 – 1,728 is 216 x 8	1,728 – 1,728 is 72 x 24

So, to be sure, they’re slippery about it, which suggests that the almost sly insertion of derivative numbers of the actual keys to the code, rather than simply setting out 12, 72, 2,160 and 25,920 in one place and being done with it, is a sort of inside joke, a secret handshake, as it were. It’s almost as if you’re expected to be in on the game already, at least to some degree. Thus the number 936 (see the discussion of the Mayan calendar below) wouldn’t grab you, if you’re not already attuned to the code, but look:

- $936 = 720 + 216$
- $936 = 216 + 216 + 216 + 216 + 72$

So 936 is an amalgam of our old friends 72 and 2,160, when each is manipulated by the removal or addition of a final zero. It follows that you could also assemble 936 from various combinations of other code numbers, all of them, ultimately, related in some way to 72 and 2,160, as indeed 72 and 2,160 are related to each other ($2,160 = 30 \times 72$).

Everywhere, All the Time

The strange omnipresence of the precessional code numbers has sometimes been noted by scholars as an interesting but largely irrelevant, or at least inexplicable, phenomenon. Only a few have discussed it at any length. Joseph Campbell, for example, wrote an essay titled *The Mystery Number of the Goddess*,⁴² in which he described the recurrence in ancient sources of the number 432, the key precessional factor which is twice 216, and which needs only to be multiplied by 60 to derive the precessional figure, 25,920. In this essay, Campbell described, as a typical case, the length of the reigns of the ten Babylonian kings supposed to have followed the flood, and how these added to 432,000 years; he also extracted from the Biblical account of Genesis the bizarre life spans attributed to Noah and his antediluvian predecessors prior to their fathering children (or in Noah's case, prior to the flood):

Adam	-	130 years
Seth	-	105 years
Enosh	-	90 years
Kenon	-	70 years
Mahalalel	-	65 years
Jared	-	162 years
Enoch	-	65 years
Methuselah	-	187 years
Lamech	-	182 years
Noah	-	600 years

⁴² Campbell, *The Mythic Dimension* at p.94 of paperback edition

Who, exactly, lives 162 years before having children? Are these irrational numbers placed here to grab our attention? Campbell noticed that the total of the figures listed above is 1,656, a number he was able to relate, through complicated reasoning, to the “magic” number 432; but what Campbell didn’t notice, and what’s more important, from our perspective, is that:

- $1,656 = 1,440 + 216$
- $1,656 = (4 \times 432) - 72$
- $1,656 = 2,592 - (720 + 216)$

and so on, showing that the essential elements of this number game were already being encoded thousands of years previous to the rise of Christianity.

The same thinly-buried code is woven into all sorts of legends, calendars, and systems of time keeping. Just how widespread is it? No word of exaggeration: its prevalence across time and cultural contexts beggars belief. Graham Hancock cites numerous examples in *Fingerprints of the Gods*:⁴³ Norse mythology of the final battle of the apocalypse (in which we find 800 warriors running through each of 540 doors, making for 432,000 warriors), ancient Chinese traditions of the universal cataclysm (said to have been written down over exactly 4,320 volumes), the architecture of the temples at Angkor in Cambodia (where bridges are lined with 108 statues apiece), ancient Indian texts (the Rigveda, an ancient Indian collection of Vedic Sanskrit hymns and one of the four sacred texts of Hinduism, has 10,800 stanzas, and, believe it or not, precisely 432,000 syllables), Rosicrucian traditions (which speak of cycles of 108 years), the Hebrew Kabala (which indicates the existence of 72 angels who can be invoked), initiation rituals of the Chinese Triad societies (in which initiation fees measured out in precessional increments, e.g. 108 cash, are charged), and more.

In digging around, I’ve found instances of the code numbers in the Sumerian Epic of Gilgamesh (the oldest story we know of, and the first written instance of the flood myth that was later recounted in Genesis), Babylonian weights and measures, Roman weights and measures, and persisting into our own world today, having been passed on, intact, for millennia. You’ll see them mentioned in the work of Plato, and find them inherent in the mathematics of cartography. You’ll notice them on the face of a clock. They’re all over.

⁴³ See in particular Chapter 30, The Cosmic Tree and the Mill of the gods, beginning on page 246 of the hardcover edition.

Sometimes the precessional numbers are encoded on a grand scale. In *Heaven's Mirror*⁴⁴, Hancock describes how the great complex of monuments at Teotihuacan in Mexico – where the famous pyramids of the Sun and Moon stand beside the great plaza known as The Way of the Dead – was shown by an engineer named Hugh Harlston to have been laid out using a standard unit of measure (which Harlston called the “Standard Teotihuacan Unit”, or “STU”). Harlston wasn't looking to find the precessional code numbers, and wouldn't even have known what they were. Nevertheless, he calculated that the dimensions incorporated into, and between, the various structures have an entirely precessional ring to them when expressed in STUs; the centres of structures may be 72 STUs apart, or 216 STUs, and the base of the Pyramid of the Sun measures 216 STUs. The East-West axis of the Pyramid of the Moon is 144 STUs. The centres of those two pyramids stand 720 STUs apart.

Sometimes it's quite stark and overt. The Hindu cosmological system of measuring time is stuffed with the precessional factors, with repeating time cycles of “divine years” equaling increments of 1,728,000, 1,296,000, 864,000 and 432,000 solar years, adding to 4,320,000 years, an absurd length of time, it seemed, to English colonials who still believed the world to be only a few thousand years old. The Mayan calendar keys off precessional factors too, and the extent to which their system embraced not only the precessional code numbers, but perhaps even an explicit tracking of the precession itself, provides an unusually clear example of its kind, and merits some discussion.

The Maya and Their Amazing Calendar

The Maya, like the Aztecs that followed them, were obsessed with cycles of time, and had what might be the most elaborate and accurate calendar system ever devised. They counted days in various increments that look strange to those of us who use the Roman calendar, and monitored the progress of different cycles in a system that seems needlessly complex.

A “Haab” cycle was 18 increments of 20 day units, to which they added a short “month” of 5 extra days to arrive at 365, a solar year. There were also overlapping “Tzolkin” cycles of 260 days, and the two cycles can be thought of as two interlocking wheels, one with 360 cogs, one with 260. As the two wheels turn, they set up different combinations of days, and no two cogs will repeat their combination for a full 52 years, which is called a “calendar round”. A 52 year period is thought, for reasons that needn't detain us here, to have something to do with cycles of the planet Venus, a very bright object that seems to have particularly fascinated the Maya.

⁴⁴ See page 23, quoting from Harleston's *The Keystone: a Search for Understanding*

The Maya also had a “long count” of days, with increments of 20, 360, 7,200, and 144,000 days being ticked off, until finally, 13 increments of 144,000 days, or 13 baktun, would equal an epoch known as a “Sun”, a Sun being 1,872,000 days long, or about 5100 years:

- 20 kin = 1 uinal
- 360 kin = 18 uinal = 1 tun
- 7,200 kin = 360 uinal = 20 tun = 1 kactun
- 144,000 kin = 8000 uinal = 400 tun = 20 kactun = 1 baktun
- 13 baktun = 1 Mayan epoch
- 1 epoch = 5125.26 Mayan years, or to them, 1,872,000 days.

Now, for reasons we still don’t understand, the Maya reckoned that the Sun, or epoch, they lived in began about 3100 B.C.E. – that’s when they calculated that their “long count” started – and this meant that the end of the 13th baktun, the end of the current Sun, would fall on the Winter Solstice, December 21, in our year 2012.

The Mayan calendar has always fascinated occultists and New Age types, and there *is* something spooky about this relentless ticking-off of days, as if counting down to something big. Strained interpretations of Mayan beliefs and mythology led many to conclude that the end of the current Sun was, to the Maya, the end of their calendar, and therefore, the end of the world. The world was going to end in December 2012! The Maya had foreseen it!!

Actually, if the Maya had been around in 2012, they would have watched their long count tick over to “0”, and begun another one. It was the end of a cycle, not the end of the world. And see, here I am writing this, and you reading it. We made it!

More interesting is that the Maya believed that the Sun that just ended was the Fifth Sun, so not only did they start their long count at a point far in the past, long before their civilization existed, they may have believed that a cycle of 5 such long counts had begun over 25,000 years ago. This intrigues me because 5 cycles of 1,872,000 days, 9,360,000 days in total, is 25,626 years, which is not a bad estimate – it is, in fact, an excellent estimate – for the time it takes for a full cycle of the precession of the equinoxes. Maybe the Maya calculated a precession of the solstices, not equinoxes – any cardinal point of the year will do as the benchmark – in which case, the end of the Fifth Sun really would be a zero point, a time to start a new precessional cycle.

But wait, you say, if the Maya are part of an ancient and widespread tradition of precessional code numbers, what's with 25,626 years? That doesn't fit the code. Right, but remember, the heart of the Mayan system was counting *days*, and look at the numbers of days involved. A "Sun" is 1,872,000 days; that's the sum of 1,440,000 and 432,000. The five Suns together, a full precession in my argument, is 9,360,000 days; that's the sum of 7,200,000 and 2,160,000 - 72 and 2,160 with a bunch of extra zeroes.

Need I Say More?

The Maya may well have been conscious, then, of the precession, and may have been deliberately tracking its progress. Other cultures may not really have understood why this certain set of numbers had been passed down to them. Regardless, the seeding of the precessional code, consciously or not, has cut across cultures and times. Its fragments can be found in such unlikely spots as Irish folklore, in which Saint Patrick is supposed to have arrived on the Emerald Isle in 432 C.E., and in obvious places too, such as the physical mass of the Great Pyramid itself, which can be reckoned to be a scale model of the Northern Hemisphere, at the idiosyncratic ratio of 1:43,200.⁴⁵ The Imperial system of weights and measures, with its somewhat irrational units (a gross is 144, there are twelve inches in a foot and 63,360 inches in a mile, which is twice 4,320 less than 72,000), seems also to incorporate elements of the ancient code.

Still not persuaded? Oh come on, *really*? Fine, I'll show you some more. Listen, we've just scratched the surface so far. There's far too many instances to believe that it's all some sort of cosmic coincidence.

The number 72, for example, which like 12 is a true key number (as opposed to all the derivatives) that tends to be set out plainly, appears with startling regularity:

⁴⁵ It's sometimes claimed that this a symbolic representation of half a solar day, since a full day contains 86,400 seconds, see, e.g., Schoch, *Pyramid Quest: Secrets of the Great Pyramid and the Dawn of Civilization*. It is true that half a day is 43,200 seconds, because our system of timekeeping also embraces the precessional code, see below. The Pyramid is not, in my view, a cross-reference to time, it's just another manifestation of the embedding of the code.

<https://books.google.ca/books?id=Bhosr0h2beEC&pg=PT121&lpg=PT121&dq=pyramid+scale+1:43,200&source=bl&ots=ZFNdO2acM9&sig=-CMBjOJRtCuggQqc8HtrY0EYUoA&hl=en&sa=X&ved=0ahUKEwitkv6rjKrNAhUURIKHRLuBIQ4ChDoAQg9MAg#v=onepage&q=pyramid%20scale%201%3A43%2C200&f=false>

- In Egyptian myth, 72 conspirators murder Osiris⁴⁶;
- by the pledge of Aqaba, 72 heroes of Medina fought at the side of Mohammed;
- tradition has it that the Greek translation of the Jewish Bible (the “Septuagint”) was accomplished by 72 scholars, and in some versions, each of the 72 scholars produces 72 individual translations over 72 days, all of which are identical, thus proving God’s providence;
- in the ancient faith of Zoroastrianism, followers were required to wear garments made of 72 threads;
- in ancient Hebrew mysticism God, Yahweh, has 72 hidden names;

and so on, right down to the noxious belief of modern day jihadists that 72 virgins await them in heaven once they’ve seen to their own martyrdom. The list gets longer still if instances of 144 – twice 72 – are taken into account.

We’ve seen how with a little work, numbers related to the precession popped out of the Bible’s list of patriarchs from the beginning through to Noah, in the time before the flood. An ancient Sumerian King list⁴⁷, dated circa 2000 B.C.E. is more overt. It lists eight antediluvian monarchs, all of them obviously fictional, and all of them having enjoyed reigns of many thousands of years. The periods ascribed to six of them might look familiar:

- Alulim, 8 sars (28,800 years);
- Alalngar, 10 sars (36,000 years);
- En-men-lu-ana, 12 sars (43,200 years);
- En-men-gal-ana, 8 sars (28,800 years);
- Dumuzid, 10 sars (36,000 years);
- En-sipad-zid-ana, 8 sars (28,800 years).

⁴⁶ As archaeo-astronomer Jane Sellers first pointed out, in *The Death of Gods in Ancient Egypt*, the Osiris myth is a repository for the most fundamental precessional code numbers – so much so, that they are often referred to as the “Osiris numbers”. <https://www.amazon.ca/Death-Gods-Ancient-Egypt/dp/1430317906>

⁴⁷ https://en.wikipedia.org/wiki/Sumerian_King_List

The appearance of these code numbers is guaranteed by the Sumerian practice of measuring time in “sars”, increments of 3,600 days.

Much later, in the 3rd century B.C.E., a Babylonian priest named Berossus compiled his own list of antediluvian monarchs, this time numbering 10⁴⁸:

KING	REIGN
Alorus	10 sars
Alaparus	3 sars
Amelon	13 sars
Ammenon	12 sars
Megalarus	18 sars
Daonus	10 sars
Euedorachus	18 sars
Amempsinus	10 sars
Otiartes	8 sars
Xisuthrus	18 sars

This adds up to a total period of 120 sars before the flood, that is, 120 X 3,600 days, or 432,000 days in total.

A host of other sources serve as vessels for the other key precessional numbers. Plato, in Book V of his Laws, asserts that the number 12,960 (half of 25,920) is the number of harmonic unity on Earth. In ancient Babylonia, a long unit of measure called the “kasbu” was composed of 129,600 “susi”, there being 720 “susi” to a “sa”, 60 “sa” to an “us”, and 30 “us” to a “kasbu”.

Nor are these numbers confined to ancient writings or systems of weights and measures to which modern people are no longer exposed. Some iterations of the code have survived in quotidian use to this day. We’ve already discussed the precessional numbers that flow naturally from playing with the number of feet and inches in a statute mile. The same, decidedly precessional flavour can be found

⁴⁸ <http://www.attalus.org/translate/eusebius4.html>

throughout much of the Imperial system – the reader might find it interesting to look up, for example, land measurement units like Rods and Chains.⁴⁹ Other obvious examples remain completely familiar to everybody. Look:

- since the beginning of civilized mathematics and geometry, there have been 360 degrees in a circle. Every degree of a circle is broken into 60 arc minutes. Therefore, every circle is composed of 21,600 arc minutes;
- again, since the beginnings of civilization, an hour has been broken into 60 minutes, and every minute into 60 seconds. Therefore, every 24-hour day is composed of 1,440 minutes and 86,400 seconds.

Thus the numbers with which we still measure time and space are intimately intertwined with the elements of the precessional code. As we move into the 21st century, all of us in our advanced technological societies continue, unconsciously, to embrace the precessional numbers in our everyday lives. Every child learning geometry in school is listening to the encoders whispering in his ear, and not understanding. Everyone who looks at the face of an analog clock is gazing unwittingly at a conceptual model of the zodiac, created unintentionally as an artifact of our system of timekeeping, and in telling time is counting off the numbers that signal the precession.

Sometimes the encoding seems utterly fantastic, even to those of us who are used to finding it scattered everywhere. An example here again derives from the Imperial mile, for it turns out that at its present length, a mile is just the right measure to ensure that the Moon, as near as makes no difference, will be 2,160 miles in diameter!⁵⁰ Moreover, because of the happy coincidence that the Sun is almost precisely 400 times the size of the Moon, it works out that the Sun, as near as makes no difference, is 864,000 miles in diameter. Thus the sizes of the two most prominent objects in the sky spin out one of the true key precessional numbers and one of its derivatives, provided you employ the Imperial units of measure.⁵¹ This is, one admits, problematic, in that the diameter of the Moon was not supposed to have been known to that level of accuracy when the Statute Mile was legislated in 1593, though Hipparchus is known to have made a very good

⁴⁹ If you do, convert everything to inches - the precessional flavour of Imperial units perhaps flows naturally from adopting a foot of 12 inches. But a “chain”, for example, is 66 feet. That’s 792 inches, i.e. $720 + 72$.

⁵⁰ The most accurate modern figure is 2,159.2 miles.

⁵¹ The English system is now just disappearing; children of the future will learn that the Moon is 3,476 kilometres in diameter, not 2,160 miles.

estimate.⁵² There's also nothing particularly mysterious about how the mile was defined to incorporate 5,280 feet, as opposed to a good round number like 5,000, which was the rough length of its Roman predecessor, the Mille Passuum (literally, "1000 paces"). It came out that way because it was decided a mile should be eight furlongs. What could be more innocuous? It's a mystery; but I can't accept that it's just a coincidence.

Ricky, Don't Lose That Number

If you take this book to heart, the number 25,920 and its various factors will haunt you for the rest of your life. You'll look for them everywhere, and you'll find them, too. They'll be there in ancient myths that insist that 72 of some such accompanied 36 of some other thing; and 72 times 36 equals 2,592. You'll find it in monuments built by ancient cultures, that include avenues lined by 54 statues on each side of a road; and 54 times two equals 108, which is half of 216, the true key number and crucial factor of 25,920 (remember, each one of the 12 zodiacal ages that compose a precession lasts 2,160 years). You'll see it in stories where the number 144 is mentioned next to the number three; and three times 144 equals 432, which is just twice 216. You might read that a certain unit of measure from some ancient system is composed of 1,728 sub-units, or you might realize that 1,728 is the number of cubic inches in a cubic foot; 1,728 is just four times 432, and three times 576 (which is four times 144), and also, more importantly, a product of the key number 216, this time multiplied by eight.

I encourage the reader to look into this independently. Myths, number systems, systems of weight and measure, are all prime territory for the precessional code. Locating the familiar factors in such places can be strangely compelling. It may seem a dry pastime, but I recommend it – there's an odd, undeniable thrill in realizing that the central code numbers have been embedded in something still commonplace, staring you in your face, all your life. It's equally a rush to see them in a work that might have been written 4,000 years ago, and knowing that those numbers have been sitting there, for all this time, waiting for someone to notice and understand them.

Just to illustrate, just for fun, let's take a look at the aforementioned Sumerian version of the Flood story, *The Epic of Gilgamesh*. Recall from the last chapter that in this most ancient of myths, in what amounts to an aside within the larger story, the hero visits a fellow named Utnapishatim, who describes how he survived the great flood that destroyed civilization. A deity warned him to build an ark. As he describes the construction of the vessel, Utnapishatim lays emphasis upon the specifications of the ark: it measured 120 cubits by 120 cubits, and had nine decks, with six compartments on each deck. Nice to know, one supposes,

⁵² <https://www.khanacademy.org/partner-content/nasa/measuringuniverse/measure-the-solarsystem/a/parallax-distance>

but so what? Take a closer look at the numbers. These are classic precessional raw material. It is hard to manipulate them together without generating the key factors of the precessional code. For example:

- There are nine decks, each with six compartments – that makes 54 compartments.
- The ark measures 120 cubits by 120 cubits – that makes 14,400 square cubits.

If we mix the numbers up, the precessional code keeps coming:

- We can multiply nine times 120 to get 1,080, or six times 120 to get 720.
- We can take the number of compartments, 54, and multiply that by the number of square cubits, 14,400, to arrive at 777,600, that is, three times 25,920, multiplied by ten.

54, 72, 144, 7,776 – surely, by this point, familiar precessional code numbers, with or without added zeroes. If the reader bears with me, recognizing these numbers will become second nature.

Neither Impossible Nor Magical

A Word of explanation. It may seem that in citing all these instances of the recurring precessional numbers, impossible relationships between unrelated phenomena are being asserted. How in the world can the height of a pyramid or the length of the day have anything to do with the number of years it takes for the planet to complete a precessional cycle? What do terrestrial measurements, in feet, or STUs, have to do with an orbital period measured in years? How can even the size of the Sun and Moon tie into this game – is it the assertion that the cosmos itself is supernaturally designed to facilitate this supposed code?

Not at all. The answer is, none of these phenomena have anything to do with each other, and there is nothing in common between them – nothing, that is, until people get involved in how we measure them. Yes, it's impossible that the diameter of the Moon is actually connected in any absolute sense to the number of years it takes to complete a precession. The two are wholly unrelated - but think of it this way. Given half a chance, if I'm in on the game, and I happen to be in the right place at the right time, I can *impose* a relationship.

To start, If I know the precession, say, takes 25,886 years, I can round that to 25,920 in order to arrive at a number that can be broken down into all sorts of factors - 432, 864, 1296, 216, 108 and so on. Those are nice round numbers, amenable to game playing.

Then, to signal that number 25,920 and its factors to a wider population, I am free to do a number of things in all sorts of different arenas to make sure that it gets out:

- I can write a myth that tells the saga of 432,000 knights storming into battle;
- I can build a pyramid that is a scale model of the Northern hemisphere at the ratio of 1:43,200;
- I can set up a system for measuring time by breaking the day into 24 hours, and each of those hours into 60 minutes, and each of those minutes into 60 seconds;
- I can write an epic poem with 10,800 stanzas and 432,000 syllables;
- I can determine that a circle has 360 degrees, and that every degree has 60 arc minutes;
- I can decide that my calendar measures periods of 7,200 and 144,000 days, on top of years;
- and yes, I can invent a unit of measurement such that something obvious - like the diameter of the Moon - will be composed of 2,160 such units.

None of this means that there's anything inherent in the cosmos that makes the factors of 25,920 appear. Those factors only appear when some human actor creates a system designed to make them appear. Thus if Fahrenheit had been in on the game, it lay open to him to create a single degree of temperature such that water boiled at 432 degrees. Until he does that, of course, there is no relationship whatever between the number of years it takes for a precession, and the boiling point of water, nor will any real relationship, rooted in the physical universe, ever appear. But within the realm of human ideas, a relationship between the two emerges when human actors decide to measure the boiling point of water by using precessional numbers.

It would seem, then, that the pre-Sumerians who created our way of measuring time, and circles, knew what they were doing - they could just as easily have concluded that a circle had 300 degrees, and a day 20 hours, each hour composed of 100 minutes (Revolutionary France, with its experiment in metric time, actually tried something very like the latter). Instead, precessional numbers were chosen. Until the system is created, the length of a day can be anything - 24 hours, or 15 "gongs", whatever. We can split it up any way we want, because

while the rotation of the earth on its axis is an absolute, how we measure that rotation is not.

Sometimes there's no way to insinuate the code numbers into the relevant system. You can't make the number of days in a year into a precessional number. The Earth will rotate on its axis precisely 365.242 times in one orbit around the sun, and there is nothing I can do about that. But I *am* free to say that each one of those rotations on its axis is composed of 86,400 seconds. (I'm also free, like many ancient cultures, to declare that a solar year has 360 days, and then tack some extras on the end of each year as part of an adjustment process).

Of course the code isn't everywhere *literally*. Looking around, it's easy to imagine things that could have been constructed as veiled advertisements for the code, but were not. Thus the height of the Empire State Building is not a precessional number. Surely the encoders, if they were still among us, would have loved it if that structure was 1,440 feet tall. Evidently, the architects had no one among them with any affiliation with the encoders, and the Empire State Building isn't part of the universal game.

On the other hand, the diameter of the Moon *is* a precessional number - when measured in miles, but not kilometres - maybe by coincidence, (we can never write off that possibility), but maybe because when the opportunity arose to design a unit of measure, the statute mile, it was seized such that something very obvious, like the Moon, would then measure 2,160 such units (with the added bonus that the diameter of the Sun, too, would then resonate within the system).

This is what seems to be going on. True, it must be that some numbers become so common, so comfortable, that they get adopted repeatedly without any intervention or hidden purpose; thus the prevalence of 12s, 144s, and so on, need not imply the continuous presence of some ghostly guiding hand. There are twelve people on a jury – surely that has nothing to do with promulgation of the precessional code. It's natural that numbers familiar from constant use would get recycled unconsciously.

The code also has a way of propagating itself. Because mariners base the nautical mile on the degrees of a circle around the equator, with each arc minute equaling one mile, the Earth is 21,600 nautical miles around, without anyone involved, probably, being conscious of any significance to that number. It's simply inherent in circles to generate that result. Yet from time to time, it seems like *someone* intervenes to make sure the numbers keep getting out. Sometimes, like when the Imperial mile is determined, you do feel that guiding hand on the tiller, however improbable it may seem.

Some have sought to debunk this. An interesting debate of the merits is linked below.⁵³ We must never abandon all skepticism, or lose our faculty for critical thinking, but after a while, arguing against the existence of the precessional code seems akin to arguing that some hypothetical culture knew nothing of pi, and the confused outsider's observation that they cherished the number 3.141592, and incorporated it into all of their myths, sacred symbols, architecture, and art, is neither here nor there.

Boiled Down (CliffsNotes Version)

Despite all the apparent complexity, there really isn't all that much to take away from this chapter. The thing to remember is this: all around the world, in sources as ancient as civilization, and more ancient still, are scattered the numerological elements of a sort of game. We're supposed to discern the ancient signal, still repeating, still transmitting its basic message:

- 1) there are 12 signs of the Zodiac;
- 2) it takes 72 years for the Sun to accomplish one degree of precessional motion in the sky;
- 3) it takes 2,160 years for the Sun to traverse, on average, one sign of the Zodiac; and
- 4) it takes 25,920 years for an entire precession of the equinoxes through all 12 signs of the Zodiac.

It would have been nice if somebody could have just said so, but the encoders, wherever and whenever they were working across time, seem to have wanted it to be a little bit less direct.

So, when you see repetitions of the number 12, you're supposed to be reminded of 12 Ages of the Zodiac. If you see the number 144 being emphasized, you're supposed to think "ah-ha, that's twice 72, and also the square of 12". If you see 432, you're supposed to think "twice 216", or indeed, "six times 72". And so on. Always, the intent is to lead you to a calculation of the number of years, roughly, that elapse in a full precession of the equinoxes, 25,920.

25,920. Somebody wants us to know this number. Somebody went to great lengths to ensure that we'd have the raw material at hand to calculate it readily. They also, apparently, wanted us to think about that number in connection with symbols like wheels, and images of people and animals in the sky, and connect the two.

⁵³ <http://mathisencorollary.blogspot.ca/2012/01/has-hamlets-mill-been-debunked.html>

Whose Message?

Hancock at one point talks about these myths and other signs as being analogous to our attempts to send and listen for intelligent signals from space. In monitoring the heavens for radio signals of intelligent origin, scientists engaged in the search for extra-terrestrial intelligence (or “SETI” for short) assume that any artificial signal, if designed to be received and understood by other intelligent species, will be a sort of anti-cipher. They expect such a message might, as one obvious technique, incorporate an unambiguous set of numbers designed to convince us of intelligent design. For SETI purposes a series of prime numbers would be enough. For an earthly civilization, trying to communicate its presence to future civilizations across vast gulfs of time, perhaps hammering upon the precessional numbers is at least in part the use of the same technique. Those numbers are not random, and only a high civilization could calculate them and pass them along as code in oral, and then written, tradition.

Herein lies a thorny problem. Who, exactly, is announcing their presence with this universal code? I’ll get into that issue in a later chapter⁵⁴. For now, here’s the crux of it: this feat of precessional encoding was no idle exercise, and not, to my mind, just the calling card of an ancient culture. It seems more in the nature of a dire warning. Remember, this code appears within stories full of the imagery of collapse and destruction; the ancient precessional mythologies speak of calamity, and describe universal cataclysm. The grinding mill wheel always tears free of its cradle. In Hancock’s phrase, the great mill wheels *grind pain*.

⁵⁴ Not to spill the beans, but prepare to be disappointed.

It's About Time, It's About Space

Steeped, then, in the purported evidence of a lost civilization, educated by Hancock in what to look for, and galvanized by the profoundly silly comedy *Ghostbusters*, of all things, I took on the last book of the Bible. One thing that immediately struck me is the extent to which the images of the Book of *Revelation* are part of our everyday usage. In *Revelation* you find 666, the dreaded number of the beast, as well as the seventh seal, the rider on the pale horse, the four horsemen of the apocalypse, the wine press of the grapes of wrath, Armageddon, the whore of Babylon, “that woman Jezebel”, Judgment Day and the lake of fire for those whose names aren’t listed in the Book of Life, the New Jerusalem, and the river that flows past the throne of God. All that in one place. Our culture is haunted by this document.

So who wrote it?

It Was This Guy John

“John, to the seven churches of Asia”. So states the greeting at the beginning of the *Revelation*, and thus, we might think, is the question of its authorship resolved. *Revelation* was written by this fellow John, who tells us he lived on the Aegean island of Patmos, a Roman penal colony, in the immediate aftermath of the crucifixion of Jesus Christ. He was, we could readily infer, an early Christian persecuted for his views by a Roman Empire newly hostile to novel religions.

O.K., so who, exactly, was this “John”? John who?

Surprise number one for the budding New Testament scholar: the truth is, nobody has the merest clue. This isn’t hyperbole. It’s not merely that careful scholarship has failed to resolve, once and for all, the few lingering questions about John’s identity (which would only be expected). Not the tiniest sliver of evidence, nor a single credible suggestion, exists to tell us who John of Patmos may have been.

He never claims to be John, the Baptist (he could not have been, the timing is all wrong) nor does he purport to be John, the Apostle (though many early Church Fathers thought this to be the case, while just as many denied it), an explanation you’ll hear from time to time if you listen to the likes of Jerry Falwell. Even if he did claim to be one of the Disciples, modern scholarship, noting the substantial differences in use of language and tone between the fourth Gospel and *Revelation*, has concluded that the two cannot have been written by the same person. The author, however, makes no such assertion - this John doesn’t claim to be *anyone*, yet he writes as if the denizens of the seven churches of Asia Minor, at least, would have known who he was.

Biblical scholars are almost as unsure of when *Revelation* was written as they are of who wrote it. It can be nailed down, they think, to the first century C.E.. If, as is often suggested, *Revelation* was a response to Nero's oppressions, if Nero is, then, the "beast", this suggests it was written at around 70 C.E.. Yet, other scholars are certain that it could not have been completed prior to the reign of Domitian, at around 95 C.E.. In either case, this means that despite its location at the end of the New Testament, *Revelation* isn't the most recent of Christian documents, but among the oldest, only 20 – 40 years younger than the letters of Paul, and older, according to some scholars, than the Gospels themselves.

There is reason to doubt that Greek, the language of the early Christian community, and therefore of the New Testament, was the first language of the author of *Revelation*. Much of the text is worded clumsily, as if a semi-proficient, more or less technically accurate translation was made of an original document, or the original author struggled clumsily in an unfamiliar tongue. It's speculated that John may therefore have been a refugee from the war then ravaging Judea, which, at the time of *Revelation*'s composition, would have loomed large in the lives of all those of Jewish descent or faith. The Roman destruction of the Second Temple would have seemed like the end of the world to the people of Jerusalem - was John a witness to the strife? Is this the basis of the apocalyptic tone, and the rage of *Revelation*? If so, why write a work in Greek, for the emerging group of Christian faithful?

If not a Jew, the author of *Revelation* was certainly well versed in the allegorical language of the Old Testament. Parallels between *Revelation* and the much more ancient books of Daniel, Ezekiel and Zechariah are numerous.

The work also incorporates a hodgepodge of motifs and symbolism from the numerous star-based religions then prevalent in the Mediterranean world, while crafting a most un-Christian tale of retribution and violent, bloody revenge. God's wrath is set loose in *Revelation* to destroy the wicked, the unfaithful, the oppressive, in an orgy of torture and butchery that isn't exactly consonant with loving thine enemies and turning the other cheek. The New Testament God of love and forgiveness is supplanted by the more ancient God of war and punishment, in an almost hallucinatory tale that is part allegory, part riddle, and, it can seem, part descent into madness.

It's customary to attribute this to a reaction against Roman persecution, as the early Christians no doubt suffered greatly at the hands of the Emperors Nero and Domitian, whichever reigned when the book of *Revelation* was written. In this interpretation, the last book of the Christian Bible is both a warning to keep the faith in the teeth of persuasive arguments to the contrary, and a promise that those who stick with Jesus will come to see their tormentors destroyed in spasms of unimaginable viciousness. Stay with us, and watch what happens to the rest.

This message is so out of keeping with the teachings of Christ that it may seem surprising that *Revelation* wasn't suppressed as an embarrassment. Martin Luther thought it ought to have been excised from the New Testament, and no wonder. It seems like an attempt to undermine all that came before it. What a message! Turn the other cheek, yes, but rest assured that your God of love will do unspeakable things to the enemies his Son just told you to love and forgive! Don't worry - *you* have to love them, but not God! The vultures will grow fat on their carcasses! Overtly Christian, *Revelation* is a whole other animal under the skin.

Whoever he was, John was no Gospel-reading, neighbor-loving, enemy-forgiving friend to Merciful Jesus.

There is no way to get to the bottom of this. An original copy would help, but in spite of being a relatively recent work, none exists (surprise number two to the neophyte Bible scholar). The oldest extant fragments of the *Book of Revelation* are contained in a papyrus manuscript known to scholars as "P-47" ("P" of course for papyrus).⁵⁵ It dates to the third century C.E., about 200 years after the original must have been penned.

Absent a signed original, we might hope at least to find some contemporary record of someone named John on Patmos - perhaps a Roman penal record, or a record preserved in some early church, a tomb, or anything at all that might substantiate the presence of a Christian named John on Patmos at the appropriate time. It's not surprising that none exists, perhaps, but still there is none. Local tradition, of course, has it that John was somebody real, and guides will happily escort tourists to the very cave where *Revelation* is supposed to have been written, but this is all mythology with no factual basis at all.

Maybe there's a reason why nobody can even offer a credible suggestion about John's identity. There was no John on Patmos, and in any case that isn't where *Revelation* was written.

As I read and re-read the text, the cross-cultural congruities with other mythologies and apocalyptic legends became more and more obvious, and it started to seem to me that "John" was just a name plucked out of the air to attach to a new version of an old story, as it was being promulgated to a new audience. There were ulterior motives at play here, I was sure of it, and the decidedly un-Christian tone, I suspected, was because those motives had little to do with Christ and his new religion.

⁵⁵ https://en.wikipedia.org/wiki/Papyrus_47

A Report Card for the Faithful

Sure, it starts off sounding the part of a pastoral sort of message. The work begins as an open letter to “the seven churches that are in Asia”, referring to early centres of Christian belief located in what we would call “Asia Minor” today - Ephesus, Smyrna, Pergamum, Thyatira, Sardis, Philadelphia and Laodicea. These are real places; *Revelation* gets rolling by speaking directly to genuine early Christian communities. John praises or castigates the flock for having variously succeeded or failed to keep the faith and maintain proper Christian observance, in a series of messages purportedly dictated to the author by Jesus Christ himself. The idea seems to be to simultaneously bolster morale and spread a harsh warning against those who would abandon the new faith.

It’s all quite straightforward, and apparently rooted in what were, plausibly, the true religious and political circumstances of the day. We can’t be sure, today, of everything that John is talking about, but we can be confident that those who first received this message would have been familiar with the people and events he describes. There’s nothing overtly allegorical or metaphorical in this portion of *Revelation*, as John speaks to specifics - for example, to the Church in Pergamum, Jesus, through John, sends this message:

I know where you are living, where Satan’s throne is. You are holding fast to my name, and you did not deny your faith in me even in the days of Antipas my witness, my faithful, who was killed among you, where Satan lives. But I have a few things against you: you have some there who hold to the teaching of Balaam, who taught Balak to put a stumbling block before the people of Israel, so that they would eat food sacrificed to idols and practice fornication. So you also have some who hold to the teachings of the Nicolaitans. Repent then. If not, I will come to you soon and make war against them with the sword of my mouth.

So it goes, in its schoolmasterly way, almost like a report card, stroking and criticizing, congratulating then chiding, dispensing atta-boys and you-better-watch-outs, through the first three chapters. One can well understand a sensible set of political motives behind this portion of *Revelation*, prompting nothing in the way of speculation about hidden messages and ulterior motives. The early group of faithful, perhaps not very numerous, was beginning to falter. If the new faith was to survive, flagging spirits had to be bolstered, and sagging backbones needed an infusion of iron. Nothing for it like the old carrot and stick. Thus, to the Christians at Thyatira, the message rants against “that woman Jezebel”, who apparently was teaching the finer points of idolatry and fornication to the local congregation. A warning is dispensed: Jesus will soon come and “strike her children dead”, but to those who toe the line Jesus will “give the morning star”.

You can see what I mean about the incongruities with the Gospels. What sort of Christianity is this, anyway, that contemplates Jesus, who asked that the little children be brought unto him, as being willing to *murder children* as punishment of their wicked elders? Did the authors of this message have even a passing understanding of Christ's teachings?

Still, there's nothing to this point in the message to attract the attention of the radical, even if casual, student of world mythologies.

A Door Opens in Heaven

That all changes as chapter four begins. Then it starts to get weird. Fast. It's like the man on stage is saying "Good, now that's over with, let's get on with the main attraction", and then ushers somebody else into the spotlight to carry on the show. Everything dissolves into a surreal, hallucinatory - and altogether harrowing - tale of John's vision of the coming cataclysm.

First, a door opens in heaven and John has a vision of God's throne, surrounded by twenty-four lesser thrones of elders who spend all of their days praising the glory of God. Four living creatures, "full of eyes all around" are also stationed at the four corners of God's throne. Standing at the very center of the elders and the four living creatures is the "lamb", with seven eyes and seven horns, representing the seven spirits of God, sent out into all the Earth. This lamb looks like it has just been slain. From the right hand of God is a scroll upon which the fate of humankind is written. The scroll has seven seals.

Now come three series of sevens. The breaking of the seven seals of the scroll comes first. As the seals are broken, John has a vision of four horsemen, the "four horsemen of the apocalypse" (a phrase not employed within *Revelation* itself), who are obviously up to no good, and he also sees four angels at the four corners of the Earth, who are, for the moment, held in check - they have tremendous power to destroy. The seal of God is then placed upon the heads of the 144,000 that compose the chosen of the twelve tribes of Israel. No harm will come to them.

Next comes the blowing of seven trumpets by seven angels who stand before the throne of God. Catastrophe begins; fire and hail fall from the sky, stars plummet from heaven, plagues break out. As the trumpets are blown, other signs and portents are observed; following the sounding of the fourth trumpet, an eagle appears in mid-heaven, which cries "Woe! Woe! Woe to the inhabitants of the Earth, at the blasts of the other trumpets that the three angels are about to blow". In the meantime, as the trumpets are blown, an angel invites John to take a measuring rod and "measure the temple of God". He is told that the holy city will be trampled for 42 months, and that two witnesses will prophesy for 1,260 days. As this is going on, the woes lamented by the eagle in mid-heaven are

proceeding - plagues of locusts begin the first woe, and it is after the sixth trumpet that the four angels at the four corners of the earth are released to wreak their terrible havoc, forming the dramatic beginning of the second. They set about their grisly business with the aid of two myriads of myriads of cavalry, having been held ready for this very moment, this very year and month, day and hour, to initiate their campaign of destruction.

The third woe is heralded by the blowing of the seventh trumpet by the seventh angel. A great portent then appears in Heaven, a woman clothed in the Sun with a crown of twelve stars upon her head, and the moon beneath her feet. She is in the pangs of childbirth, and menaced by a great red dragon that stands nearby, intent on devouring the baby once it's born. However, upon being born, the baby is whisked away, and the woman flees to the wilderness for 1,260 days, while war breaks out in Heaven between the dragon and the archangel Michael. Michael wins; the dragon is cast down to earth, but now a new menace appears, a beast rising from the ocean, followed by a second beast. The first beast, John tells us, will reign for 42 months and has a number associated with his name, 666.

Now comes the final series of sevens, as seven angels pour out seven bowls of the wrath of God. In a final crescendo of violence the sea is rendered like the blood of a corpse, and all the creatures in it die; the rivers, too, become like blood; people are scorched by fire and fierce heat; the battle with evil takes place at Armageddon; horrible earthquakes, accompanied by punishing hail, precede the destruction of the "great city"; the beast is captured, the birds of heaven swarm to feast upon the entrails of the fallen, the dragon is cast into the pit, and the book concludes with a vision of the New Jerusalem, which is 12,000 stadia around its perimeter and has twelve gates in its twelve walls, each of which has a height of 144 cubits. The river of life flows down its street, and alongside the river is the tree of life, which grows twelve kinds of fruit. Peace finally reigns. The bloodbath is over.

All in all, a hell of a tale to follow on the heels of the Gospels.

The symbolism of all this has been subject to wildly diverging interpretations over the centuries, many of them tortuously convoluted, and all of them, I came to believe, profoundly misguided. It's actually quite simple, if you look at it from the right perspective.

We've Heard This Song Before

So what ought to immediately grab our attention, as students of *Hamlet's Mill* and the conclusions of de Santillana and von Dechend? What stands out once we've marinated long enough in the "alternative history" interpretations of mythological imagery as it relates to the precession of the equinoxes? First, of course, is *Revelation's* use of the very metaphors we've been taught to recognize, the animals and elders surrounding the throne of God, the way the four living creatures are located at the four corners of the throne, and the four angels at the four corners of the Earth, the birds, beasts and women in the sky, portending woe and doom. Particularly striking is this, at chapter 18, verse 21:

Then a mighty angel took up a stone like a great millstone and hurled it into the sea, and said "Thus shall Babylon, the great city, be sent hurtling down, never to be seen again!"

There it is. Another variant of the classic precessional image, associated, as usual, with calamity. The millstone is hurled into the sea, and the great city shall be destroyed. *Revelation* is some sort of parable about the precession of the equinoxes.

Seen in that light, there's a deliberateness to all of the imagery, the animals, thrones, and people in the sky. For one thing, there's an obvious obsession with time. The description of 24 lesser thrones surrounding the throne of God is obviously an allusion to the 24 hour day, and sprinkled throughout are turns of phrase like:

So the four angels were released, who had been held ready for this very hour, day, month and year to kill a third of humankind.

After all, what is the precession, in essence? It's a very great length of time. A clock in the sky.

The precession is also a parade through the heavens of all 12 signs of the zodiac, and a phenomenon observable in the sky, and when you look at it from that angle it soon becomes clear that all these monsters and unsavoury characters, all these cities, and thrones, the women running into the desert, the eagles flapping around, are just transparent symbols for things and events visible in the heavens. *Revelation* is up to its neck in astrology, and word pictures of the sky.

Four living creatures around god's throne, "full of eyes all around"? Sounds a lot like Ezekial, doesn't it? The "living creatures" are the stand-ins for the signs of the Zodiac that house the solstices and equinoxes, the "eyes" an easily recognizable reference to twinkling stars. Four angels at the four corners of the Earth? We've seen these characters before, and it's the same thing. They stand

in for the four cardinal points of the year, the solstices and equinoxes, and the constellations of the Zodiac that serve as backdrops to the Sun when it rises on those dates.

The twelve gated New Jerusalem? An obvious metaphor for the Zodiac and its 12 signs, as is the tree of life with its 12 fruit. The river that flows past the throne of God? An image of the Milky Way, passing through the vault of the heavens. The woman with a crown of 12 stars? There's only one woman in the Zodiac, and that's Virgo. For some reason we're being asked to think about Virgo.

"Beasts" that rise up out of the ocean? Of course they do. They're constellations, cresting the horizon, and since they're "beasts", they're likely constellations of the Zodiac, the root word of which, after all, is the Greek for "animals". Eagles, and coloured horses in the sky? Those must be more constellations, and the use of colours suggests reference to the traditional colours associated with the visible planets.

There is something else that we should focus upon, something that always seems to elude mainstream scholarship. John is invited to take his measuring rod and measure the temple of God. I think that invitation is for us. And I think the measuring rod is there for all to see; it's inherent in the narrator's almost unbearable pounding upon what look to be arbitrary numbers. Almost no part of the story is articulated without reference to all sorts of numbers, often repeated *ad nauseum*. It's a lousy way, actually, to tell a story. So what's going on?

The reader is awash in integers from the outset. First up is a raft of sevens. John's letter is addressed to the seven churches of Asia Minor. There are seven spirits before God's throne, seven gold lamps, and seven stars representing seven angels.

Then come twenty-fours. There are twenty-four thrones surrounding God's own throne, and upon them sit twenty-four elders.

Back to sevens; before god's throne are seven burning torches, which are the seven spirits of God.

Next up are fours and sixes; there are four living creatures arrayed around God's throne, each with six wings. Back again to sevens, with seven seals, and then some reiterations of four and twenty-four.

So it goes through the whole work. Familiar numbers are repeated - there are four horsemen of the apocalypse, four angels at the four corners of the Earth holding back the four winds. New numbers are introduced and harped upon, with or without multiple zeroes on the end - there are twelve tribes of Israel, each with twelve thousand members, making 144,000 upon whom the seal of God has been anointed. There are tens, hundreds, thousands and ten thousands. There

are more sevens, always sevens; there are threes, and there are also fractions, with one third, in particular, meriting special repetition, but also three and a half, which is half of seven. In the final chapter there is a flurry of twelves.

Repeated in a few places are the related numbers 42 and 1,260 (1,260 is thirty times 42) and all alone, at *Revelation* 9:16, is a huge number, where it's said that the number of cavalry set loose upon the sound of the sixth angel's trumpet is two myriads of myriads, that is, twice ten thousand times ten thousand, equal to two hundred million.

Standing apart from all the rest is the one number everyone knows, identified, depending upon the translation, as the number that "calls for wisdom", or "the key for anyone who has intelligence", the number of the beast, 666.

This litany of numbers is in part the "usual cast of suspects", the precessional code numbers which *Hamlet's Mill* and *Fingerprints of the Gods* have taught us to expect, inserted so arbitrarily, so often, and with such grinding repetition that if we didn't know better, we might suspect a fraud. *Revelation* is just the sort of thing a prankster might cook up to dupe a hapless amateur scholar into thinking he'd found an incredible genuine archetype of the precession myth. It's almost too good to be true; once you're educated in what to look for, there's no mistaking the handiwork of the same old school of anonymous encoders, still, apparently, seeding the religions and mythologies of the world in 70 C.E., just as they had been for thousands of years.

All you have to do is something very obvious, if you're attuned to the way it works. Divide 144,000 by 666. See if that doesn't give you something that spills the beans - after the last chapter, you can see why I was picking my jaw up off the floor when I tried that one. Or count how many times the number seven is mentioned. Turns out it's 54. *Fifty-four*, get it?

This is a jarring conclusion in connection with a document the authorship and purposes of which are supposed to be well known, and to have nothing whatever to do with any spooky cross-cultural preservation of ancient scientific knowledge. But there you have it. Strip away the dogma and cultural preconceptions, and the last book of the New Testament is revealed to be a classic of the breed, and there's no getting away from it.

So there I was, almost 20 years ago, looking at all these pieces and wondering why it had been so important for somebody to get this astrological word salad into the Bible. What we have in *Revelation* is not so much a code as an anti-code, something that's meant to be understood immediately if you approach it from the proper perspective. In common with all the other examples discussed in the last chapter, it's like a game with simple rules:

- 1) *We're talking about the precession of the equinoxes.*
- 2) *Think about the Zodiac.*
- 3) *Animals and people in the sky are constellations or planets.*
- 4) *Play with the numbers. They cough out the precessional code, see 1), above.*

But why?

As far as I knew at the time, I was the only one asking. It seemed kind of odd that nobody else had noticed how much this book of the New Testament waddled and quacked like all the other myths laid out in *Hamlet's Mill*, but it seemed I was all by myself. Well, except for my buddy Leonard.

Stress, sadly, "seemed".

Well Join the Club, Pal

I've developed a theory about human endeavour – well, more an observation than a theory. It seems to me that no matter what new thing you're pursuing, however unique you may feel it to be, however original, novel and cutting edge, odds are there's someone you never heard of, and who never heard of you, pursuing the very same thing – and if you manage to pull it off, very often that somebody else is also pulling it off right along with you, each of you imagining yourself first.

This seems to be true with even the most startling and magnificent accomplishments. As Newton invented the differential and integral calculus out of whole cloth in his Annus Mirabilis in 1665-1666, across the channel, Gottfried Leibnitz was about to do the same thing, starting in 1674, and he made it public before Newton did, in 1684; they bickered about priority for years after. While Marconi worked on his system for wireless communication, building toward what is generally accepted to have been the first transmission of a radio signal over open sea in 1897, he had no way to know that Nikola Tesla had, in his reclusive way, already beaten him to it; Tesla demonstrated a remote-controlled toy boat at Madison Square Garden with what was obviously already a well-developed radio technology in 1898, though nobody really understood it at the time, and nobody today much realizes that Tesla can be shown to have arrived at a working solution before Marconi. Frank Whittle laboured to develop the jet engine for the British from the early days of WW II, and before; meanwhile, across the channel, a German named Hans Von Ohain was up to the same thing, and both succeeded at more or less the same time. If you think you're the only one who's on to something, and your name's not Einstein, think again.

So it was with my much more meager accomplishment. I was, let's be honest, quite delighted with myself for having figured out the astrological associations in *Revelation*, the precessional allegories, the thinly-veiled descriptions of constellations in the guise of animals and people in the sky. It was gratifying to imagine I was forging entirely new ground. Alas, it turns out that just when I finished the first draft of this essay, back in 1999 or so, a woman named D.M. Murdock, writing under the pseudonym of S. Acharya (perhaps so as to evade the attentions of wing-nuts from the religious fringe), published a book called *The Christ Conspiracy*⁵⁶, which included a brief chapter on the proper interpretation of *Revelation*. I only discovered this, crestfallen, in late September 2010, when I revisited this project after years of inattention and started research again.

There it was, all laid out. *Revelation* is not even really a Christian document (check). It's about the precession of the equinoxes (check), and all its symbols can be understood in the context of astrology and astronomy, for example as evocations of the 24-hour day (check), specific constellations (check) or the Zodiac itself (check). The New Jerusalem is one such symbol (check). The sun-robed woman with the crown of 12 stars – surely this is Virgo, the crown a symbol of the Zodiac she inhabits (check). And this business about horses – that can only be allusions to planetary bodies of the same colours, like Mars, Jupiter and Mercury (check – *Goddammit*). She pulled together the scholarship of others who had reached many of the same conclusions before her. I wasn't blazing any sort of trail at all, it seemed. My first thought was that I might just as well toss my own work aside; nobody would ever believe I'd come to these conclusions separately, and anyway what did it matter? I felt like some guy rushing to the Patent Office in 1991 with a design for this new-fangled thing, the "compact disc", that was going to blow the lid off the music biz, just you wait and see.

And yet...

Murdock's thesis was that Christianity was just a rehash of an ancient astrologically inspired cult that had manifested itself countless times through history, each time about fictional gods on Earth who stand in for the Sun itself. There never was a Jesus Christ, any more than there ever was a Mithras, or a Zoroaster, or any of the others. Just another Greek mystery cult, that's all, and with this I heartily agree. Once you learn the extent to which the Catholic Church appropriated Pagan astrological symbolism, including the Cross of the Sun, an ancient representation of the Sun-centered Zodiac, it's no great leap to interpret

⁵⁶ Read about it here: <http://www.truthbeknown.com/christ.htm>

the new faith of Christ as just a modification of Sun-worshipping, star-based religiosity that goes back many millennia.

Her exegesis of *Revelation* was just one small piece of that argument, and the New Testament apocalypse was to her a prime example of how belief in the literal truth of documents like the Bible can lead only to mischief. All those people waiting for the End of Days, for a real Beast to actually appear and Armageddon to happen, some praying for it, longing for it, in hot anticipation of the Rapture soon to come as the prophesied events take place in the real world of politics and human affairs. All that misguided, wasted energy, all the bigoted and intolerant ideology that so often went along with it.

She wasn't going to get any arguments from me. By cracking the code, she made her point with a vengeance, and beat me to the punch.

Still, even as I digested the bitter pill of being scooped, I thought it over and began to feel a little bit better. Ms. Murdock had identified the elements of a code, and divined, generally, what that code was about. For her purposes, she had demonstrated as much as she needed to.

For my purposes, though, that wasn't the half of it. I'd worked on the theory that now that we knew about the game, and its rules, the point must be to *play* it, to follow all this to some sort of conclusion. It couldn't be enough that we now know about the precession of the equinoxes, or even that we're supposed to associate that with bad things happening. There's just too much there, and it's all too elaborate, and flagged for us with too many obvious hints. It's got something to do with star-based imagery, and how that fits with the precession, and from the stress *Revelation* lays upon numbers, something to do with numerical calculations too.

It's odd. In my research into this topic, I've located commentary on the existence of the precessional numbers in just about everything except the last book of the Christian Bible, a place where I think they lie thick on the ground. Even Ms. Murdock paid no notice to the numbers. Only Joseph Campbell, in the above-noted essay, mentions briefly that *Revelation's* famous number of the beast, 666, has a curious attribute: six times six times six equals 216, half of his "mystery number", 432.⁵⁷

Of course the numbers can be used to calculate the precessional period itself. Once you've arrived at 216.216216216, and realize "hey look, they seem to want to flag 216", there are plenty of twelves lying around to take you the rest of the way there. Other numbers laid out in the text can serve the same purpose, like 1,260 and 666. 2,592 is the sum of 666 added twice to 1,260 (and you might be

⁵⁷ At p.93 of the paperback edition

inspired to use 666 twice because it's the number of the beast, and there are two beasts). I just don't think that's the end of it. There's something far more detailed and important that somebody wanted us to figure out. It began to seem clear to me that we're meant to do so much more than just gather that there is such a thing as the precession of the equinoxes, and calculate how long it takes.

What's so special about the grinding of celestial wheels that they're tripping over themselves to bring it to our attention? What's the point of hammering it home again and again, over and over, all down through the ages in a hundred different ways, like some lunatic who refuses to stop shouting "*Think about precession!! Think about precession!!*" right into our ringing ears? What on God's green Earth does it accomplish to think about the frigging precession of the equinoxes? Why should I care? Why did *they*? Were they nuts?

No. They weren't nuts. Like Oskar Hansen, planning the dedication plaza of the Hoover Dam, they knew that the precession is the one universal clock. They want us to think about time, great stretches of time, and the mill wheels symbolize the slow grind of the rotating heavens overhead, the great cycle of 25,920 years, but that's not all - the precession isn't an end in itself, it's the fundamental part of a tool kit we're meant to use. They want us to understand when certain things happened, and they used the only thing we have in common to tell us about time in a way we can understand. All the numbers, all the signaling about precession, all the word pictures of animals and people in the sky, it's all about locating specific points in time, as revealed by the space above our heads.

Ages Past, Ages Yet to Come

“X” Marks the Spot

If, as I became certain, *Revelation* painted word images of star maps in order to allow us to pin down different dates or epochs on our own calendar, it occurred to me that I had a problem: star maps as seen from where? If I tell you to look overhead and tell me what you see, your answer is going to depend wholly upon where you happen to be standing on our spherical world. Longitude, the vertical grid lines on our maps, might not be too important; If you're in Marseille, your night sky will look just like mine in Cape Breton, Nova Scotia, by the time the world spins me into darkness, though if the point is to find specific conjunctions between, say, planets and stars, relative positions might move around a little bit in the interim (though not enough to make a difference). The real problem was latitude, where you stand above or below the equator. An Australian might beckon me to look at his metaphorical image of the Southern Cross. Great, except up here in Canada, I can't see it. If you want to reach me, you should be talking about the Big Dipper.

For Oskar Hansen, laying his star map into the plaza floor at the Hoover Dam, the problem of vantage point solved itself: you're supposed to observe the sky from right where you're standing when looking at his map. For me, poring over an iteration of an ancient tradition, I wondered whether the effective vantage point had to be at whatever location its originators once lived. Where was that? I had no clue.

For a while, I toyed with the idea that the celestial imagery itself was supposed to indicate that location, but that seemed a little too subtle. In my theory, someone in the mysterious clique of encoders was still preserving the old wisdom, and was working more or less at the generally accepted time of *Revelation's* authorship. Embedding the old code into a new iteration for a new audience, they'd want to reference the stars above the heads of the intended readership. The denizens of the Christian diaspora in 70 C.E. would have no idea what the stars looked like in the Southern Hemisphere. Moreover, a degree of accuracy could be important. When word-smithing what are meant to be accurate images of the reader's own sky, things like the relative elevation of the stars above the horizon might come into play.

To play the encoder's game, I needed a latitude, maybe a more or less precise latitude (at least, I figured, more precise than "somewhere in the Roman Empire where Christians can be found"). If they wanted me to play, they must have indicated somehow what that latitude was supposed to be. If not, I was stymied. That's a big stumbling block, right out of the gate, no?

No, not at all. *Revelation* 1:9:

I John, who also am your brother, and companion in tribulation, and in the kingdom and patience of Jesus Christ, was in the isle that is called Patmos...

Ah. Well, that was easy. And look, even if they didn't really need to, they gave me a longitude, too. In my planetarium, I planted my digital feet at the pre-programmed location of Athens, close enough in latitude and longitude, I reckoned, to the old Roman penal colony⁵⁸.

“Panleonism”

Thus situated, I got used to the stars over the Mediterranean world as it looked when *Revelation* was written, and at other times too; in particular, I was looking for evidence that would corroborate a key part of Hancock's thesis, that the symbolism surrounding the ubiquitous precessional code was in part a commemoration of the Age of Leo. The equinoctial Sun rose against the backdrop of Leo many thousands of years ago, from around 11,000 B.C.E. (some argue 10,500, others cite 10,800 – there can always be debate about the exact margins of an Age of the Zodiac) to around 8,000 B.C.E. (some say 8,700).

The evidence presented by Hancock, and by others such as Robert Bauval, Adrian Gilbert and Anthony West, that the Age of Leo was of obvious importance within both ancient traditions and the architecture of ancient monuments, is, of course, highly controversial. Or, if you're in the school of mainstream archaeology, not controversial at all, since it's obvious nonsense.

For one thing, if a common symbolism is being used all over the world to flag Leo for us, this requires us to conclude that widely separated cultures all through history have shared a common set of constellations, including a common Zodiac, and that can't be right. We know the Zodiac to be ancient; there's evidence that the one familiar to us has elements that stretch all the way back to Sumeria. It wouldn't be odd, then, if cultures in the Middle East shared a Zodiac, or that this Zodiac might spread throughout the Roman World, and all cultures connected with it, over time. Granted. But it's hard to swallow, from an orthodox standpoint, that Mayans, or the architects of Angkor Thom in Cambodia, saw the same constellations as we do.

Hancock might respond that such cross-cultural congruencies are themselves the evidence of his theory, that they all share a common heritage derived from a common, and now lost, predecessor civilization. Bootstrapping, counters orthodoxy. You don't have any good evidence for that proposition, either, and

⁵⁸ I've since used software that allows one to view things from the precise latitude of Patmos, and nothing changed materially.

you can't claim that an unproven assertion about a commonality of constellations proves an unproven theory about why they're common in the first place.

The Sphinx is a lion? So what? That doesn't prove they were representing the constellation Leo, any more than the modern English picked a lion as their national symbol out of homage to the Zodiac. The temples at Angkor Thom resemble the constellation Draco? Coincidence. Anyway, those temples are pretty numerous, and if you give me enough dots, I can connect them to look like all sorts of things – which is why, by the way, we can't be sure what sorts of pictures ancient peoples were drawing with all those starry dots in the sky, not unless they tell us.

Notions that anything left behind by the ancients is meant to flag Leo – which is sometimes referred to as the “panleonist” theory – is also attacked on the basis of faulty calculation of celestial alignments. Both Hancock and Bauval advocate a date of around 10,500 B.C.E. as the one set in stone by the pyramids at Giza and the temples at Angkor. In 1999, a BBC documentary disputed this. It seemed to prove that the alignments claimed for the Pyramids, as against the belt stars of Orion, and the temples at Angkor, as against the constellation Draco, weren't very close at all to the actual alignments as at 10,500 B.C.E.

Another author who writes in this field, Alan Alford, contends that if the ancient Egyptians had any unusual interest in Lions and the constellation Leo, it was because the star Sirius, so important in their scheme of astronomy, rose against the backdrop of Leo each year when Sirius had its Helical rise on the Summer Solstice, a phenomenon that would have prevailed throughout most of their history. Alford doesn't raise it, but this may be why the Dendera Zodiac also places emphasis on Leo.

As for the Sphinx, Alford argues that the date arrived at by Robert Schoch (see prior chapter) was more like 5,000 B.C.E., well outside the Age of Leo. Anyway, it might not even be a lion at all. To him, it looks more like a dog (admittedly with a cat's tail, he thinks a later addition, probably) and could well have been a tribute to the Egyptian canine god Anubis. If it's a lion, where is the mane, the distinctive upraised haunches? It has a cat's tail, but where is the tuft you'd expect were it a lion?

You can find a good summary of Alford's rebuttals on the internet.⁵⁹

⁵⁹ <http://www.eridu.co.uk/author/egypt/lost.html>.

Alford concludes:

Much credit is due to Bauval, Gilbert, Hancock and West for getting us all looking at Egypt again with a fresh perspective. But the debate must move on, and frankly I would like to see an end to this obsession with 10500 BC. At the present time, there is not one single piece of evidence anywhere in the world to justify the idea that 10500 BC was being commemorated by a lost civilisation. In my view, this obsession with 10500 BC has done great harm, and continues to do great harm, to the cause of those, such as myself, who would make a serious challenge to official dogma on the origin of the Giza pyramids and the history of civilisation. Yes, there is a mystery which requires an explanation. But what if the answer to the mystery lies not in 10500 BC but rather in the more plausible period of 6000-5000 BC? The worst thing we can do is investigate the past with a preconceived dogma to rival that of mainstream academia. Rather, it is time to take account of all the scientific evidence and draw our conclusions accordingly.

Not one single piece of evidence anywhere in the world. That's devastating stuff, and not even from a staid defender of orthodoxy; as is clear from the passage just quoted, Alford is himself quite sure that history is in for a major rewrite. But the Age of Leo? Utter bloody nonsense.

Alford rather ignores that to commemorate the Age of Leo, you needn't have been in it⁶⁰, making the relative youth of the Sphinx less relevant, and that the Sphinx could also be a female lion with no mane – or, quite plausibly, the mane could have been carved away when the lion's head was later replaced with a disproportionately small human one. Similarly, just because it's impossible that disparate cultures will always see the same constellations, there are certain arrangements of stars up there that are bound to lend themselves to some sort of connect-the-dots treatment. An Englishman will connect the dots to make a plough out the same stars I call the Big Dipper. But he sees the same stars as a group, and if we were each to build representations on the ground, without lines, they'd be identical. As to the BBC's attack, I'm not sure about the alignments of temples and pyramids, but overall, I can't go along with this "not one single piece of evidence" business. I think I see plenty. It's not carved in stone, it's written in the Bible.

⁶⁰ Indeed the continual commemoration of the Age of Leo down through time, for many thousands of years after it ended, is the premise of this book!

A Lion, an Ox, a Human and an Eagle

Let's revisit Ezekial.

In my research into *Revelation*, I kept encountering references to this Old Testament book of prophecy, which seems to be the one to which *Revelation* is most often compared. Attributed to one of the exiles taken into captivity around 582 B.C.E. by the Babylonian king Nebuchadnezer, the Book of Ezekial does have points of startling similarity to *Revelation*, and one of those is particularly relevant to the question of astrological ages. We last discussed Ezekial's vision in the context of precession, and his descriptions of the turning wheels overhead. Recall, too, its description of "four living creatures", which I associated with a widespread evocation of the four constellations of the Zodiac which happen to occupy the solstitial and equinoctial sunrises in any given year.

This can sometimes be presented as an abstract concept, singling out no four particular constellations, but I think Ezekial is being quite specific, and if that's right then *Revelation*, which repeats many of the essentials of Ezekial's vision, is doing the same thing.

Almost everyone is at least passingly familiar with Ezekial's famous vision of the four "living creatures"; the "heavens opened", and Ezekial saw wondrous things:

As I looked, a stormwind came from the North, a huge cloud with flashing fire enveloped in brightness, from the midst of which something gleamed like electrum. Within it were figures resembling four living creatures that looked like this: their form was human, but each had four faces and four wings, and their legs went straight down; the soles of their feet were round. They sparkled with a gleam like burnished bronze.

Their faces were like this: each of the four had the face of a man, but on the right side was the face of a lion, on the left side was the face of an ox, and finally each had the face of an eagle.

Now, compare this to *Revelation*, chapter four; a "door opened in heaven", and John sees a vision of God's throne:

A throne was there in Heaven, and on the throne sat one whose appearance sparkled like jasper and carnelian. Around the throne was a

halo as brilliant as an emerald. Surrounding the throne I saw twenty-four other thrones on which twenty-four elders sat...In the center and around the throne, there were four living creatures covered with eyes in front and back. The first creature resembled a lion, the second was like an ox, the third had a face like that of a human being, and the fourth looked like an eagle.

Like a lion, an ox, a human and an eagle. Why are both prophecies stressing these particular animals? Note how, in the *Revelation* version, the creatures are covered in “eyes”, front and back – just as in Ezekial, the “eyes” are points of light in the darkness, stars, a thought emphasized by the description in Ezekial that the “appearance of the living creatures was like burning coals of fire or like torches”.

When I first looked into this it wasn't long before both research and my computerized planetarium led me to conclude that the four faces of Ezekial's creatures, echoed in the four living creatures that surround God's throne in *Revelation*, are a straightforward evocation of the equinoctial and solstitial constellations as they were *during the astrological age of Leo*. When the spring equinox was in Leo, (like a lion), the summer solstice was in Scorpio (like an eagle), the autumn equinox was in Aquarius (a face like a human being) and the winter solstice was in Taurus (like an ox).

Scorpio like an eagle? This might seem unlikely, but a little research soon reveals that ancient tradition associates Scorpio with just that predatory bird, and that only Scorpio, among the constellations of the Zodiac, has more than one creature associated with it. To this day, astrologers preserve the tradition of the eagle as a symbol for Scorpio.

This snapshot of the Age of Leo has been noticed by others (so often, as I make what I think are original discoveries, I trip over the work of others who've gone before me). Andrew Raymond reaches the same conclusion in chapter seven of his book *Secrets of the Sphinx*,⁶¹ in which he also notes that the tradition of the same four creatures can be traced back to the lesser sphinxes of Egypt, and forward to tarot cards, on one of which the same four animals are depicted in sphinx-like form.

There are other creatures depicted in *Revelation* that seem to be referring us to the night sky over Patmos during Leo. One of them provides the title for this book. At 8:13 we are told about a certain eagle:

⁶¹ <https://www.amazon.com/Secrets-Sphinx-Mysteries-Ages-Revealed-ebook/dp/B004XTCSOU>

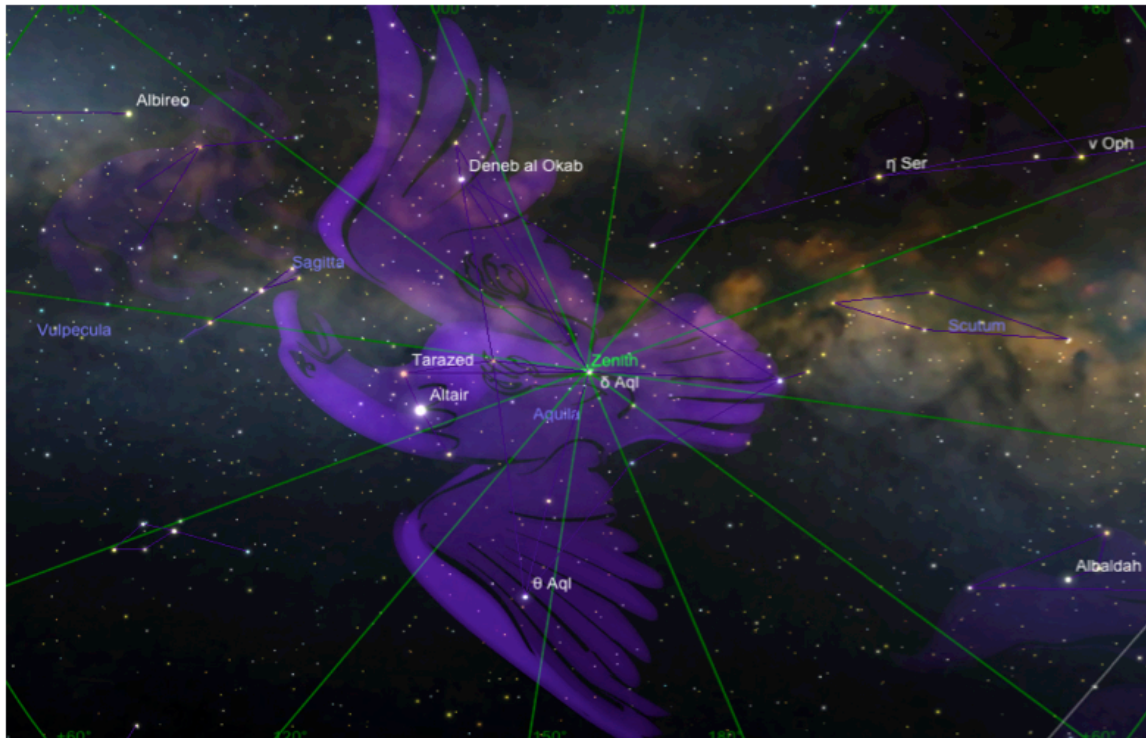
Then I looked, and I heard an eagle crying with a loud voice as it flew in mid-heaven, "Woe, woe, woe to the inhabitants of the earth, at the blasts of the other trumpets that the three angels are about to blow!"

Different translations from the original Greek, most notably the King James Version, replace “eagle” with “angel”. More recent translations, such as the New Revised Standard Version Bible, and the New International Version, which sourced older manuscripts and are considered more accurate, portray the eagle. If we apply one of our rules of interpretation, that animals and people in the sky are constellations, we can gather straight away why this change is significant; because there is an eagle up there, apart from Scorpio: the constellation Aquila. Describing its flight as being in mid-heaven is, I think, another signpost directing us to the Age of Leo.

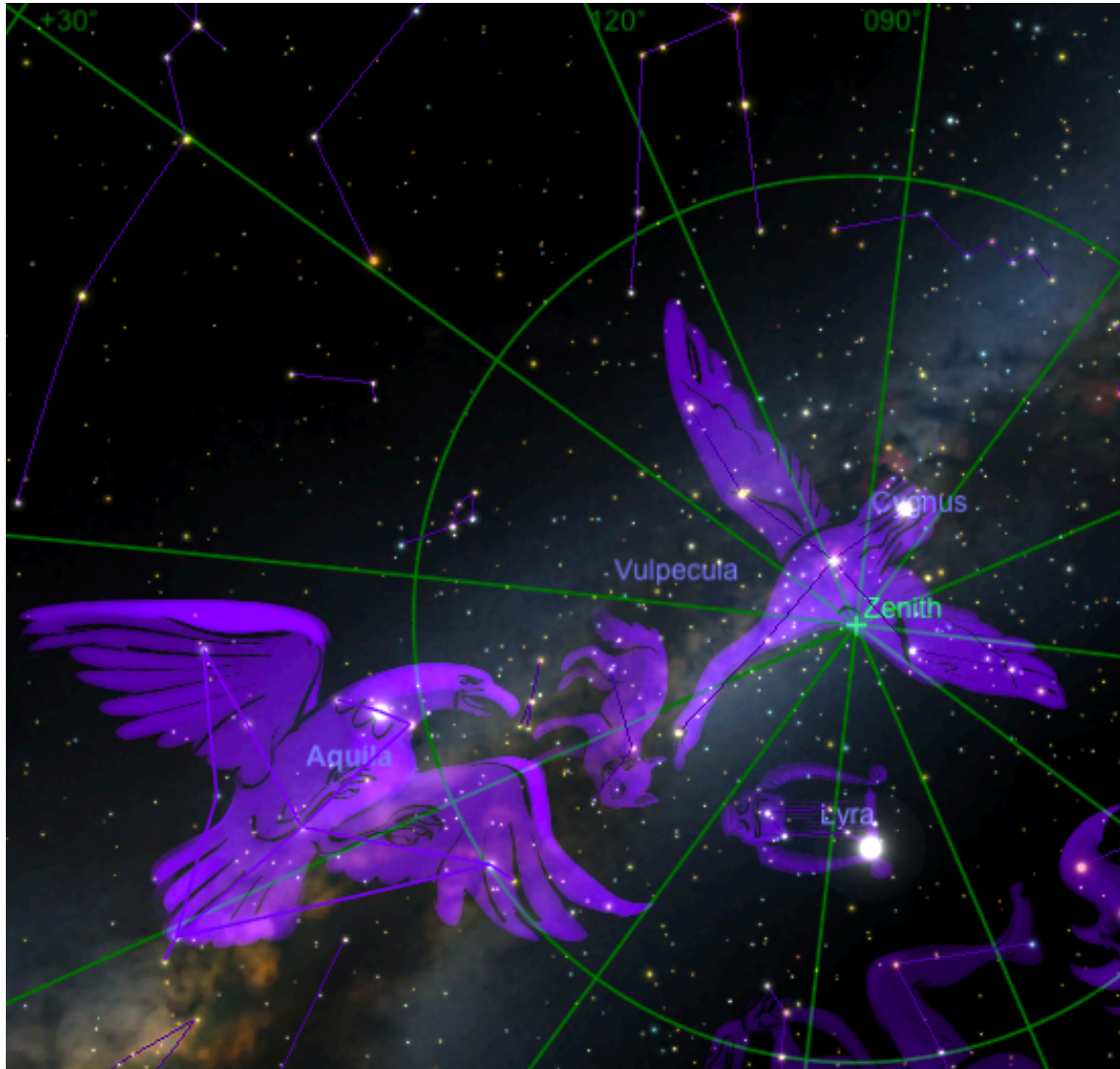
In the course of a night, the constellations scroll by at different elevations as the Earth rotates under them, their paths describing great arcs above our heads. Some range close to a zenith point that is directly overhead, some stick much closer to the horizon. In the twenty-first century, Aquila follows a path that places it fairly low in the sky, from the latitude of Patmos, and the same was true when *Revelation* was written; it never flirts with the zenith. Set the planetarium for any point in the Age of Leo, though, and the picture changes dramatically, owing to the perspective change brought about by the wobbles (precession among them) in the planet’s rotation. Starting 12,500 years ago, as good a point as any for the beginning of Leo, Aquila starts dragging one of its wingtips close to the vault of the heavens as it arcs overhead. By the time approaching the end of the Age, about 10,800 years ago, it’s path takes it directly overhead – different planetarium software I’ve used over the years show slightly different results, with Planetarium Pro showing the constellation travelling right through the zenith, while one of programs I use today, Stellarium, puts it just a little lower. Still another, called SkySafari, agrees with Planetarium Pro.

Either way, throughout the Age of Leo, the eagle was in mid-heaven at the latitude of Patmos, twinkling for a time each day at the very hub of the wheel turning overhead. From that lofty height, in that era, it cries out woe to humanity, as woe there must have been for anyone living in that calamitous time.

Staring up at the Zenith, Patmos, 8828 B.C.E.



Same view, closest approach to Zenith, 1 C.E.



The Beast, and Friends

More evocative still of Leo is the most famous of Revelation's passages, the one that includes the beast and his number, beginning at chapter 13:

Then the dragon took his stand on the sand of the seashore. And I saw a beast rising out of the sea, having ten horns and seven heads; and on its horns were ten diadems, and on its heads were blasphemous names. And the beast that I saw was like a leopard, its feet were like a bear's, and its mouth was like a lion's mouth. And the dragon gave it his power and his throne and great authority. One of its heads seemed to have received a death-blow, but its mortal wound had been healed. In amazement the whole earth followed the beast. They worshipped the dragon, for he had given his authority to the beast, and they worshipped the beast, saying, 'Who is like the beast, and who can fight against it?'

The beast was given a mouth uttering haughty and blasphemous words, and it was allowed to exercise authority for forty-two months. It opened its mouth to utter blasphemies against God, blaspheming his name and his dwelling, that is, those who dwell in heaven.

Also, it was allowed to make war on the saints and to conquer them. It was given authority over every tribe and people and language and nation, and all the inhabitants of the earth will worship it, everyone whose name has not been written from the foundation of the world in the book of life of the Lamb that was slaughtered.

Let anyone who has an ear listen:

If you are to be taken captive,

into captivity you go;

if you kill with the sword,

with the sword you must be killed.

Here is a call for the endurance and faith of the saints.

Then I saw another beast that rose out of the earth; it had two horns like a lamb and it spoke like a dragon. It exercises all the authority of the first beast on its behalf, and it makes the earth and its inhabitants worship the first beast, whose mortal wound had been healed. It performs great signs, even making fire come down from heaven to earth in the sight of all; and by the signs that it is allowed to perform on behalf of the beast, it deceives the inhabitants of earth, telling them to make an image for the beast that had been wounded by the sword and yet lived; and it was allowed to give breath to the image of the beast, so that the image of the beast could even speak and cause those who would not worship the image of the beast to be killed. Also it causes all, both small and great, both rich and poor, both free and slave, to be marked on the right hand or the forehead, so that no one can buy or sell who does not have the mark, that is, the name of the beast or the number of its name. This calls for wisdom: let anyone with understanding calculate the number of the beast, for it is the number of a person. Its number is six hundred and sixty-six.

So much ink has been spilled over the Beast, so many contortions of interpretation over the centuries, one doesn't know whether to laugh or cry at how straightforward it all is. The Beast, its companion Beast, and the dragon that begins the passage are all, the reader must now be intuiting automatically, prominent constellations, and they indicate right away that this message will concern the Zodiac, and the precession.

The Beast has a number, 666. This is a number we've always been told is a symbol of the Anti-Christ, but we've already seen that it's useful in conjuring the key precessional number, 216, whether you divide it into 144,000, or multiply its 3 digits together. You can combine it twice with a another number that's been laid before us, 1,260, to arrive at the overall prize, 2,592. We'll dwell briefly on 666 a little more in the next chapter. I've come to appreciate that there's nothing demonic about it. It's useful, and it's there to get us thinking about the precession and the scrolling beasts in the sky. As we'll see, it's also symbolic, and of a piece with *Revelation's* obsession with constellations and the Zodiac.

Remember the rule: animals and people in the sky are constellations. Note how we're presented with a dragon, and that the dragon "took his stand on the sand of the seashore" (or in the New International Version translation, "The dragon stood on the shore of the sea"). Just as with Aquila, this fits as an evocation of the night sky during the Age of Leo. In our day, and in the time that *Revelation* was written, the effect of the Earth's wobbling orbit, which has pushed Aquila lower in the sky, has pushed the sky's resident dragon – Draco – higher. From Patmos, as it spun overhead in the first century CE, the full rotation that Draco

performs each night caused its head to brush the Northern horizon as it points downwards. When Draco's head is on top – when Draco could be said to be “standing” – its tail was nowhere near the horizon. Roll the clock back to Leo, and when Draco is standing its tail scrapes the ground. It would indeed appear to be “standing on the shore”⁶².

That's just the start. Look at this description of the first beast, sometimes referred to as the “beast of the sea”. It rises up out of the ocean – as do all constellations of the zodiac, as the night progresses, if your viewpoint is an island in the Aegean. *It's like a leopard but has the mouth of a lion*. It also seems to have a bear's feet, a dragon for a pal, and it took a mortal blow but survived.

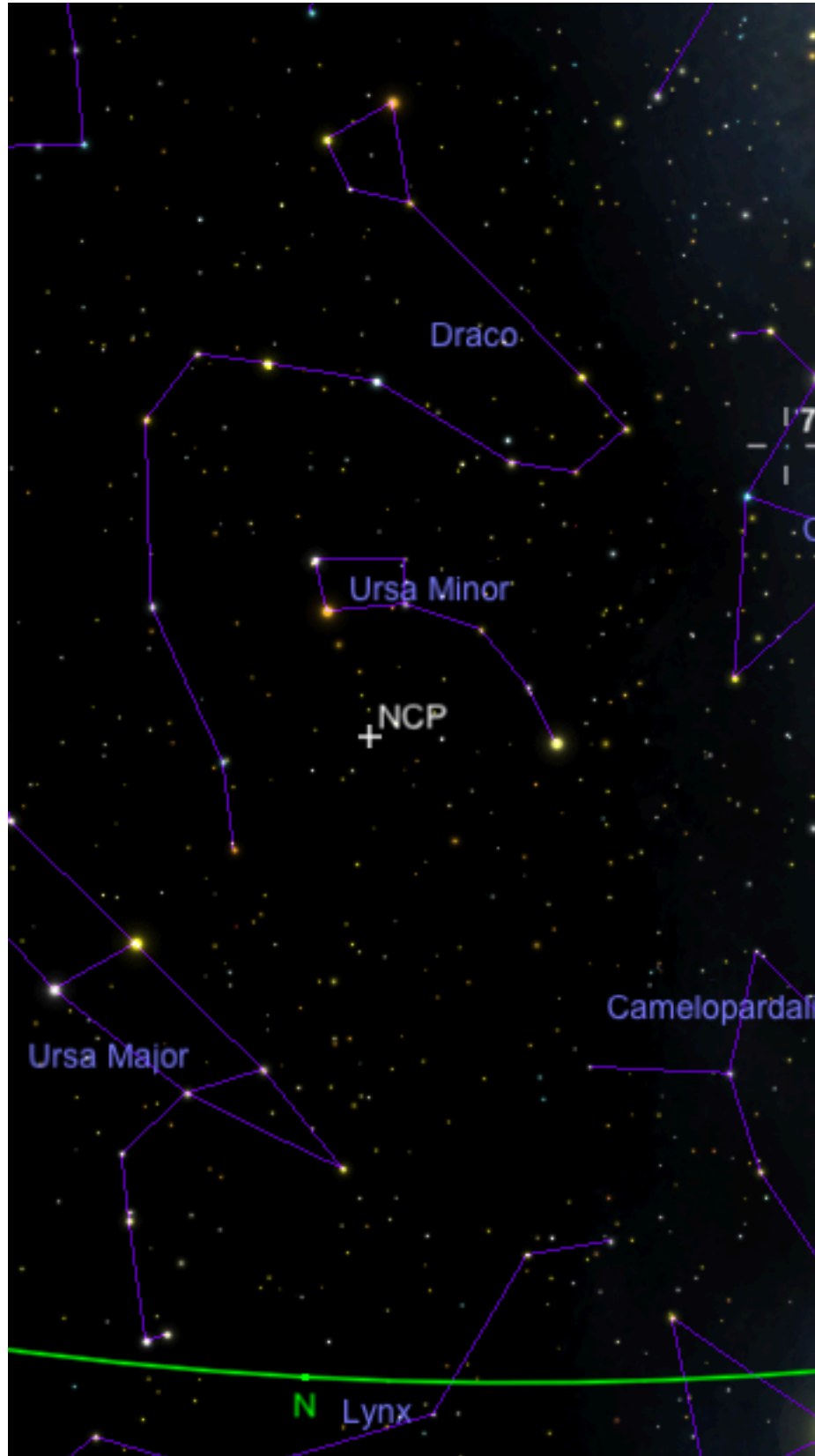
In stories of old, there is a creature that laughs off blows that ought to be mortal: the Nemean Lion, a monster of Greek mythology who is eventually slain by Hercules. Dealing with the lion is the first of Hercules's (or Heracles's) twelve labours, as set for him by King Eurystheus, and it takes Hercules to kill this cat because it's impervious to the weaponry of mere mortals. Hercules has to strangle the damnable lion, and then his knife can't skin it; he has to use one of the lion's own claws. *Revelation's* author was evoking an old myth, well-known by his audience, to remind us of a lion in the sky, Leo.

This is made obvious when we look at the slice of the sky that Leo occupies. A straight line drawn through Leo intersects Ursa Major, the Great Bear, the closest part of which is its feet; it then goes through Cameoleopardalis, the camel-leopard (a giraffe, to us). Draco is nearby, right over Ursa Major. Finally, Leo sits atop the constellation Hydra, the water snake (the largest constellation in our sky). A lion that can't be harmed conjures up associations with the Nemean Lion, but the specificity about blows to the head may be there to remind us of the defining trait of another beast slain by Hercules in his labours, the Lernaean Hydra, whose heads regrew as they were chopped off. Just as Leo crests the horizon, so do we see the head of Hydra coming in to view.

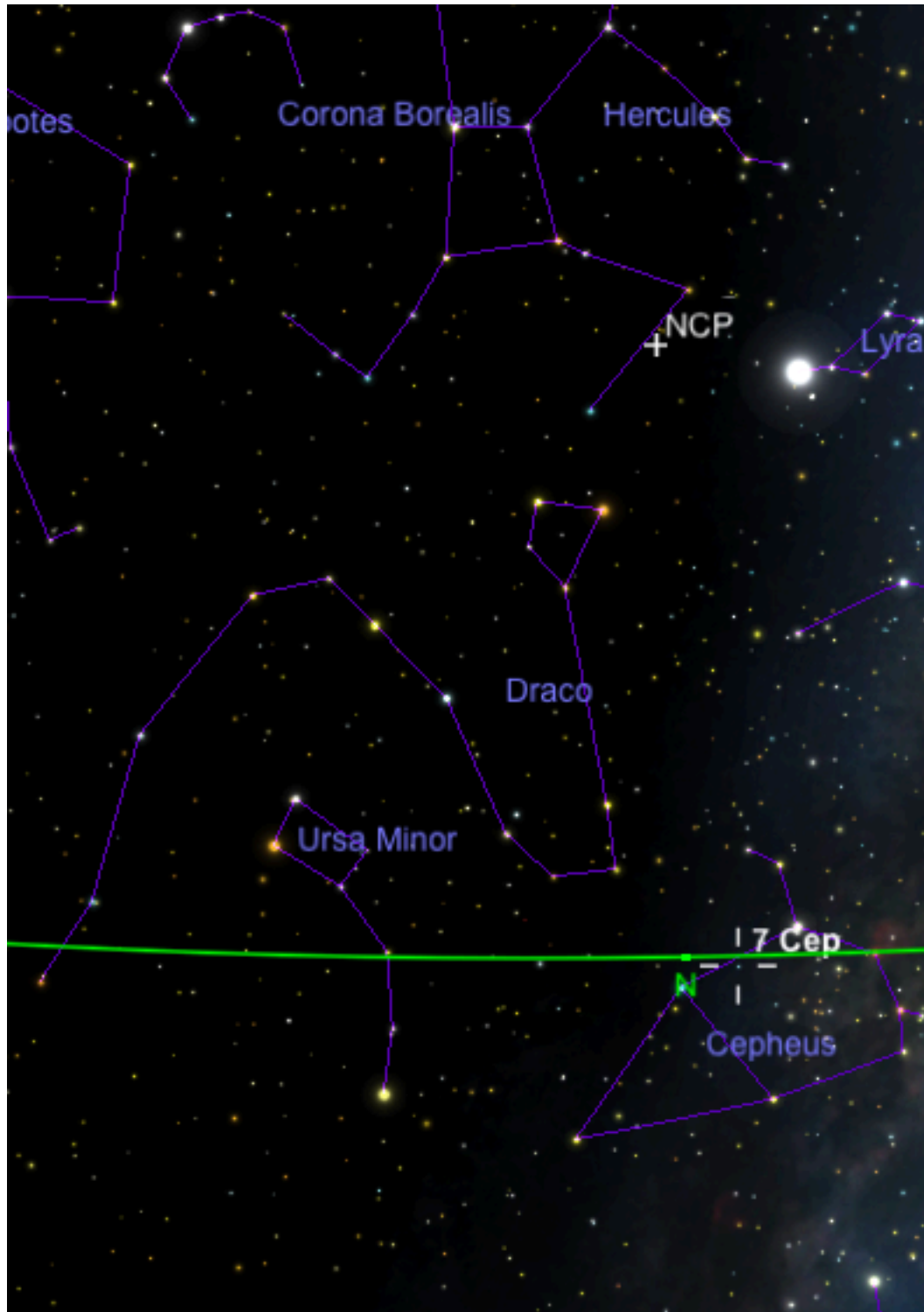
All this talk of leopards, dragons, bear's feet, head wounds that heal, and lion's mouths is meant to paint a picture of the sky around the constellation that indeed has a lion's mouth. Why, further on, we're even told this beast has the number of a person, or the “number of man” in the King James translation – and Leo, of course, is a man's name. Yup, that first animal is Leo, all right.

⁶² Note that in the images to follow, the green line marks the horizon.

Draco, from the latitude of Patmos, 1 C.E.



Draco, from the latitude of Patmos, 10800 B.C.E.



Leo and its environs



What, though, of the second beast? For a long time, this seemed much harder for me to pin down. I expected it to be a second sign of the Zodiac, and based on when *Revelation* was written, only one seemed logical: Pisces.

The first century C.E. was the era when the Zodiacal age transitioned from Aries, the ram, to Pisces, the fishes. It is no coincidence that the fish was an early symbol of the emerging Christian faith, that Christ performed one of his greatest miracles with a multitude of fish, and was himself a “fisher of men”; the millwheel was grinding toward the fish just as the Christian era began. It seemed almost inevitable that a work as obsessed with precession as *Revelation* would have something to say about the dawning of a new Age of the Zodiac, but if the second beast is meant to be Pisces, why is it described as coming out of the land?⁶³

It has two horns, like a lamb, which may be a clue that we’re to associate the beast with Aries, the Ram, whose horns are just behind Pisces; *Revelation* 13 also refers to a Lamb who was slaughtered, a fairly obvious allusion to the end of the Age of Aries, which means the beginning of Pisces. It’s “Like a Dragon”, which may allude to the general similarity between the shapes of the

⁶³ I never have figured that one out. Perhaps it’s just an allusion to it rising up over the horizon.

constellations of Pisces and Draco. It makes fire fall down from the sky – so does Pisces, annually, with the Piscid meteor shower, but then so do other constellations of the Zodiac, including Leo, when the shooting stars of the Leonids seem to emerge out of that constellation. There are also Taurid meteor showers. Maybe the business about raining fire in the sky was just a more general clue to get us thinking about the constellations in the Zodiac?

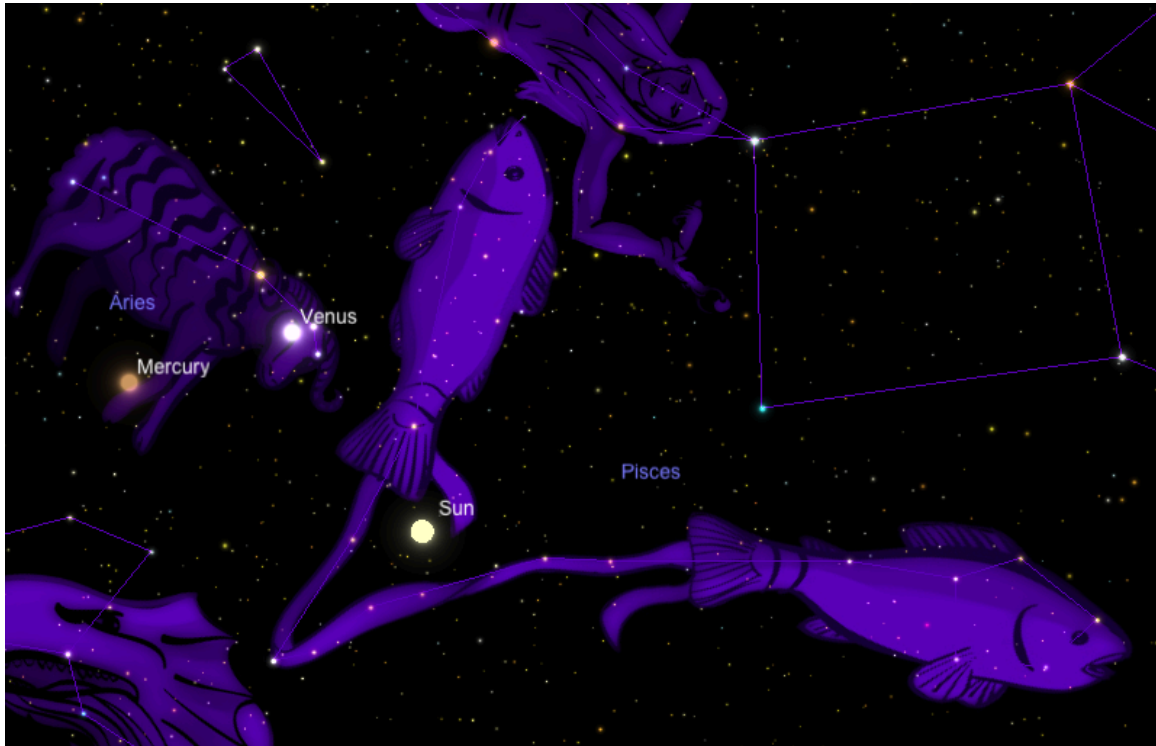
As we'll see in a moment, I had other, completely compelling reasons to think the second beast was Pisces, but *Revelation* 13 itself, which ought to make this clear, seemed rather vague on the topic. It was only a few months prior to beginning this draft, at the end of 2015, that I realized that an enigmatic part of the chapter, so difficult to reconcile with images of the sky, simply had to have astral significance. The second beast “causes all, both small and great, both rich and poor, both free and slave, to be marked on the right hand or the forehead, so that no one can buy or sell who does not have the mark”.

For years, it never occurred to me to simply apply the rules of the game, and assume they must be talking about something in the sky. When the thought did occur, I considered Libra, which might, as scales, be thought to have something to do with commerce in the Roman world, but nothing about Libra resonates with marks on wrists and foreheads. Was there anything else up there that people of the day associated with buying and selling? It took one Google search to reveal that yes, indeed there was: Mercury. Mercury wasn't just a messenger, he was the patron god of commerce.

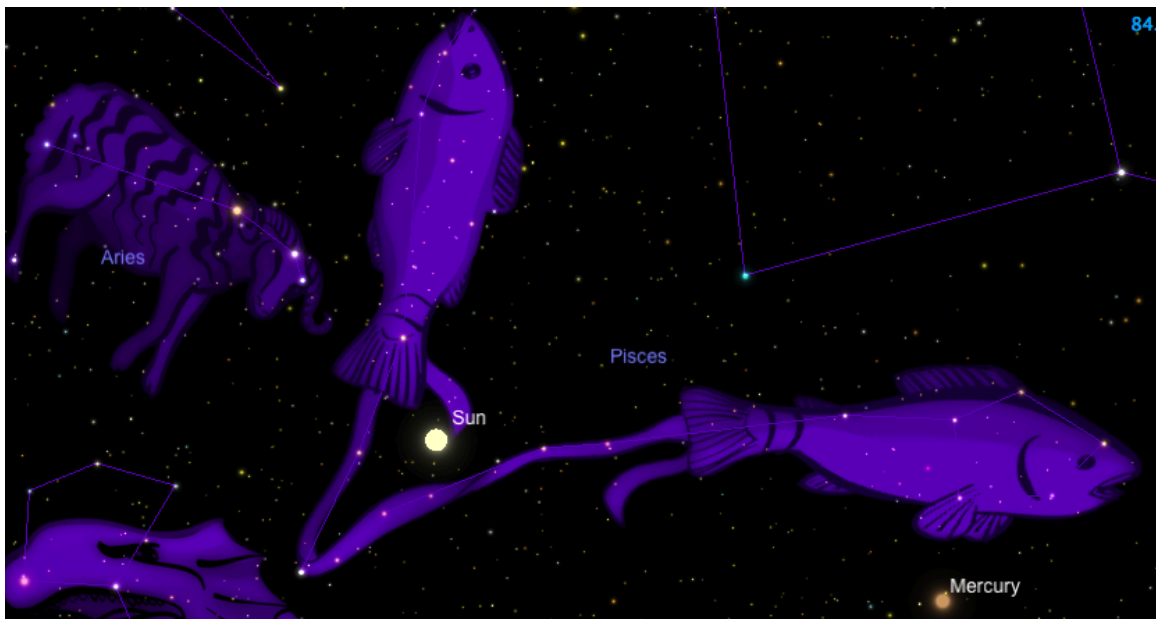
Mercury, the planet, is difficult to see, being so close to the glare of the Sun, but it was known to the ancients. Since it orbits so near the Sun, it will be housed within whichever constellation of the Zodiac is behind the rising sun at any point in the year, and on the Spring Equinox, starting in the first century C.E., that would be Pisces. So I booted up the planetarium to see what I could about Mercury's orientation on the Spring Equinox of each year near the beginning of the Age of Pisces, and as I advanced through successive dates of March 21, year over year, with the “pipper” locked on Mercury, I almost whooped with joy.

On the successive dates of the equinox, Mercury shuttles back and forth, like a ping pong ball, travelling from side to side over periods of about 4 years. At one end, it resides right under the head of the foremost fish of Pisces. On its way back over the net, it skims over the right ankle joints of Aries (the Ram faces right), front and back, and hits the front ankle joint on its return toward Pisces. Eventually, the scrolling of the precession ruins the effect, but the conjunctions remain close throughout the first two centuries of the Common Era. At the dawn of the Age of Pisces, and for many decades after, Mercury, the sign of commerce, repeatedly imprints itself as a mark upon the “forehead” of the fish, and the right “hand” of the ram.

Mercury on the “hand” in early Pisces



Mercury on the “forehead”, early Pisces



Brilliant. I couldn't help but think: *you magnificent bastards, whoever you were.*
You could hardly have done it better.

A Woman on Seven Mountains

Yet it *is* done better, or at least just as well, in another passage I began to refer to as The Big Clue, which pretty much labels itself as such – *Revelation 17:9*, bolded below. Chapter 17 begins:

Then one of the seven angels who had the seven bowls came and said to me, 'Come, I will show you the judgement of the great whore who is seated on many waters, with whom the kings of the earth have committed fornication, and with the wine of whose fornication the inhabitants of the earth have become drunk.' So he carried me away in the spirit into a wilderness, and I saw a woman sitting on a scarlet beast that was full of blasphemous names, and it had seven heads and ten horns. The woman was clothed in purple and scarlet, and adorned with gold and jewels and pearls, holding in her hand a golden cup full of abominations and the impurities of her fornication; and on her forehead was written a name, a mystery: 'Babylon the great, mother of whores and of earth's abominations.' And I saw that the woman was drunk with the blood of the saints and the blood of the witnesses to Jesus.

When I saw her, I was greatly amazed. But the angel said to me, 'Why are you so amazed? I will tell you the mystery of the woman, and of the beast with seven heads and ten horns that carries her. The beast that you saw was, and is not, and is about to ascend from the bottomless pit and go to destruction. And the inhabitants of the earth, whose names have not been written in the book of life from the foundation of the world, will be amazed when they see the beast, because it was and is not and is to come.

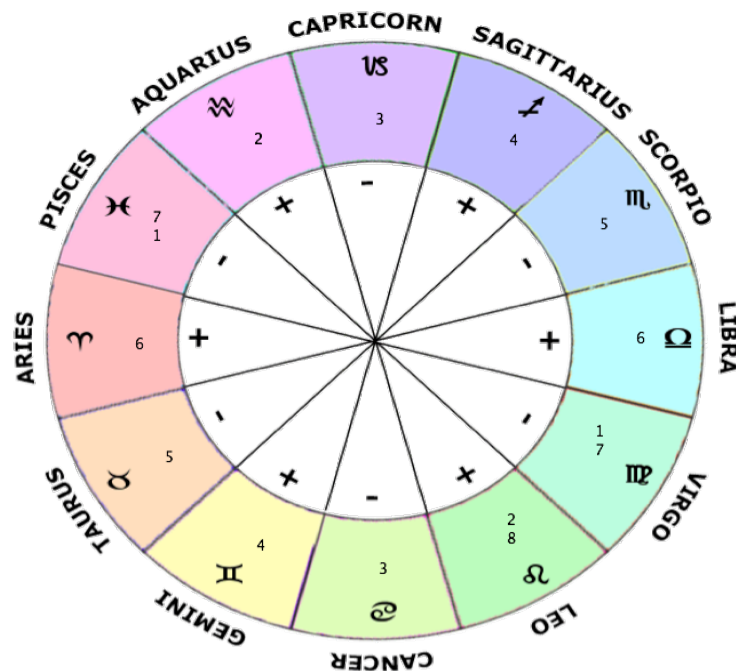
'This calls for a mind that has wisdom: the seven heads are seven mountains on which the woman is seated; also, they are seven kings, of whom five have fallen, one is living, and the other has not yet come; and when he comes, he must remain for only a little while. As for the beast that was and is not, it is an eighth but it belongs to the seven, and it goes to destruction. And the ten horns that you saw are ten kings who have not yet received a kingdom, but they are to receive authority as kings for one hour, together with the beast. These are united in yielding their power and authority to the beast; they will make war on the Lamb, and the Lamb will conquer them, for he is Lord of lords and King of kings, and those with him are called and chosen and faithful.'

A woman on seven mountains, 10 kings without a kingdom, a beast that was, is not, and yet is to come, that is somehow of the seven, but also an eighth, a king now alive, one still to come and stay only a little while, 10 others who will each in turn be kings for an hour. In traditional thinking, which casts *Revelation* as a prophecy of the destruction of Rome, the seven mountains are thought to be an allusion to the city of Rome itself, the city of seven hills. Casting about for a more precessional explanation, I worked for years on the theory that chapter 17, particularly the Big Clue, was really about the numbers it keeps harping on; I couldn't make sense of the imagery at all, or see any logic in its enigmatic description of mountains, thrones, and the comings and goings of kings.

Repeatedly, over the years, I've tied myself in knots over this and other passages, making it all far too complicated, and missing the point. Once you know how to play the game, this is supposed to be simple. The game has simple rules. Two of those command us to think about the constellations of the Zodiac, and think about the scrolling of precession, how it turns like a wheel in the sky. If the ancient author had been standing over my shoulder, he would have been yelling "*It's staring you right in the face, witless boob!*"

There's a millwheel turning in the sky. The Zodiac is affixed to the wheel. It has 12 signs. Precession causes the Spring Equinox to travel through all 12 of them. Round and round it goes.

I think I really did whoop out loud when the sheer, elegant simplicity of the Big Clue first impressed itself upon me, while I sat at my desk at work. Look at the Zodiac's constellations, laid out like a wheel:



Created by Paint X

A beast that was, is not, and will be again? Right. That refers to a prior age of the Zodiac. It's in the past now, but its turn will come again one day. One that reigns? Right. The current Age of the Zodiac. Another that has not yet come, and when it comes, will have its day and then pass? The next Age after the current one.

The 10 who haven't yet had their time, but will, each of them, for an hour? Yes of course. Those are the following 10 Ages of the Zodiac, that will come after the next one before completing the circle, being portrayed like the hours marked out on a sundial. They cede their authority to the one yet to come? Of course; though each in its time will one day define the Age, none of them is king now, and it will soon be the turn of the one yet to come.

That's not even the best part. Using the much-emphasized wheel as our conceptual model, the Big Clue tells us precisely which two Ages of the Zodiac stand apart, and thus, I believe, which two are the "beasts". There's a woman on seven mountains, and there's only one woman up there: Virgo. Go around the wheel in precessional order counting seven signs, including Virgo (she sits on one of the "seven mountains"). At the moment, we're told, five ages have passed, and at the time of writing, we're in a sixth, which works out to be Aries. There are seven mountains, though, and the seventh is Pisces. I think this confirms that Pisces is one of our beasts, the second beast of the narrative. Now, look for an age that is one of the seven just traversed, and also keep going around the wheel, counting eight this time, including Pisces, and you land on the beast that was, and is not, and will be again: Leo, our first beast. Leo is "of the seven" from Virgo to Pisces, and "is also an eighth", as you keep going around the wheel from Pisces.

Is that not a thing of stark and simple beauty? An apparently garbled, incomprehensible passage, that seems to be talking in riddles that nobody this side of the nut-house could crack, is actually a crystalline model of clarity. To understand it, you need only remember the oh-so-simple rules of the game.

That's it then. Two beasts up there in the sky, a seventh, and one that is of the seven but also an eighth. We're also being pointed to the long-past Age of Virgo, the woman on the seven hills is the starting point, and we're being spoken to as if the author is writing from the end of the Age of Aries. Thus a lamb, back in chapter 5, is portrayed as sitting beside God's throne, and thus it appears as if it has been slain – the Age of Aries is about to end. And just as the one yet to come and all the other 10 make war on the current "king", the lamb, by taking their own turns, the lamb will return, it will one day "conquer them" and be back on top for a while as the wheel keeps turning. But right now a new Age, Pisces, is coming on fast. The tenor of the thing is that the reign of this second beast is going to mean terrible trouble, just like the one of the beast that was, and is not, and will be again, when an eagle in mid-heaven cried woe to all humanity. This isn't just a celestial calendar.

Remember:

Then I saw another beast that rose out of the earth; it had two horns like a lamb and it spoke like a dragon. It exercises all the authority of the first beast on its behalf...

Here's to the New Beast. Same as the Old Beast. This is a *warning*.

Aside: The Terrible Demonic Mysterious Frightening Number of the Beast

Of all the fraught and misanalysed aspects of *Revelation*, the beast and its number is perhaps the most profoundly misunderstood. Satanic movies suggest that the dreaded digits will actually appear as a birthmark on the Anti-Christ himself. Orthodox Christian scholarship, looking for something a little more prosaic, has supplied a more sensible and literal explanation for there being a specific number associated with the beast. In this interpretation, the number can be found in the name of the Roman emperor Nero, who so tormented and persecuted the emerging Christian community. Nero must be the beast. In Greek, it's said, "Emperor Nero" translates to "Kaisar Neron", which can be further transliterated (rather than translated) to the Hebrew letters QSR NRW (there being no vowels in Hebrew). Since in the ancient Hebrew system, letters of the alphabet pull double-duty as numerals (just as the letters of the Roman alphabet did), QSR NRW can be looked at as a chain of numbers that adds, apparently, to 666.^{64 65}

It's even suggested that 666 isn't the number at all! Some quite aged versions of *Revelation* say the number is 616, and there's a school of thought that holds this is actually the correct number. The reader will have gathered by now that I don't think so. Quite apart from its obvious uses within the precessional scheme of *Revelation*, 666 is a number with a history, and exists outside of John's apocalypse. It appears much earlier in the Bible, in 1 Kings 10:1, with reference to a quantity of talents of gold brought as tribute to King Solomon, as well as in Ezra 2:13, referring to the number of children of Adonikam returning to Judah from captivity in Babylon (admittedly among a welter of other numbers listed for other groups). More importantly, it's part of a long tradition that exists outside the Judeo-Christian faith.

The number 666 is related to an ancient pagan belief system that stresses 36 as a sacred number, which is thought to have its roots in Babylonian astrology, which catalogued 36 special stars, three for each month.⁶⁶ From ancient times, too, the twelve houses of the Zodiac have each been sub-divided into three "rooms", referred to as "decans", of which there are therefore 36 in total. You can see the decans portrayed in the Dendera Zodiac in the temple of Hathor, discussed earlier. 36 is also a prominent number in pagan Sun-worship, being the "Grand Number of the Sun", and long before the Christian era, popular

⁶⁴ <https://americanvision.org/1746/mark-of-beast-or/>

⁶⁵ Read more fun theories here: <http://biblelight.net/666-solved.htm>

⁶⁶ A good scholarly article on Babylonian astrology can be found here: <http://articles.adsabs.harvard.edu//full/1998JBAA..108....9R/0000016.000.html>

amulets featured the depiction of “magic squares of the Sun”, in which all the integers from 1-36 were aligned in rows and columns.

This makes for six vertical columns, and six horizontal rows, and in a magic square of the Sun, if you add the numbers arrayed in any one of those rows or columns, the product is 111. The six rows on the one hand, and the six columns on the other, therefore sum to 666. It follows that the numbers 1-36 added together, however you go about it, will sum to 666. Try it on a calculator.

It really is that simple. The Sun, ruler of the Zodiac, has for its symbol a “magic square” that evokes the 36 decans of the Zodiac’s 12 houses, and perhaps the 36 monthly stars first identified by Babylonian astrologers, as well as the magic number that emerges when you sum the numbers 1-36. The number of the beast, to those in the know, would have been a very obvious clue that the beast is one of the Zodiac’s 12 constellations. Nothing more sinister than that.

Below is a Magic Square using the Arabic numerals familiar to us, but in ancient times they depicted contemporary number systems. 666 was a lucky number, not an evil one. People wore those amulets for protection, to ward off evil spirits, and magic squares are still being hawked as lucky charms on the internet today⁶⁷. Everyone can leave off looking for birthmarks on kids named Damien.

I know, I know. *Party-poooper*.

1	35	34	3	32	6
30	8	28	27	11	7
24	23	15	16	14	19
13	17	21	22	20	18
12	26	9	10	29	25
31	2	4	33	5	36

⁶⁷ <https://spellsandamulets.com/charms-amulets/money/magic-square-amulet/>

Defining the Age

Revelation, then, is written from the perspective of the last years of the Age of Aries, and hearkens back to the Age of Virgo. It tells us that after Virgo, the Age of Leo was a vile beast, and it warns that after Aries, a new and equally vile beast, Pisces, is on the way. The version in the New Testament, it seems to me, is a re-purposed draft of the original, stapling on the first three chapters about Jesus chiding the churches of Asia Minor, before the abrupt transition to the story as written in the waning years of Aries begins with a door opening in Heaven. The coming dawn of the Age of Pisces hovers over the whole narrative.

Setting the Millennium

The dawning of the Age of Pisces corresponds closely to the beginning of the Christian Era; just around when we began the first millennium, the Sun was starting to rise on the Spring Equinox in front of Pisces, and our year 1 is as good a year as any to mark as the time the transition from Aries took place. I doubted from the outset that this was a coincidence. There's much in the historical record to suggest an intimate link between Christianity and the dawning of the new astrological age. To early Christians, the symbol of Christ was not the cross, but the fish; and Christ himself was a "fisher of men", who sent out his Apostles to become fishers like him. One of the more prominent moments in the fourth Gospel is the miraculous haul of fish. Overall, there's a decidedly fishy, Piscine feel to the whole business.

While this essay has been using the now-fashionable "C.E." and "B.C.E.", meaning "Common Era" and "Before Common Era", the year "1" on our calendar is supposed to mark the birth of Christ – 1 AD, the first "Anno Domini", or "Year of Our Lord". Perhaps, to our anonymous encoders, the Age of Pisces and the beginning of the Christian Era started at exactly the same time? If D.M. Murdock is right, this would make perfect sense, given her conclusion that the Christ figure is just a new incarnation of the Sun God, born out of a tradition of pagan astrology-based worship going back thousands of years. The start of a new astrological age seems the perfect point at which to usher in a new version of the old deity. If so, I was sure *Revelation's* authors would have found some way to depict the sky for us to indicate the year "1" of our own calendar, assuming that the beginning of the Christian Era was a settled matter right from the start.

It wasn't, apparently. I was surprised to discover that as far as orthodox history is concerned, the establishment of the Christian Era, the setting of the birth date of Christ as a first year from which to begin counting, wasn't accomplished until long after the death of Jesus – and long after the drafting of *Revelation*. According to most sources, the calculation of the year of Christ's birth wasn't made until a monk named Dionysius Exiguus worked it out over 400 years after *Revelation* was completed. Until then, years were reckoned from the date of the founding of

Rome. Dionysius deduced that Christ had been born in the 753rd year of Rome; if that became year “one”, the date of his calculation became year 525.

One thing has always puzzled scholars: Dionysius got it wrong, and his mistake must have been obvious from the beginning. The Gospels had Jesus being born in the reign of Herod, yet the Herod of the Gospels died no later than 4 B.C.E. as dated within the new scheme. The Messiah was a miraculous fellow, no doubt, but he couldn’t have been born at least four years before he was born.

In the orthodox view Dionysius simply made a mistake. Maybe, though, he was tapping into an older tradition. This is an idea uncovered by my friend Leonard Collier, whose viewing of *Ghostbusters*, you’ll recall, was the catalyst for all of this delving into the Bible in the first place. As I struggled along with my decoding, close to 20 years ago, he was making his own forays into the relevant literature. Knowing that the problem of the millennium might have a bearing on my analysis, Leonard began digging around, and found, in the work of Barbara Thiering (see her book *Jesus of the Apocalypse*)⁶⁸, a well-researched argument that the establishment of the year “1” was accomplished not in 525 C.E., but at the very beginning of the Christian Era, just as I’d once, in my naïveté, assumed. Thiering believes that the proper beginning for the millennium was determined by the Essenes, the Jewish sect associated with the Dead Sea Scrolls, and that the eventual adoption by the rest of us of this date is the Essene’s unacknowledged legacy. She is certain that the early Christian drafters of *Revelation*, as well as the Essenes, were already marking time according to the new scheme.

According to Thiering, during the first century B.C.E. it had come to be believed among the Essene sect (which many believe was the immediate predecessor of the emerging cult of Christ), that the last millennium of world history had begun in what we would call 41 B.C.E. The thousand-year kingdom of the Jews was supposed to have begun at that point, under the dynasty of Herod the Great, but Herod’s declining popularity led to a reassessment, and, Thiering asserts, a resetting of the clock involving the designation of a “zero generation” of 40 years duration. The year 1 B.C.E. thus became “0” of the new millennium, and the year 1 C.E. its new year 1. If so, then by the time *Revelation* was written in its current form, a convention establishing the millennium at 1 C.E. would already have been established among early Christians. Perhaps, then, it was a natural point for its mysterious authors, donning the cloak of Christianity, to adopt.

The beliefs of the Essenes, as revealed in the Dead Sea Scrolls, raise some interesting questions. The Scrolls, from which we derive what we know about this odd pre-Christian sect, are a historical treasure trove of ancient religious texts,

68

<https://books.google.ca/books?id=s7MtU1tyvWkC&dq=Jesus+of+the+Apocalypse&hl=en&sa=X&ved=0ahUKEwiCj4fLhK3NAhUM1oMKHZ75A2wQ6AEIHTAA>

the first of which were found quite accidentally by a Palestinian shepherd boy in 1946. Scholars believe them to have been written over a span of about 200 years, ending around 70 C.E., just when *Revelation* is thought to have been written. They betray an often uncanny similarity between the beliefs of the Essenes and the beliefs of early Christians. Some sort of connection between the two has always been rather disturbingly obvious, but the extent of the links between the Essenes and the first Christians has been a matter of lively scholarly debate. Recently, it's been suggested that the relationship between the Essenes and the first Christians, so manifest in the Scrolls, were more than intimate. The argument has been made that the Essenes and the Christians were, essentially, offshoots of the same movement.

As I worked on successive drafts of this book back in the late 1990s, an academic named Alvar Ellegard published a study of early Christianity titled *Jesus One Hundred Years Before Christ: A Study in Creative Mythology*.⁶⁹ Ellegard believes that the Essene movement was well established among the Diaspora Jews of the Greek-speaking Roman Empire, and that Christianity was merely a derivative of the Essene faith. The Jesus Christ referred to in the authentic Christian documents of the first century C.E., such as Paul's letters, and *Revelation*, was not an earthly figure, but a spirit, seen only in visions. Nothing of any earthly life of Jesus is mentioned at all in the early Christian writings. This is because Jesus, argues Ellegard, was not a new messiah crucified only decades before, but a long-dead religious leader being elevated to new heights by offshoot Essenes – none other than the “Teacher of Righteousness” identified as the guiding light of the Essene faith in the Dead Sea Scrolls.

The early Christian writings of the Apostle Paul, and the authors of *Revelation*, say nothing of any purported everyday life of Jesus in Palestine, says Ellegard, because they knew nothing of any such life. The Gospels in which this story is presented are a second century fiction; pseudo-graphic works first written down as much as a hundred years after Paul's letters, the Gospels represent not the first written versions of a preserved and authentic oral tradition, but a made-up story designed to supply the faithful with a human life story for Christ. This was necessary to combat dangerously heretical ideas gaining currency in the first and second centuries, promulgated by, among others, the Gnostics, yet another offshoot of, and we think a reaction to, the Essene/Christian faith.

The Gnostics, who originated in Alexandria (their name comes from the Greek word “gnosis”, which means “knowledge”), represented a rather mystical fusion of Hebrew theology and Greek Neo-Platonism, with what seem a lot like elements of Eastern mysticism thrown in. Their wisdom and beliefs had almost

⁶⁹ <https://www.amazon.ca/gp/search?index=books&linkCode=qs&keywords=9780712679565>

been lost to history, but now a fair bit is known of their teachings, in part because of another chance find, this time by a couple of farmers. In 1945, in Egypt, they discovered Gnostic versions of some of the Gospels, preserved in a jar.

We know that the Gnostics thought that the virgin birth and the resurrection were fantasies, and didn't happen. They didn't think that Jesus was different from others who attained enlightenment from his teachings – once enlightened, you were equal, the same. They didn't portray Jesus as being concerned with sin and redemption, only with spiritual growth and the enlightenment that made you his equal. Oh, and Judas wasn't a traitor; he was a hero, and the right arm of Jesus.

Some of their Gospels held to the peculiar view that Jesus, while real, was not even a man. When he appeared on Earth, he'd been a heavenly spirit in the *guise* of a human being. He only *seemed* like a flesh and blood person.

On such nuances does history often turn. To the emerging orthodoxy of mainstream Christianity, this notion, referred to as the “docetic heresy”, undermined the idea that Jesus had really suffered and actually died to redeem us all. It made a shambles of the resurrection too – if Jesus had never been a man, and never really died, then he never really rose from the dead either. It followed, then, that the Gnostic story of Jesus offered the faithful neither the hope that the suffering of Christ had cleansed our sins, nor the prospect of being raised from the dead, as Christ had been, to live eternal life. This was an abomination that needed to be fought, and suppressed.

So, says Ellegard, there suddenly appear four accounts of a completely human Jesus on Earth, suffering, dying, and rising from the dead. The Gospels, being a fiction, betray the handiwork of writers intent upon pleasing their audience, and portray the life and sayings of Jesus as an adept mixture of Old Testament prophecy and the wisdom of the Greek sages. Meanwhile, the real inspiration for Jesus, whatever his true name had been, the Teacher of Righteousness of the Dead Sea Scrolls, was forgotten. But for the chance discovery of a Palestinian shepherd boy in 1946, we never would have heard of him.

Ellegard's thesis is undoubtedly upsetting to the devout, and sure isn't something any American running for office should be quoting on the campaign trail, but it makes perfect sense in light of our own findings about *Revelation*. The reader will remember my questioning whether the author of *Revelation* knew anything at all of the Gospel teachings of Jesus. Ellegard would conclude that he (or she?) most probably did not, inasmuch as what we take to be the teachings of Jesus were a fiction written decades after *Revelation* was set down. *Revelation* appears to be more like a Jewish document steeped in the Old Testament, ignorant of the details of the Gospels, because that, indeed, is just what it is.

If Ellegard is right then it further stands to reason that *Revelation* would be perfectly in step with Essene beliefs. So it is, from what I've gathered, to a great extent; in particular, the Scrolls show the Essenes to be obsessed with a coming cataclysm, an End Time of complete destruction. It's arguable, then, that my assertion earlier that nobody has a clue who wrote *Revelation* was wrong. We've no idea who "John" was, true, and while there's no universal agreement that the Essenes, and not some other sect, authored the Scrolls, *Revelation* and some of the Dead Sea Scrolls could have been written by people who shared a set of beliefs within one of the many sects then vying for followers in the Roman World. If that was the Essenes, and if Thiering is right that the Essenes are the ones who set the millenium at 1 C.E., then it stands to reason that *Revelation* would, one way or another, embrace this date as well.

Four Horsemen

This is a great deal to contemplate, and makes me want to delve a little deeper into those enigmatic Scrolls, something I've simply never had time to do. Are they, too, filled with numbers and word pictures of the sky? Are they also steeped in the Zodiac and its Ages? Did their authors, or people close to their authors, also write *Revelation*? Or did somebody else take a fancy to the Essenes' emphasis on the End Times, and borrow aspects of their writings to feed their own message to the emerging population of Christians? If the Essenes started the millennium at our year 1, did other sects too? And why that year, if it had nothing to do with Jesus – was it really a reboot to cut Herod's reign out of the chronology? Why else would that particular year have been so special?

I've struggled a great deal with such questions, and I don't have any answers. I think Thiering is right that the Essenes set the year "1", and I think Ellegard is right that the Essenes and the writer(s) of *Revelation* were likely offshoots of the same sect. However, my suspicion is that whatever the Essene's believed, whoever wrote *Revelation*, and whatever the relation between the Dead Sea Scrolls and John's apocalypse, the first year of the Christian calendar derives from an older tradition, having nothing to do with either Herod or Jesus. It is indeed the designated first year of the Age of Pisces. *Revelation* signals this with astonishing clarity.

The author of *Revelation*, sorely troubled by the dawning of the new Age, and warning us of grief to come, wanted to give us a start date, a specific time to begin worrying, and, I believe, a specific and far from arbitrary time to begin *counting*. Counting units of time in precise increments, starting at a precise point, is going to be central to our final understanding of the encoded message.

I believe our year 1 was chosen because the first year of the Common Era provided a golden opportunity to depict, in the usual coded words, a very rare set of astronomical conjunctions. Anyone who knew the rules of the game would

probably get the message, so well do these conjunctions dovetail with everything we've learned about the encoders' standard bag of tricks, and so perfect is their concordance with everything that's central to the precessional code. What's more, having understood the imagery, the reader would appreciate that the dawning of Pisces could be associated with one possible year, and one only. In fact, 1 C.E. was so perfect for the purpose, it must have seemed almost too good to be true. Nature handed the encoders a real doozy.

The answer occurred to me when I was standing at a crosswalk, waiting for the light to go green. It's lucky I didn't step in front of bus. Watching the traffic go by in a sort of reverie, I thought about the famous passage in *Revelation* 6, announcing the arrival of the famous "four horsemen of the apocalypse":

I watched as the Lamb broke the first of the seven seals, and I heard, like the noise of thunder, one of the four creatures say "Come forward." To my surprise I saw a white horse. The rider had a bow, and a crown was given to him. He rode forth victorious, to conquer.

When he broke the second seal I heard the second creature say "Come forward." And another horse went out, a red one. Power was given to the rider to take peace from the earth and make men kill one another. A great sword was given to him.

When he had broke the third seal, I heard the third creature say "Come forward." And now I saw a black horse, and he who sat on it had a pair of scales in his hand...

When he opened the fourth seal I heard the voice of the fourth creature say "Come forward." And now I saw a pale horse. The name of the rider was death, and Hell followed him.

Those just had to be constellations. But signifying what?

I wasn't alone in suspecting an astronomical significance to these riders. There is, I later found, general agreement among scholars that the four horsemen indeed represent constellations, and there's even widespread agreement on which ones. The archer on the white horse with the crown is Sagittarius, the swordsman on the red horse is Orion, the rider on the black horse with the scales is Libra, and the rider of death on the pale horse is Scorpio. There's some debate on this, but this is the general view, buttressed by such clues as the assertion that the horsemen are given power over "a quarter of the earth" - these constellations are all prominent in the southern sky, looming almost literally over only that quarter of the land that is visible to the viewer facing Southward.

But four horsemen also dovetail nicely with four cardinal points of the year, solstices and equinoxes. Of course they do! Why was that occurring to me only now, standing on the corner of King and Bay in downtown Toronto? Hadn't they made it obvious? Note how each rider is called forward in turn by each of the four creatures that sit around the throne of God. We saw earlier how these creatures are representative of the four cardinal points of the year, equinoxes and solstices. Isn't the summoning of the horsemen by these animals evocative of each horseman appearing in turn on each of those cardinal points? And it occurred to me, as I stood there, dangerously oblivious to my surroundings, that this description of the constellations riding on horses of different colours might be an insanely clever way of pinning down a specific year, by pointing out conjunctions of those constellations with certain planets, each occurring on the dates of that year's equinoxes and solstices.

I could almost hear a whisper in my ear. *What's the rule?* Animals and people in the sky are constellations. *What's likely about anything said to have a colour?* It's likely a planet. *What's going on with this game?* We're supposed to work out the times things happened, based upon the depictions of the sky. *What's central to the encoders' system?* Precession. *Yes, and what sorts of events allow you to keep track of precession?* Solstices and equinoxes, and the celestial animals associated with them. *So these horsemen and their horses must be...?* Holy crap. Planets and constellations as they appear on solstices and equinoxes.

There. Was that so hard?

Back to the planetarium! I dialed up the spring equinox in 1 C.E., and sure enough, there was Orion in direct conjunction with Mars. It sits right over the crown of Orion's head, and Orion's upraised club points directly at Mars. The red planet, a "red horse".

The summer solstice in 1 C.E. shows Sagittarius gliding along in the company of a bright and very nearly full moon - there was the white horse.

The winter solstice has Scorpio in direct conjunction with Jupiter - a quick dash to astronomy texts and mythology books affirmed that Jupiter appears a light creamy colour to the naked eye and was associated by the ancients with the colour white, pale yellow, and paleness in general. There, then, was the pale horse.

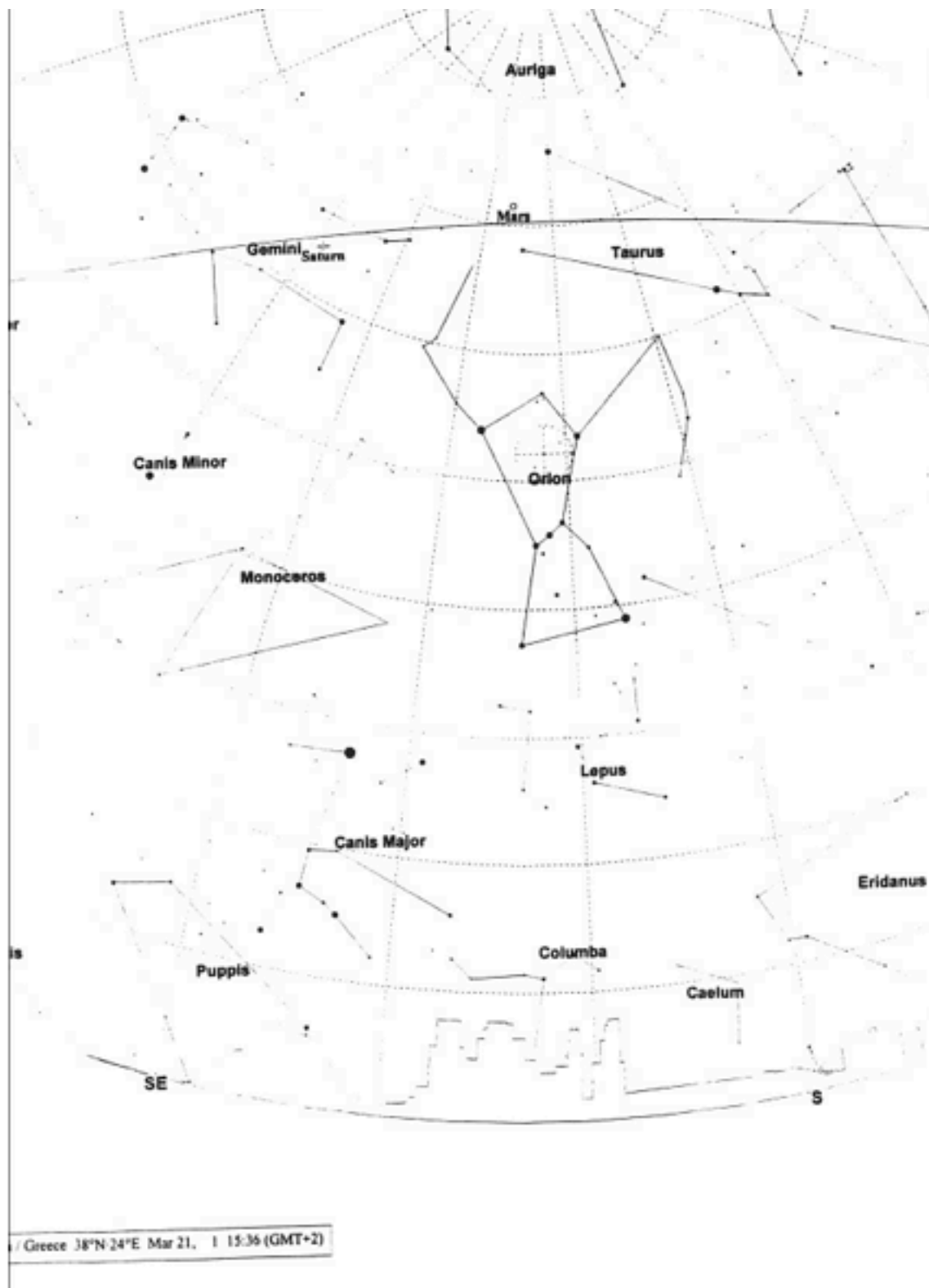
The anomaly appeared at first to be the autumn equinox. There was Libra, all right, in conjunction with a planet, but that planet was Jupiter as well. Jupiter can't be a pale horse and a black horse too! Then a closer look revealed another planet, Mercury, nestled inside the arms of Libra's scales. As discussed, Mercury was known to the ancients, but it was very hard to observe, most of the time, as it's never far from the glaring Sun. I could see no reference to Mercury in

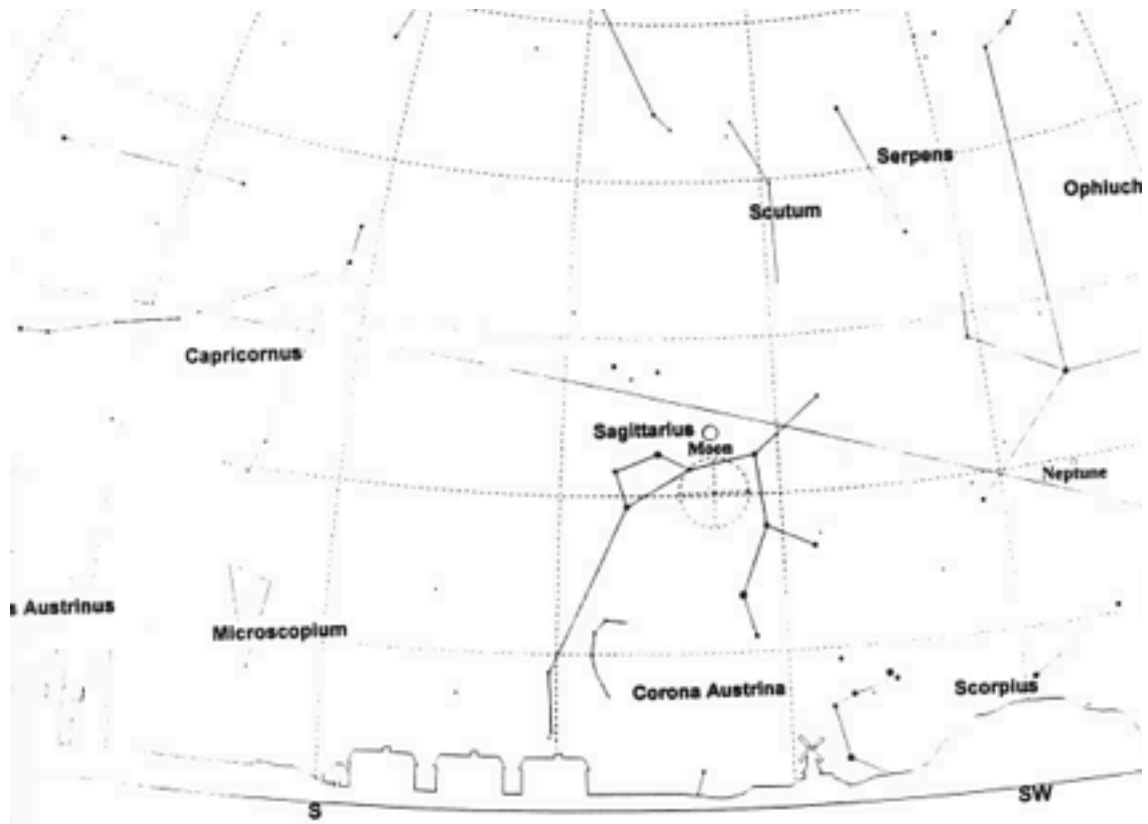
connection with blackness in my mythological sources, but Leonard suggested that Mercury would appear as a black speck against the disc of the Sun.

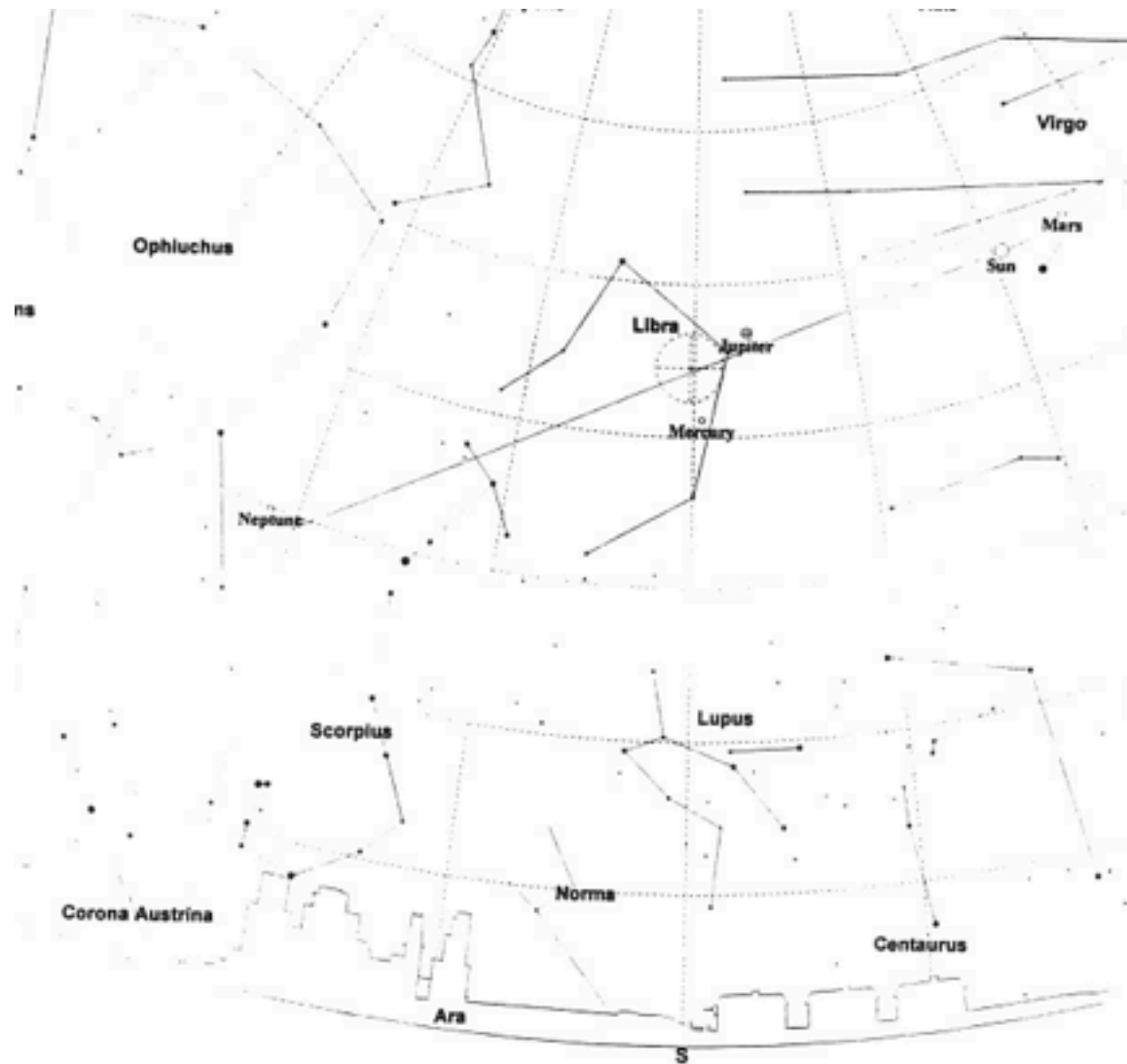
Exactly right. In looking up Mercury in my astronomy books, it was noted that Mercury, more frequently than any other planet, "transits the Sun", that is, crosses the face of the Sun from our perspective, at which point it can only be observed as a black dot against the Sun's face. A black dot! Mercury has transited the Sun something like 11 times in our century alone, but it doesn't happen every year - all the interacting movements of the planets make it a predictable but sporadic event.

In 1 C.E., on April 14 (by the Gregorian calendar), Mercury transited the Sun, right across the disc. Mercury fits perfectly as the "black horse", in conjunction with Libra on the Autumn equinox in one of those frequent but irregular years in which it transits the Sun.

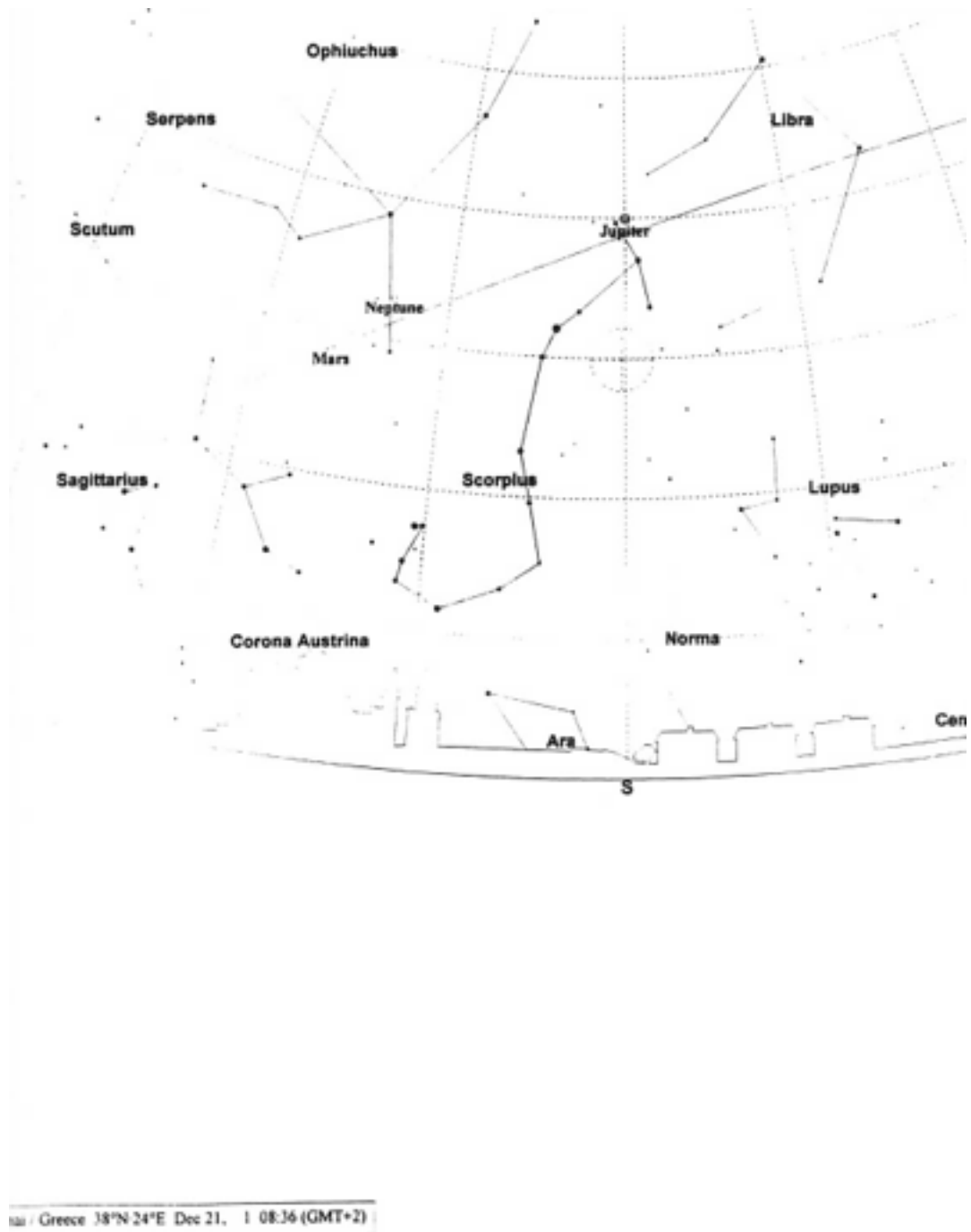
The four horsemen of the apocalypse, 1 C.E.; Orion conjoins with Mars on the Spring equinox; Sagittarius conjoins with a nearly full moon on the Summer solstice; Mercury nestles in the scales of Libra on the Autumn equinox; Jupiter on the horns of Scorpio on the Winter solstice. The last chart shows Mercury transit the Sun, becoming a “black horse”, in April of 1 C.E. First set of images reproduced from Planetarium Pro. Second set reproduced from SkySafari 4 Pro.

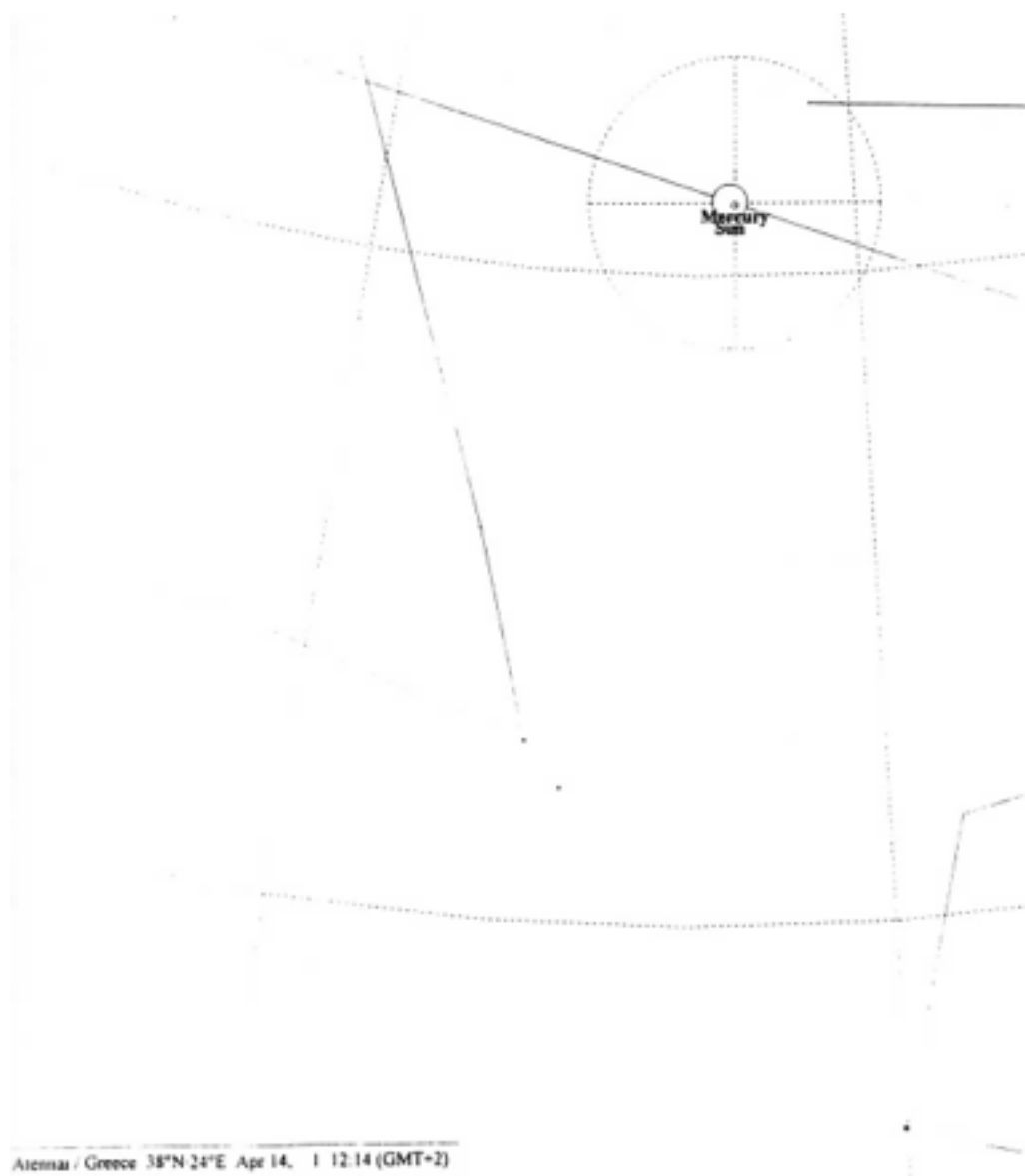


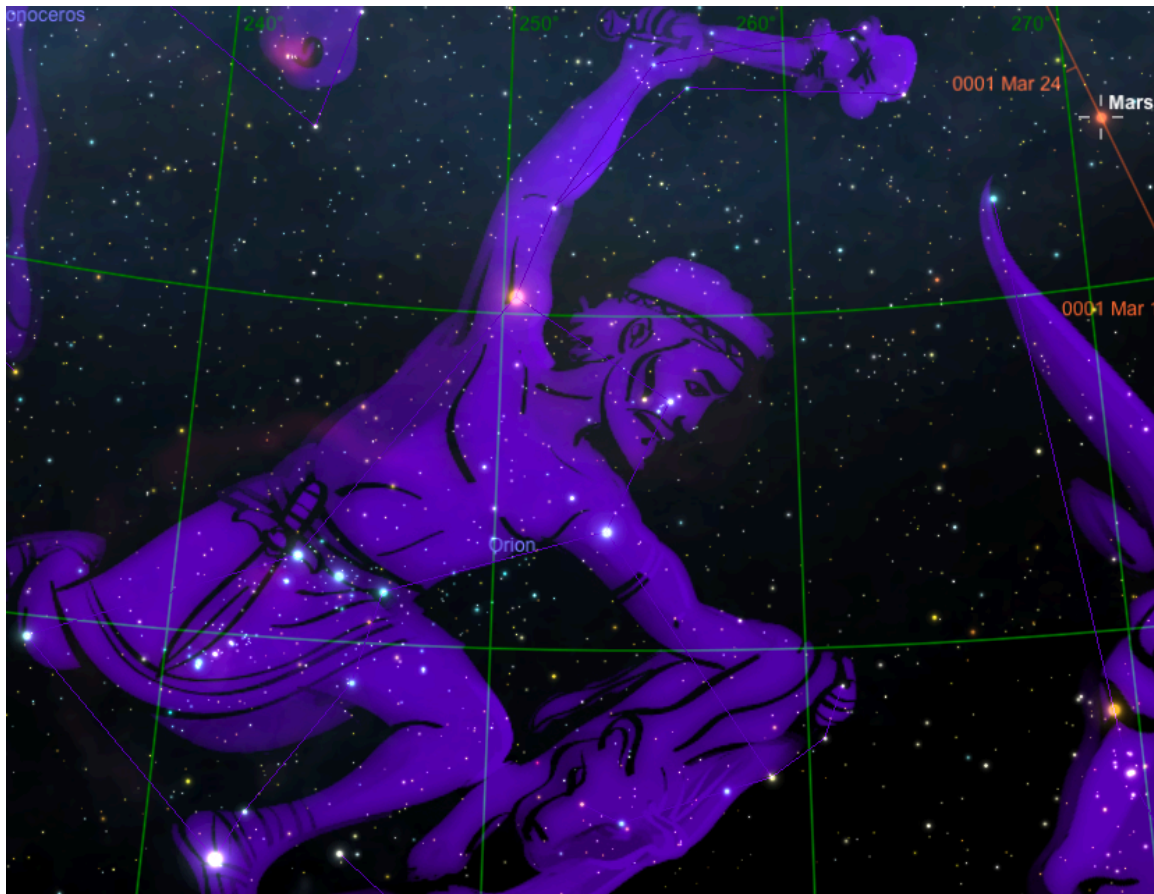


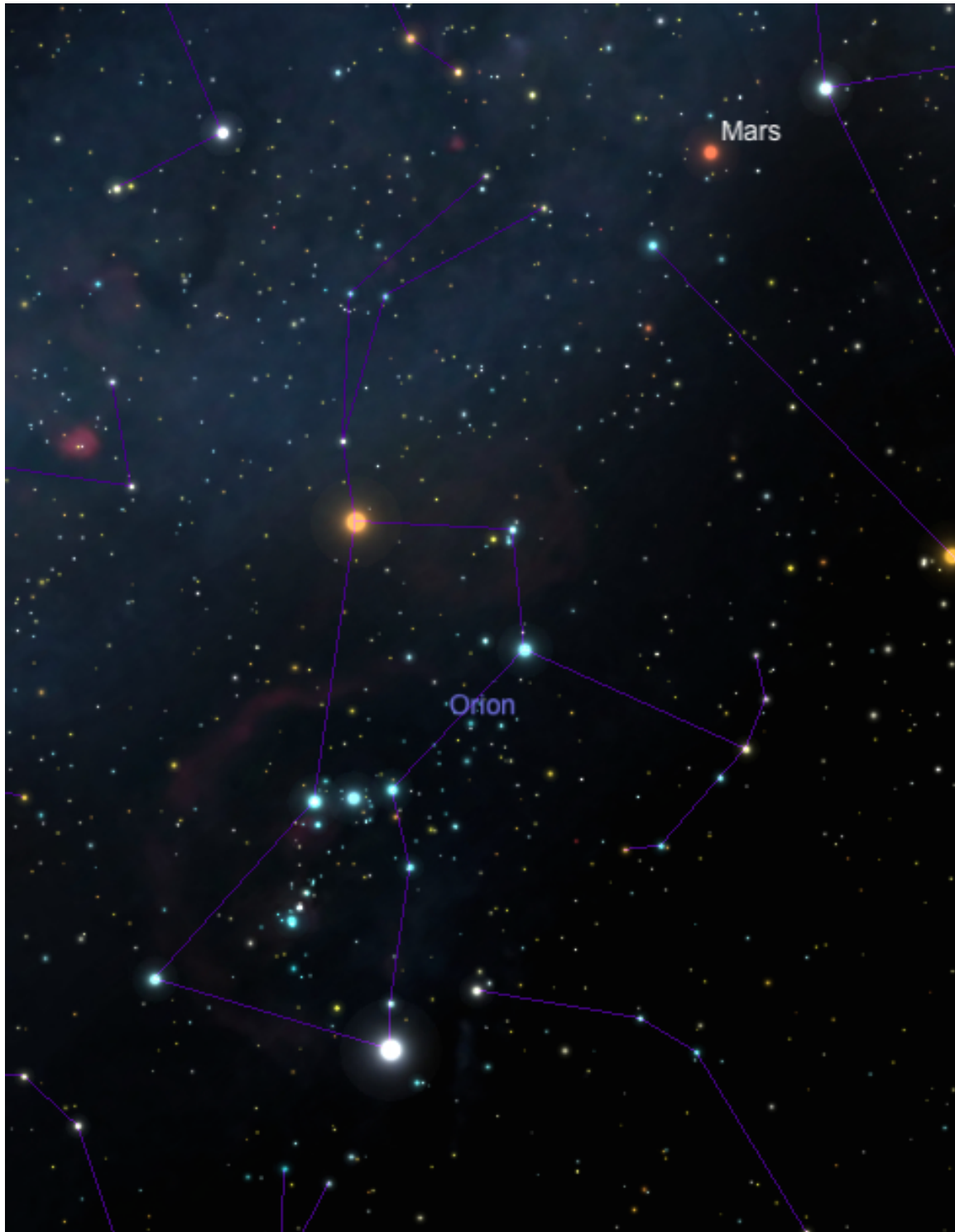


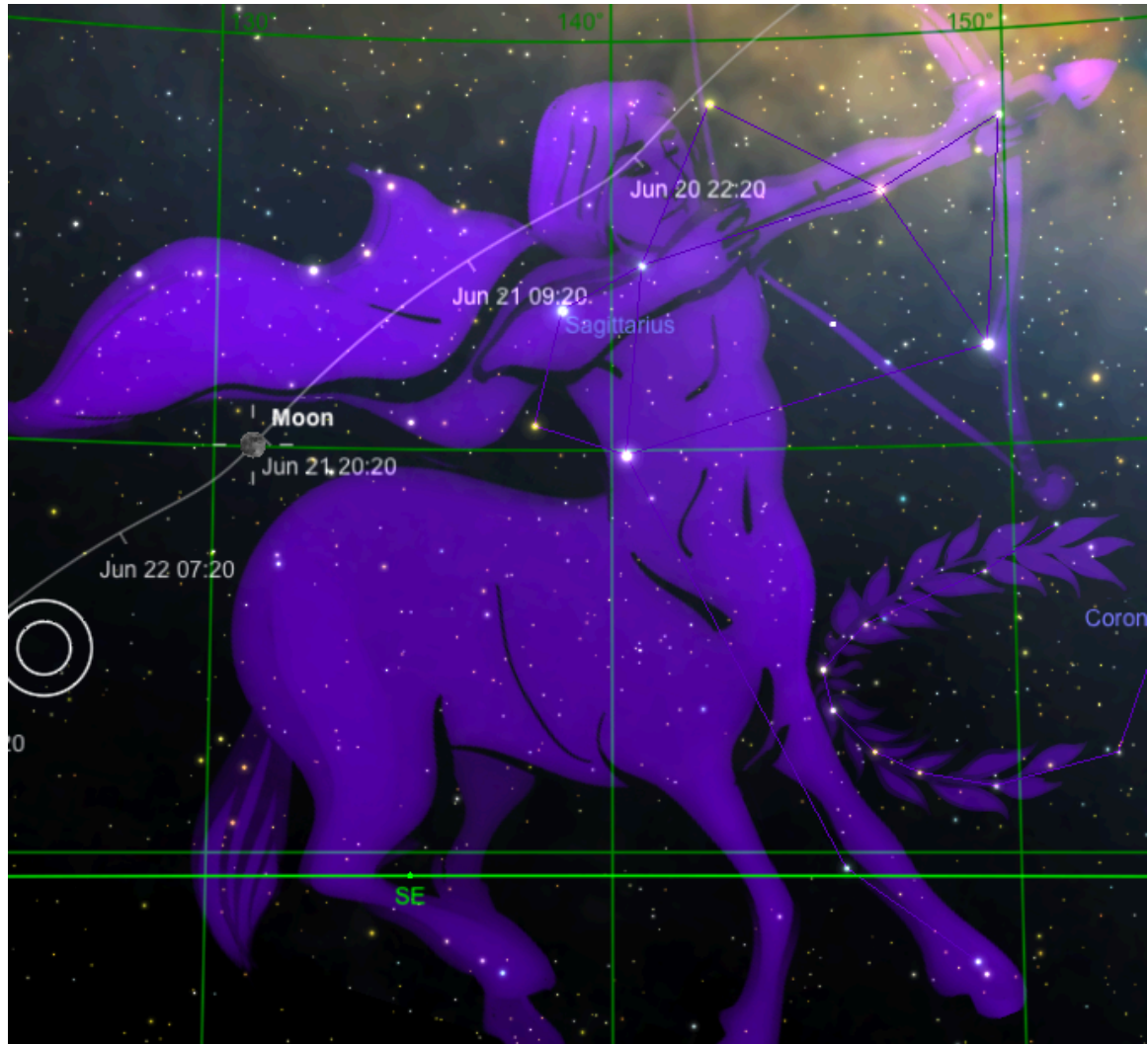
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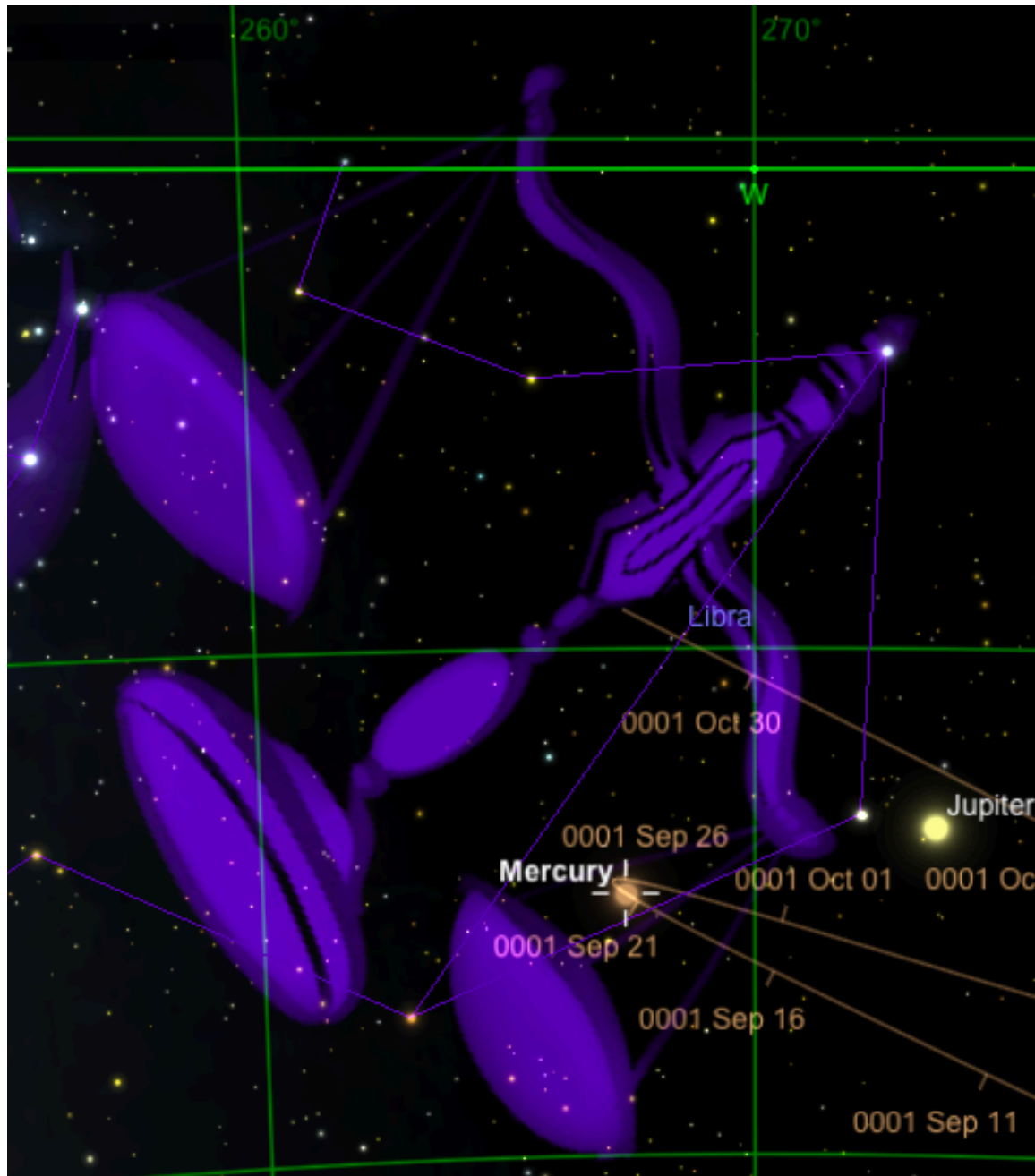


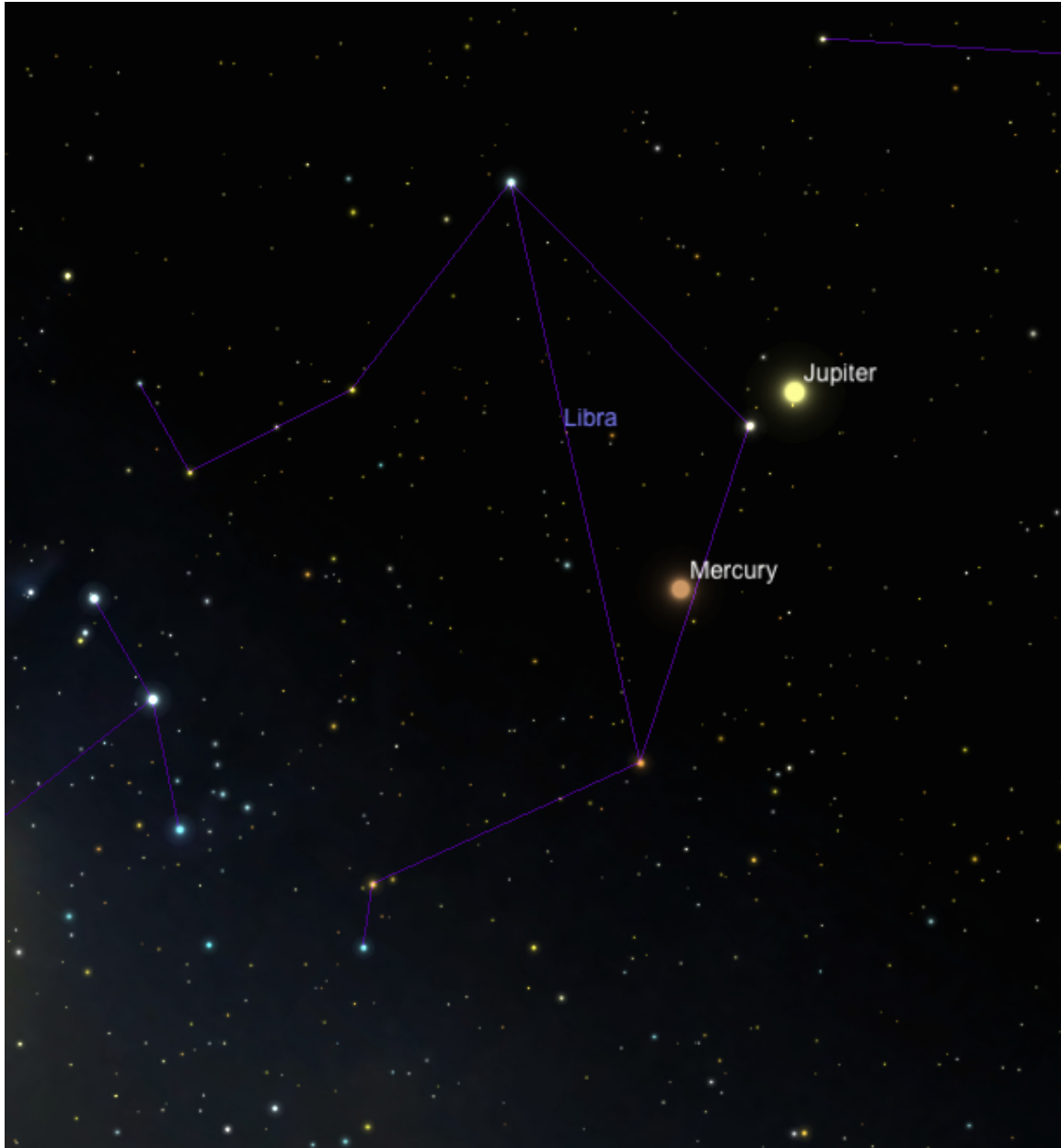




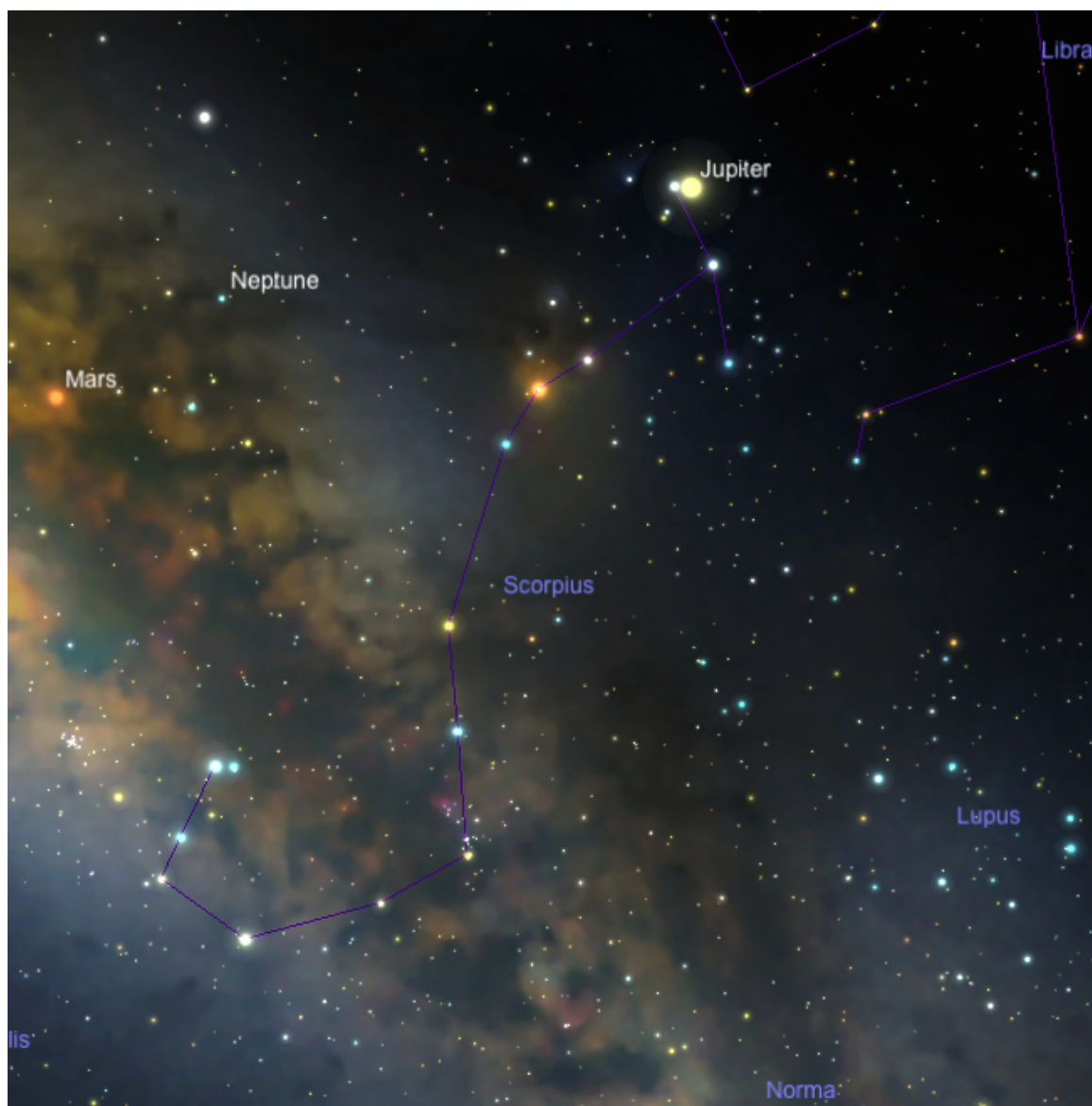


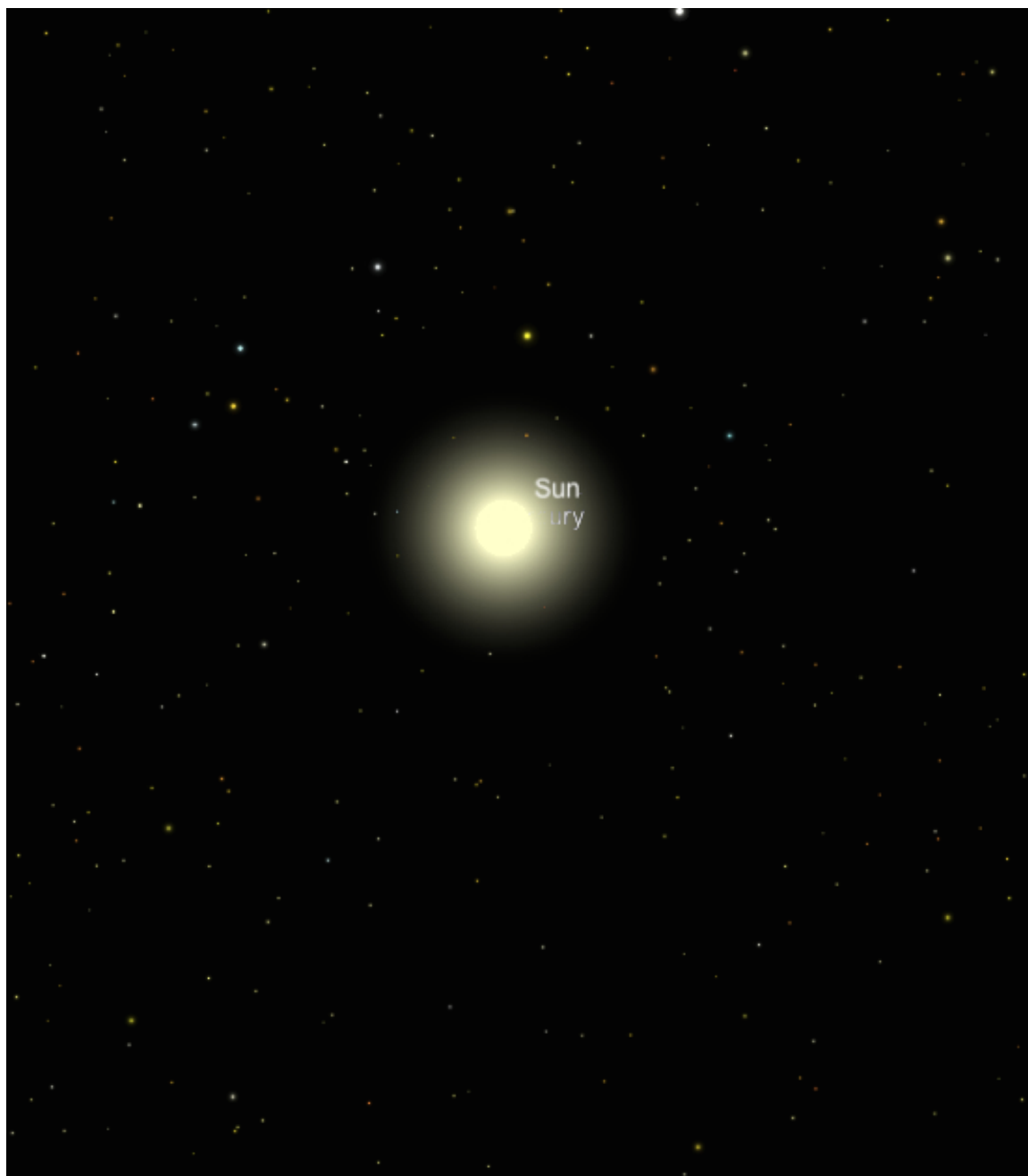












It was all so perfect.⁷⁰

The Four Directions

Given when *Revelation* is supposed to have been composed, one might think that recording this set of conjunctions was a simple matter of observation, a sort of astrological opportunism, but it seems the intent was also to ensure that John's vision resonated with the words of earlier prophecies. The association of coloured horses with cardinal directions goes back much further in Judeo-Christian tradition. This is from the *Book of Zechariah*, attributed to a prophet who lived in the sixth century B.C.E.:

And again I looked up and saw four chariots coming out from between two mountains—mountains of bronze. The first chariot had red horses, the second chariot black horses, the third chariot white horses, and the fourth chariot dappled gray horses. Then I said to the angel who talked with me, "What are these, my lord?" The angel answered me, "These are the four winds of heaven going out, after presenting themselves before the Lord of all the earth. The chariot with the black horses goes toward the north country, the white ones go toward the west country, and the dappled ones go toward the south country." When the steeds came out, they were impatient to get off and patrol the earth. And he said, "Go, patrol the earth." So they patrolled the earth. Then he cried out to me, "Lo, those who go toward the north country have set my spirit at rest in the north country." (Zechariah 6:1 to 8).

The two bronze mountains reminded me of the poles of an armillary sphere, a model of the heavens that is supposed to have been another brainstorm of Hipparchus, centuries after Zechariah's visions – though such a sphere, which consists of hoops within hoops representing celestial coordinates, is simply Ezekial's vision rendered in metal. Maybe Zechariah had something similar in mind, and these horses are racing off to the four corners of the celestial plane that resides between the zenith and the nadir, in a straightforward vision of the sky (notice we aren't told where the red horses are going, though if they went anywhere, one assumes it must have been East). It seemed amazing that the actual sky of 1 C.E. had afforded an opportunity to tie into a much older association of the cardinal points with colours, and nearly the same colours too.

This is where it gets a little spooky, even for me, and I'm used to this sort of thing. The association of specific colours with the four cardinal directions, and

⁷⁰ Though admittedly not *quite*. In the text, Sagittarius comes out first, then Orion. In the skies of 1 C.E., it's actually the other way around.

therefore the four constellations occupied by the Sun on the solstices and equinoxes⁷¹, is widespread in the Americas, and was before Europeans ever got here. I stumbled over this when trolling the internet looking for something else – it describes the traditions of the Lakota Indians⁷²:

East (Yellow) - The direction from which the sun comes. Light dawns in the morning and spreads over the earth. This is the beginning of a new day. It is also the beginning of understanding because light helps us see things the way they really are. On a deeper level, East stands for the wisdom helping people live good lives. Traditional people rise in the morning to pray facing the dawn, asking God for wisdom and understanding.

South (White) - Because the southern sky is when the sun is at its highest, this direction stands for warmth and growing. The sun's rays are powerful in drawing life from the earth. It is said the life of all things comes from the south. Also, warm and pleasant winds come from the south. When people pass into the spirit world, they travel the Milky Way's path back to the south - returning from where they came.

West (Black) - To the west, the sun sets, and the day ends. For this reason, west signifies the end of life. As Black Elk says, "...toward the setting sun of his life." The great Thunderbird lives in the west and sends thunder and rain from its direction. For this reason, the west is also the source of water: rain, lakes, streams and rivers. Nothing can live without water, so the west is vital.

North (Red) - North brings the cold, harsh winds of the winter season. These winds are cleansing. They cause the leaves to fall and the earth to rest under a blanket of snow. If someone has the ability to face these winds like the buffalo with its head into the storm, they have learned patience and endurance. Generally, this direction stands for hardships and discomfort to people. Therefore, north represents the trials people must ensure and the cleansing they must undergo.

⁷¹ Recall that the way the standard depiction of the four constellations that occupy the solstices and equinoxes is a cross drawn on top of the circle of the Zodiac, each of the four constellations establishing a cardinal point, the effect looking quite like a compass.

⁷² <https://sites.google.com/site/colorsofthefourdirections/lakota>

This is the flag of the Ojibwa tribe:



The Navajo use black, white, yellow and blue. So did the Maya. It isn't confined to the Americas, either. In Chinese culture, they use black, white, red and green. Black, white, red and yellow were used in ancient Celtic traditions. In fact, the use of four colours to symbolize the four cardinal directions, often the same or a very similar set, is as widespread as the precessional code itself, and in my view forms a part of it.

I don't really know what to do with that. It seems a bit *too* amazing. How can the four planets that help us fix *Revelation's* year 1 have any connection with a long global tradition of ascribing colours to the cardinal directions? Can it possibly be that these four colours, from the very beginning, were meant to indicate the colours of four planets which, by conjoining with certain constellations, will signal what we should consider to be the first year of a crucial astrological age?

Or was this just another unbelievably lucky coincidence that nature supplied the encoders?

Anyway, there you have it. In *Revelation*, the four horsemen are specific constellations. Their being summoned forth in turn by each of the four living creatures that surround the throne of God, which themselves symbolize the four equinoctial and solstitial points of the year, is a clue that the horsemen also represent constellations as they appear on given equinoctial and solstitial points. The stress that's placed upon each horse being of a different colour is a clue that we're to look for those constellations in conjunction with planets of the same colours on the equinoxes and solstices. By dialing up 1C.E. and looking at the

solstices and equinoxes that year we find all of the requisite horses and horsemen, right where they're supposed to be: Orion with Mars, a swordsman with a red horse; Sagittarius with a full moon, an archer on a white horse; Libra with Mercury in a year Mercury transits the Sun, a rider carrying scales on a black horse; Scorpio with Jupiter, death on a pale horse.

Just How Rare?

Such a set of conjunctions can't recur all that often. I don't have the resources to prove that no other year, ever, offers a duplicate of these conjunctions, or perhaps a different set of conjunctions that could be argued to be just as compelling in its own way. However, I can certainly verify that the full set of conjunctions presented on the solstices and equinoxes in 1 C.E. will only rarely recur within a single year, on any dates at all. All four in one year, with each occurring on a cardinal date? Not unheard of, but even less frequent, rare as hen's teeth. All four occurring, one after the other, on successive equinoxes and solstices, so you can line them all up without, say, two of them piling up on one cardinal point, leaving another empty, or with a horsemen we've already seen? Practically a unicorn.

I worked this out the hard way, by running the planetarium software and actually looking at every one of the solstices and equinoxes that occurred over a 300 year window, from 100 B.C.E. to 200 A.D.⁷³ If a start date for the Age was being flagged for us, I reckoned that it would have to be within that window. Initially, I settled on a narrower set, 200 years, 100 to each side of 1 C.E., but I carried on forward for another hundred years just to see if the suitable set of conjunctions continued to be a rarity. I've set out the results in a table occupying the next few pages, but if that's tedious, here's the executive summary: only 1 C.E. fits the bill.

Conjunctions supplying us with a horseman on the proper horse occur with some frequency, but there were only three years within the sample that all four of them occurred on either a solstice or equinox – 94 B.C.E., 192 C.E., and 1 C.E.. The sets that occur at the opposite ends of the range, 94 B.C.E. and 192 C.E., are unsuitable because the conjunctions pile up such that you can't have each of the four come out, one after the other, on the four successive cardinal points – no possible sequence gets you all of them. In 192 C.E., no matter how you run it, you end up repeating one of the horseman, and missing one. In 94 B.C.E. the horsemen pile up, two apiece, on the equinoxes, with nothing occurring on either solstice. There's another brush with success in 144 C.E., but the Jupiter/Scorpio conjunction that year is highly debatable, and in my opinion actually doesn't qualify. In any case, that year, too, you can't arrange four successive appearances of the horsemen. It only works in 1 C.E.

⁷³ This was not fun.

The next few pages display the full table – note that I used the Mars/Orion conjunction as my control. If that horseman didn't show up on any solstice or equinox within a year, I didn't bother checking for the others that same year, since a full set wasn't possible. The ones marked "CLOSE" arguably weren't conjunctions at all, Mars being too far away from Orion to really qualify, but I checked those years anyway.

You'll see that our dark horse conjoins with Libra only on September 21. This is because Mercury orbits so close to the Sun, and can only conjoin with Libra during the month that Libra rises with the Sun. It doesn't happen every year because whether Mercury is in Libra depends on whether it's to the left of the Sun on the Autumn equinox, as opposed to the right, when it's within Virgo. Mercury shuttles back and forth like a ping pong ball on successive Autumn Equinoxes, just as it does each March, but the background constellations are different.

YEAR in which conjunctions occur on cardinal points	RED HORSE with ORION	WHITE HORSE with SAGITTAR -IUS	BLACK HORSE with LIBRA	PALE HORSE with SCORPIO	Able to plot successively?	T R A N S I T
192 C.E.	YES – Sept 21	YES – March 21 and again Dec 21	YES - Sept 21	YES- March 21, June 21, Sept 21	NO – all four cardinal dates have at least one of the conjunctions, but no way to hit all four successively	
191 C.E.	YES – March 21	NO	YES – Sept 21	NO	NO	
189 C.E.	CLOSE March 21	NO	NO	NO	NO	
183 C.E.	YES – June 21	YES – June 21	NO	NO	NO	
181 C.E.	YES – June 21	YES Dec 21	NO	NO	NO	
174 C.E.	CLOSE /YES March 21	NO	NO	NO	NO	
166 C.E.	YES – June 21	NO	NO	NO	NO	
164	CLOSE – June 21	NO	YES – Sept 21	NO	NO	
160 C.E.	YES – Sept 21	NO	NO	NO	NO	
151 C.E.	YES – June 21	NO	YES – Sept 21	NO	NO	
149 C.E.	CLOSE - June 21	NO	NO	NO	NO	
145 C.E.	CLOSE – Sept 21	YES – June 21	YES – Sept 21	NO	NO	
144 C.E.	YES – March 21	YES – Sept 21	YES – Sept 21	CLOSE- Dec 21	NO	
134 C.E.	YES – June -21	YES – June 21	NO	NO	NO	
127 C.E.	YES – March 21	YES – March 21	NO	NO	NO	
119 C.E.	YES – June 21	NO	YES – Sept 21	NO	NO	
112 C.E.	YES – March 21	NO	YES – Sept 21	NO	NO	

YEAR in which conjunctions occur on cardinal points	RED HORSE with ORION	WHITE HORSE with SAGITTAR -IUS	BLACK HORSE – with LIBRA	PALE HORSE with SCORPIO	Able to plot successively?	T R A N S I T
104 C.E.	Yes – June 21	NO	NO	NO	NO	
102 C.E.	YES – June 21	NO	NO	NO	NO	
97 C.E.	YES – March 21	YES – March 21	NO	NO	NO	
95 C.E.	CLOSE – March 21	YES – Sept 21	NO	NO	NO	
87 C.E.	YES – June 21	YES – Sept 21	NO	NO	NO	
80 C.E.	YES – March 21	NO	YES – Sept 21	NO	NO	
72 C.E.	CLOSE – June 21	NO	YES – Sept 21	NO	NO	
70 C.E.	Yes – June 21	NO	NO	NO	NO	
65 C.E.	YES – March 21	YES – Sept 21	YES – Sept 21	NO	NO	
55 C.E.	YES – June 21	NO	NO	NO	NO	
50 C.E.	CLOSE – March 21	NO	NO	NO	NO	
48 C.E.	YES – March 21 and Dec 21	YES – March 21	NO	NO	NO	
40 C.E.	YES – June 21	Yes – March 21	YES – Sept 21	NO	NO	
34 C.E.	YES – Sept 21	YES – Sept 21	NO	NO	NO	
33 C.E.	YES – March 21	NO	YES – Sept 21	NO	NO	
25 C.E.	CLOSE - June 21	NO	NO	NO	NO	
23 C.E.	YES – June 21	NO	NO	NO	NO	
18 C.E.	YES – March 21	YES – Dec 21	NO	NO	NO	
16 C.E.	CLOSE – March 21	NO	NO	NO	NO	
8 C.E.	YES – June 21	YES – Sept 21	YES - Sept 21	NO	NO	

YEAR in which conjunctions occur on cardinal points	RED HORSE with ORION	WHITE HORSE with SAGITTAR -IUS	BLACK HORSE – with LIBRA	PALE HORSE with SCORPIO	Able to plot successively?	T R A N S I T
1 C.E.	YES – March 21	YES - June 21	Yes - Sept 21	YES – Dec 21	YES	Y E S
8 B.C.E.	YES June 21	NO	YES – Sept 21	NO	NO	
10 B.C.E.	CLOSE – June 21	YES – Dec 21	NO	NO	NO	
14 B.C.E.	YES – Dec 21	NO	YES – Sept 21	NO	NO	
15 B.C.E.	YES – March 21	NO	YES – Sept 21	NO	NO	
23 B.C.E.	CLOSE – June 21	NO	NO	NO	NO	
25 B.C.E.	Yes – June 21	NO	NO	NO	NO	
30 B.C.E.	CLOSE – March 21	NO	NO	NO	NO	
32 B.C.E.	YES – March 21	NO	NO	NO	NO	
46 B.C.E.	YES – Sept 21	NO	YES – Sept 21	NO	NO	
47 B.C.E.	Yes March 21	YES - Sept 21	YES Sept 21	NO	NO	
55 B.C.E.	CLOSE June 21	NO	NO	NO	NO	
57 B.C.E.	YES June 21	YES – June 21	NO	NO	NO	
61 B.C.E.	YES - Dec 21	NO	YES - Sept 21	NO	NO	
62 B.C.E.	YES – March 21	NO	NO	NO	NO	
64 B.C.E.	YES – March 21	YES – March 21	NO	NO	NO	
72 B.C.E.	YES - June 21	NO	YES – Sept 21	NO	NO	
78 B.C.E.	CLOSE – Sept 21	NO	NO	NO	NO	
79 B.C.E.	YES – March 21	NO	YES – Sept 21	NO	NO	
87 B.C.E.	YES – June 21	NO	Yes – Sept 21	NO	NO	

YEAR in which conjunctions occur on cardinal points	RED HORSE with ORION	WHITE HORSE with SAGITTAR -IUS	BLACK HORSE – with LIBRA	PALE HORSE with SCORPIO	Able to plot successively?	T R A N S I T
89 B.C.E.	CLOSE – June 21	NO	NO	NO	NO	
93 B.C.E.	CLOSE – Dec 21	NO	YES – Sept 21	NO	NO	
94 B.C.E.	YES – March 21	YES – March 21	YES - Sept 21	YES – Sept 21	NO – They all appear on a solstice or equinox but double up on two of them, and cannot be plotted successively	
96 B.C.E.	CLOSE – March 21	NO	YES – Sept 21	NO	NO	

Since only one year works for the conjunctions, I didn't even bother testing how often Mercury transits the Sun in the same year as all of the horsemen line up in a suitable way. If we add that as a limiting factor, conditions equivalent to 1 C.E. must be in exquisitely short supply. I don't have the stamina to work this out (perhaps a kind reader could cobble together an algorithm for me so a computer could do the heavy lifting), but for our purposes I don't see the need. Suffice it to say that 1 C.E. provides an awfully unusual gathering of our four horsemen. Once again, I had to sit there and think: *you magnificent bastards. You must have almost wet your pants at the magnitude of the opportunity.*

I'm left wondering about the various sects and cults of the ancient Mediterranean world. Whether it's Mithras, Jesus, or the Teacher of Righteousness, the beliefs and imagery always seem to come back to the universal code, one way or another. If the Essenes set the same year 1 as we, I suspect they were in on the game, or at least passing along a tradition originating with someone who was. I wonder about the Gnostics. Did they have a settled view on when their millennium began? I can't help but wonder, too, about this monk, Dionysius Exiguus. Did he really get all confused about the chronology? Or was he taking care to embed his esoteric knowledge, however he obtained it, into the Christian calendar, so that everyone, wittingly or not, would mark the dawn of Pisces for as long as that calendar persisted?

Like Sands Through the Hourglass

Forty-two Months

What's with all those sevens? Fifty-four of them.

Seven was undoubtedly significant to the ancients, because there are seven visible heavenly bodies, the Sun, Moon, and the first five planets. That's why, probably, there are seven days in a week, and you may have noticed that each of those days is named after one of those heavenly bodies (the names we use in the English-speaking world are borrowed from Norse mythology). The number seven also looms large in various systems of number mysticism. Just type "seven numerology" into Google and see what you get back.

That there are fifty-four of them, a precessional code number, suggests we're supposed to link seven with the precessional cycle, and the way the text keeps harping on seven things happening – seven trumpets being blown, seven bowls being emptied, seven seals being broken, seven thunders sounding – makes it seem clear that seven of *something* is at the heart of the story.

Playing this game can really make you feel thick and ordinary. For years, I didn't catch on, again, I guess, because it's so very simple. The whole fable is about a span of time, from the beginning of the Age of Virgo to the end of the Age of Pisces, seven Ages of the Zodiac. The woman sits on seven mountains.

That isn't quite all there is to it, though. I think they wanted us to measure seven of something, from the first day of January in year 1, to set both boundaries for the Age of Pisces. They told us when it started; I reckoned they'd also tell us when it ended. I've also come to believe that they want us to count backwards, to set the beginning of Virgo, the first of the seven mountains upon which our heavenly woman sits.

But count what? Conjunctions of some sort? Years? The text refers us to "months", 42 of them, in Chapter 13, implying that the whole span of the seven ages will stretch for 42 of – something.

Actually, 42 months is a time span they push at us repeatedly. Apart from telling us in Chapter 13 that the reign of the first beast is 42 months, in Chapter 11, John is told that the holy city will be trampled for 42 months, and "two witnesses" are given authority to prophesy for 1,260 days – traditionally, 42 months of 30 days each. Then there's this, at Chapter 12:

A great portent appeared in heaven: a woman clothed with the sun, with the moon under her feet, and on her head a crown of twelve stars. She was pregnant and was crying out in birth pangs, in the agony of giving birth. Then another portent appeared in heaven: a great red dragon, with seven heads and ten horns, and seven diadems on his heads. His tail swept down a third of the stars of heaven and threw them to the earth. Then the dragon stood before the woman who was about to bear a child, so that he might devour her child as soon as it was born. And she gave birth to a son, a male child, who is to rule all the nations with a rod of iron. But her child was snatched away and taken to God and to his throne; and the woman fled into the wilderness, where she has a place prepared by God, so that there she can be nourished for one thousand two hundred and sixty days.*

A woman clothed in the Sun, with the moon at her feet and a crown of 12 stars on her head, in the pangs of childbirth, menaced by a great red dragon. A little research revealed that the story of the pregnant woman menaced by the dragon is based on an oft-repeated legend that goes all the way back to ancient Egypt, and Egyptian fables of Isis, a figure that may be the ancestor to a whole set of mythological maidens and divine women, not excluding the virgin mother of Jesus. To the Egyptians, Isis, like Osiris, was a figure in the sky, one of the stars of which was sacred Sirius. This woman was obviously a constellation too, likely of the Zodiac. There's only one woman in the Zodiac.

A woman who runs off into the wilderness for 1,260 days? Seen through our lens, this must be a barely-coded signal that it's been 42 "months" since the woman who sat on seven mountains held sway – when the Sun first rose in Virgo on the Spring Equinox. A hunch like that just comes as second nature once you've played the game long enough.

42 months, in the guise, often, of 1,260 days, or as "a time, times, and half a time", which scholars take to mean three and a half years, is a topic of almost fevered discussion in Biblical exegesis. It appears in the *Book of Daniel*, too, but it's particularly emphasized in Revelation, occurring five times. A popular theory holds that we are meant to substitute years for days, and that a specific historical period of 1,260 years is being referenced. Seventh Day Adventists think it means the years from 538-1798 A.D., a period from when a siege of Rome by Ostigoths was broken, until Napoleon's conquest of Italy. Various other time periods are claimed for various reasons having to do with events that have significance within the history of the Church.

Yeah, well. It can't be "months" literally, and this game isn't about anything specific in human affairs and history, either, nor could 1,260 years have any

resonance with the sort of time periods crucial to the precessional code (though I've always been intrigued at how 1,260 looks a lot like 2,160, which I bet tickled the encoders). These symbolic months were some other time period. What were they counting, and how many? If not years, was there anything else that made sense in a scheme designed to measure whole Ages, and multiple Ages, of the Zodiac?

I couldn't help but think about the Maya and their amazing calendar. The reader will recall that these Meso-American time mavens liked to measure long temporal stretches too, 5,100+ year increments called "Suns". It seemed obvious to me that they were keeping track of the precessional cycle, and that their Suns were equivalent, conceptually, to our astrological Ages. I've always been curious about this (as have a lot of people – have a look, when you're bored, at all the New Age mumbo jumbo you can find clogging up the internet). What sort of relationship does a period that stretches over 5,100 years have within the precession?

Does something happen at those intervals? Perhaps some recurring benchmark to which *Revelation* might also be referring? Using December 21, 2012, the end of the Fifth Sun in their scheme, and counting backwards the length of days a Sun comprised, 1,872,000, you land sometime in or around September of 3114 B.C.E. by our calendar, September 6, it's been calculated, but others say August 11, or August 12, which I think signifies the use of astronomer's Julian Dates (which, confusingly, have nothing to do with the Julian calendar, and don't match our own Gregorian calendar either). Calling up dates from August through September that year, and looking around the virtual sky from the geographic coordinates of Uxmal, a major Maya site, I can't see anything significant within any framework I understand.

It's difficult to find any reasonable commentary on Mayan astronomy and their cycles of time, on-line or on paper, and I have no idea why they started their Fifth Sun when they did. Perhaps it had something to do with the cycles of Venus – we know they put great stock in Venus. One theory, which I quite like, is that in December 2012, the solstitial Sun will line up with the center of the Milky Way Galaxy, from our perspective, something that happens only once in about 26,000 years, a full precessional cycle. That's why, in this view, they were counting "Suns". That may explain why it ends when it does, but why the beginning?

For our purposes, I concluded, it doesn't really matter what their benchmark was. What really got me thinking was that the Maya measured their Suns in increments of 144,000 days, which they called baktun. The Fifth Sun was composed of precisely 13 baktun.

The number 144,000, so familiar as an iteration of the key factor 144, is thrust at us with some force in *Revelation*. It's the addition product of the numbers that form the 12 tribes of Israel, which are said to have 12,000 members each. These

are the faithful who have the literal seal of God's approval placed upon their foreheads, in Chapter 7, and who reappear in Chapter 14. They're the ones to be spared in the coming cataclysm.

After this I saw four angels standing at the four corners of the earth, holding back the four winds of the earth so that no wind could blow on earth or sea or against any tree. I saw another angel ascending from the rising of the sun, having the seal of the living God, and he called with a loud voice to the four angels who had been given power to damage earth and sea, saying, "Do not damage the earth or the sea or the trees, until we have marked the servants of our God with a seal on their foreheads." And I heard the number of those who were sealed, one hundred forty-four thousand, sealed out of every tribe of the people of Israel.

The precessional code is universal. Its essentials cut across cultures and times. The Maya, arch-practitioners of the system, thought increments of 144,000 days were a fine way to measure time. Did the encoders of *Revelation* think so too? Were they counting in baktun? Could it really be that simple?

Seven Forward, Thirty-five Back

If so, how many baktun? I worked first on the theory that the encoders would have wanted to set an outer boundary of the Age of Pisces for us. I was sure that all this hammering on sevens had everything to do with seven Ages of the Zodiac, but the way the text keeps counting them off gave me an exciting idea. Suppose they were using a count of 7 baktun to delineate the Age? That would be 1,008,000 days, starting on January 1, 1 C.E., the year they were so helpful as to benchmark for us with the Four Horsemen. That's 2,759 years and change, which seems a long time for an astrological age – aren't they supposed to last 2,160 years? On average, yes. However, some constellations of the Zodiac are much bigger than others, and Pisces is a big one. Were you to look at the sky where the Sun actually rises on March 21, 2760 C.E., it might well seem like as good a point as any to designate as the last Piscene year.

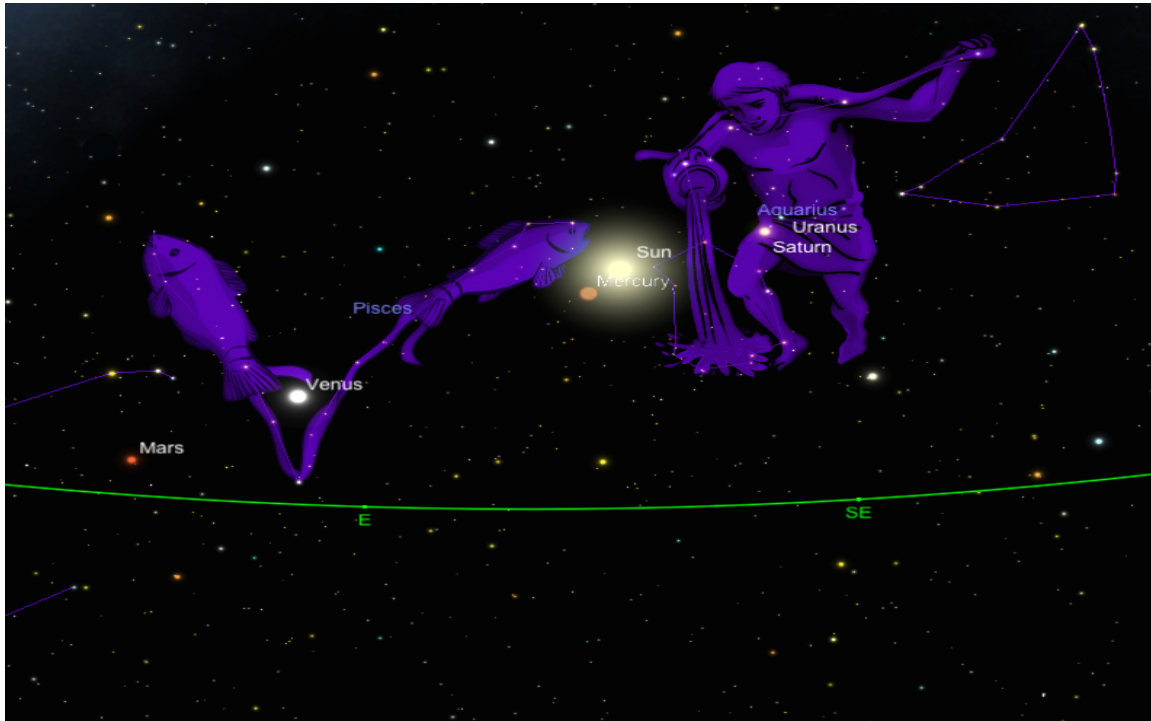
I worked on the assumption that the game always uses rounded numbers for the purpose of easing calculations, and that the encoders would have been happy to use the 365.25 day Julian calendar year then current, even if their esoteric knowledge informed them that such makes the year just slightly too long (which is why we switched, eventually, to the Gregorian Calendar, which has fewer leap years). Based on that, if you were making a calculation using the Julian year, rather than actually counting the days as they went by, 2759 years would chew up 1,007,724 and $\frac{3}{4}$ days, and 2760 would be a leap year. That left us with – hey – 276 days to count forward into 2760.

Doesn't that sound just like them? Isn't that just their style? *Count forward in the 2760th year by 276 days. Then look up and tell me what you see.*

A leap year has an extra day in February. It so happens that the year as I write this, 2016, is a leap year too. That made it easy for me to calculate that 276 days in, you land on October 3. October 3, 2760. If we're supposed to get through all 276 days and then look up, that makes for October 4.

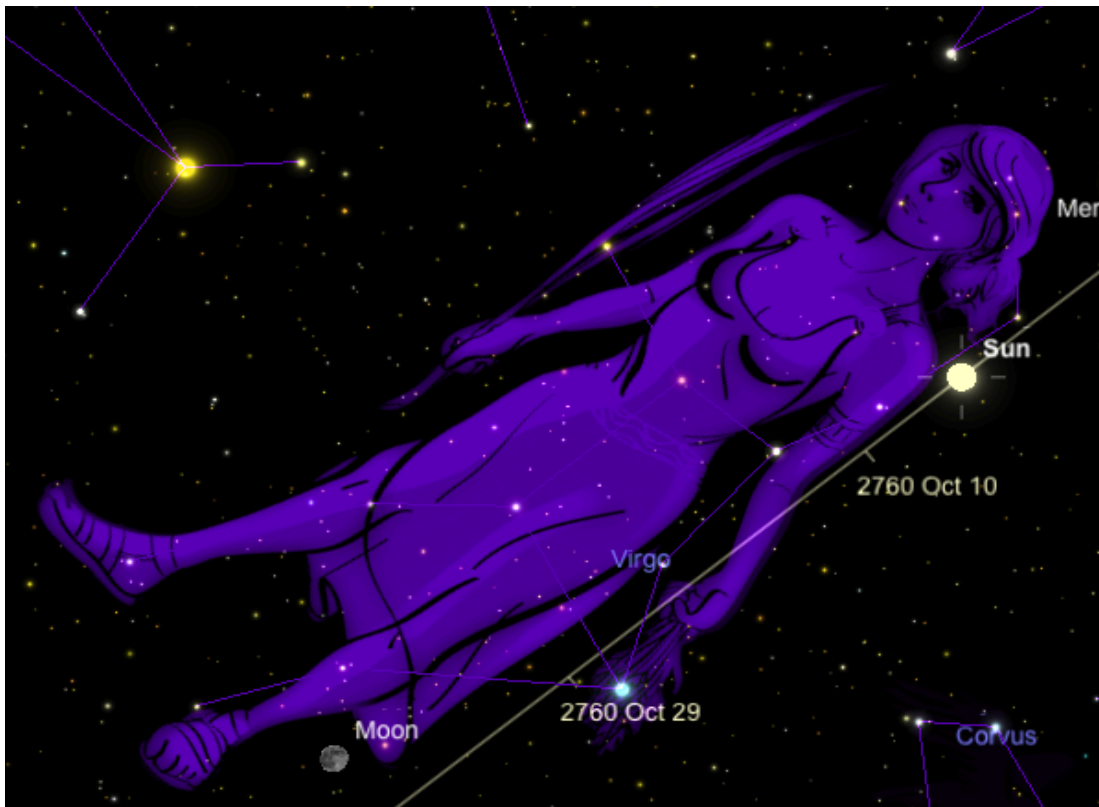
That year, I can verify, the Sun on the morning of March 21 is perched more or less equidistant between Pisces and the next constellation, Aquarius. If you look at where the Sun actually is, as opposed to where it resides within an astrological system that divides the celestial pie into equal slices, 2760 is a perfectly good year to designate as the dawning of the Age of Aquarius.

The Spring Equinox in 2760 C.E.



And here's what the heavens will lay before them, standing on Patmos, when they look up on October 4, 2760:

Virgo, October 4, 2760



That's Virgo. She's rising with the Sun. The new Moon is under her feet. In the days prior, when you scroll back, the waning fourth quarter Moon transitioned to the new Moon while it was passing through her celestial body, being reborn. She's surrounded by reptiles. If you pan back and look at her immediate environs, you'll see that not far behind her, Draco's head spins, keeping a bead on her feet; she's in his sights all day, as she is every day. Right behind her is the constellation Serpens. Underneath, poking its head above the horizon in advance of her arrival is Hydra, the multi-headed water snake, the longest constellation in the sky, taking up so much of the field of view that eventually you have to face South-West to see its head, and South-East to spy its tail.

In other words, a woman clothed with the sun, with the moon under her feet, and on her head a crown of twelve stars (the Zodiac), pregnant and crying out in birth pangs, menaced by numerous "dragons", including one with seven heads (the old mythologies are all over the map on how many heads Hydra is supposed to have had). This last reptile is so big it sweeps about a third of the stars before it as it arcs through the sky, "throwing them down to Earth" as it falls below the horizon.

Virgo's Environs – Reptiles All Around Her



It sure looks like whatever they called them within their own scheme, they were counting baktun.

Could this be a coincidence? Sure. Unlike the four horsemen, this isn't a rare conjunction. It happens once a year. In the first century C.E. it occurs in September. In 2016, it happens on October 10, still in the future at the time of writing. It's just the rather symmetrical way that after $7 \times 144,000$ days it occurs (within the logic of the game) on the 276th day of the 2760th year, during a year when the Sun could plausibly be said to be moving, at last, into Aquarius.

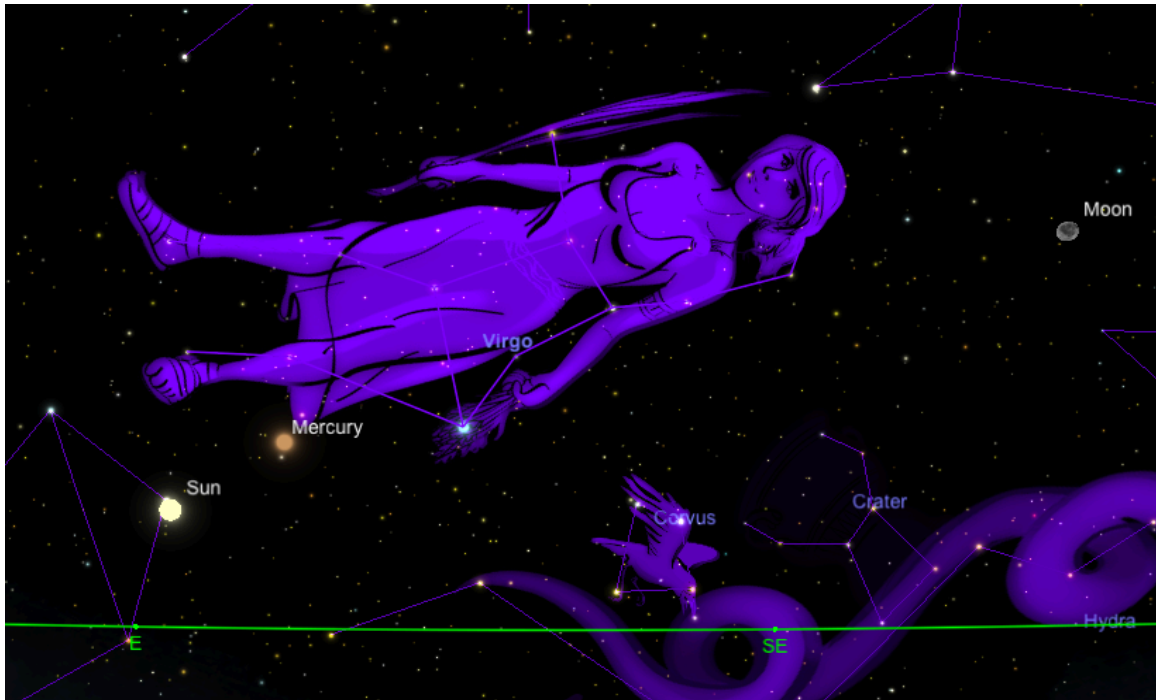
To me, it followed from being told that the Sun-robed woman at the end of Pisces had been away in the wilderness for 1,260 days – 42 months – that to the encoders, a “month” was also a baktun. Count 42 increments of 144,000 days backwards from the year at the end of Pisces, when you see this woman clothed in the Sun in October, and you'll see her again – because that takes you back to over 13,000 years B.C.E. An outside date for the beginning of the Age of Virgo. The woman on seven mountains.

Another pleasing symmetry: counting seven baktun forward from a given point – January 1, 1 C.E. - means you count 35 back from the same point, 42 in total. The seven “months” forward thus total 1,008,000 days, and the 35 “months” back total 5,040,000 days, 6,048,000 days for the whole 42. Don't those numbers look a lot like 108, 54, and 648? They're classic precessional code numbers with a zero inserted. Better still is that when you divide 6,048,000 by seven, for the seven Ages that span the start of Virgo to the end of Pisces, you get an average of 864,000 days. Surely, by now, a number like that rings bells for the reader?

Using the same methodology as before, 5,040,000 days back gets you to 13,798 B.C.E. and change. Assume that each of fully elapsed years totaled 365.25 days, and subtract those from the full 35 baktun and the remainder is 280 days to count backwards. From December 31 in any year, that lands you on March 26, 13,799 B.C.E., or March 25 if the picture is supposed to be the day after the last day of the count. On that day, we come very close to a repeat of the 2760 conjunction. The Moon is approaching Virgo, and the Sun is still, just, within Virgo too, but it's clear we aren't being led to a precise repeat of tableaux in the last year of Pisces.

However, the proximity of the Sun to Virgo on March 25 leads to what I take to be the object of the exercise: four days earlier, the Spring Equinox is just beginning to transition from Libra to Virgo. 13799 B.C.E. is a perfectly plausible date to declare as the beginning of the Age of Virgo:

Virgo, March 25, 13799 B.C.E.



Virgo, Spring Equinox (March 21), 13799 B.C.E.



Our long count backwards from 1 C.E. lands us exquisitely close to the equinox which defines the Age of the woman on seven mountains. Moreover, the 42 spans of 144,000 day increments, with seven to one side of the start of the Age of Pisces, and 35 to the other, gives us a near perfect way to be led to both the start and the end dates of seven full Ages of the Zodiac, the span indicated by the Big Clue. Virgo acts as a set of bookends. Yes, we don't hit the equinoctial mark precisely at the far end, but it's awfully close. Yes, we don't hit the equinox at the other end, but it's still a date within the year that marks the transition to the next Age, and it's a date when the tableaux of the Sun-robed woman is on full display. Maybe the best the encoders could do, given the available celestial conjunctions, and without abandoning the rounded numbers of the game, was drop me just a few days to the wrong side of the vernal equinox at the dawn of the Age of Virgo, and a few months after the vernal equinox in the last year of the Age of Pisces.

We can be allowed small margins of error, the encoders and I, right?

If all this seems like a numerological bridge too far, propelled along by tenuous conclusions like the use of Mayan-like time increments in the Mediterranean world, remember this: delineating the Ages from Virgo to Pisces is also the point of the Big Clue. To get the main point, we don't even require the elaborate exercise set out in this chapter. Why, then, incorporate a secondary code that is far more difficult, and requires you to decipher clues that are far more difficult? I think because the aim was to do more than signal the Age of Pisces as the last of the seven Ages, and the second beast. I think we're meant to be able to tell when, precisely, we can consider the second beast to have had his reign, and we can all rejoice in the New Jerusalem, the next, and I gather much safer, Age of Aquarius.

After all, there must be *some* significance to stressing this woman who disappears into the wilderness for 42 months. I feel fairly confident that it's a way to land us directly upon a particular conjunction in the future, one that puts us in mind of Virgo housing the Sun, during a year in which the Age of Pisces was ending, and then push us back to almost precisely the date when that same woman began to be clothed in the Sun on the Spring Equinox, at the start of her Age. Some sort of scheme like this would also seem to me to be the impetus for the great care with which they present four horsemen to us to find the year "1". We need a precise benchmark from which to count in each direction.

It also seems rather a rich coincidence that if we take a "month" to be 144,000 days, 42 of them is a superb way to measure the set of seven Ages from Virgo to Pisces. Owing to variations in the sizes of the constellations, that span likely wouldn't work if you picked any other set of seven consecutive Ages, and fits the seven indicated by the Big Clue to a tee.

It all starts with Virgo, and it ends with her, and when it ends, it's been 1,260 "days", that is 42 "months", since the long-ago reign of Virgo began. Along the way, two beasts cause trouble. But if you can make it through the time of the second beast, and you see her up in the sky in the 2760th year of the Age that began in the year of the four horsemen, you're going to be just fine. The New Jerusalem, the next Age of the Zodiac, will sit under a new Heaven, on a new Earth, as beautiful as a bride adorned for her husband.

Meanwhile, watch out.

But...How?

Perhaps now would be a good time to pull over to the side of the road for a bit. Before we take this any further, let's just admit, *entre nous*, that it's quite the yarn I'm spinning here. Don't you think I know that? Look at me, I'm claiming that the last book of the New Testament is the story of the demise of a civilization, one that flourished in the Age of Virgo, and came to an end amid the many tribulations of the Age of Leo. All the time since, for over 10,000 years until this version of the story was insinuated into the holy book of the new Christian faith, somebody, somehow, kept the message, and the method of encoding it, alive.

Finally, so my story goes, it was during the Age of Aries, as the years ticked ever closer to Pisces, that the time came to raise the alarm. A second beast was on its way. The whole saga was written down more comprehensively than any other example I've found to date. We're told not just about a calamity, we're given a set of celestial coordinates and numbers that tell us when the dangerous window of the Age of Pisces begins, when it ends, and approximately when, too, the people who first tapped out the precessional code met their fate. It follows that whoever was steward of the story in the years running up to the new age of the Second Beast, crafting its next iteration at the dawn of the New Age, they knew what the sky would look like in the future, all the way to 2760 C.E., and they knew what it looked like thousands of years prior. This implies some sophisticated astronomical mathematics being practised by somebody, at some point. A lot of the apocalypse is quite ancient, no doubt, but *Revelation* is a story repackaged for the Roman world at the latitude of an island in the Aegean. For my bright ideas to be valid, somebody in the Age of Aries must have had the acumen to do what I need a computer to accomplish, and model what the sky above Patmos would look like at any given time.

Whose Math?

The most cogent argument that I am, after all, out to lunch on this is that it would seem at first blush to be impossible. I suppose I could take the easy (if logically shabby) way out, and assert that since it's there, it must have been possible, but I take your point. The requisite math wouldn't seem to have been extant in the Roman world near the start of the Common Era. The familiar number systems then current look clunky and cumbersome, and not even highly amenable to, say, dividing 144,000 by 666, much less to calculating where a planet is going to be on some future Summer Solstice. Thus, while we cite the Number of the Beast as "666" and write it out that way in modern translations, it appears in the originals as "six hundred, three score and six". Written out in Roman Numerals, that would be DCVLXVI. In the ancient Greek it would be rendered with the symbols for Chi, Xi, Digamma.

Yes, but it's easy to make the old mistake of underestimating the ancients. The Greeks, for example, had a quite evolved system of mathematics, though it tended to focus on geometry (as students learning the Pythagorean Theorem to this day are still reminded). The Greeks, like almost all ancient peoples, were also avid astronomers. They had a keen observational as well as mathematical astronomical tradition, as we can gather from our friend Hipparchus, calculating the precession in the second century B.C.E.. It's also commonly asserted that Hipparchus kept a precise catalogue of celestial latitudes and longitudes for – get this – 1,080 stars.⁷⁴ Before him, and almost 2,000 years prior to Copernicus, Aristarchus of Samos was proposing that the Sun, not the Earth, lay at the centre of the Solar System, an idea that was later discarded. The Greeks knew the Earth was spherical, from simple logic; the apparent latitude of the stars wouldn't change for observers in different places unless they were standing on a curved surface, nor would ships disappear over the horizon. In the third century B.C.E. Eratosthenes even made a quite accurate calculation of our planet's size using nothing more than sticks placed at different latitudes and trigonometry to account for the different lengths of shadow they cast at high noon. Plato himself was a dedicated astronomer. By the second century C.E., Ptolemy had completed his monumental *Almagest*, an enormous, and enormously important, tome on astronomy that included tables and geometric models that could be used to calculate the future positions of celestial bodies into the distant future. Greek science also had ingenious instruments to assist observation, such as the Astrolabe, another achievement credited to Hipparchus.

The more you learn, the less improbable it seems that the ability to predict planetary conjunctions and the like for hundreds or even thousands of years in either direction could be possessed in the Mediterranean world at the end of the Age of Aries. Prior to that, after all, we'd had a long time to work the problem. Human beings, we know, had been fascinated with the stars, and observing them closely, for many thousands of years by then. Of course they had. Unlike us, in our light-polluted cities, they gloried under a glittering panoply of stars, swirling above their heads each night, twinkling mysteriously within and beyond the great river of night, the Milky Way, which arced across the vault of the heavens. In a world of unpolluted skies and one and two-storey buildings, the heavens weren't just high above, they stretched right down to the ground, all around you. Who wouldn't be awed?

Even we 21st Century city-folk, privileged with the certain understanding of what the stars actually are, succumb to that feeling of wonder if ever we travel to some place dark in the country, and sit under the stars at night. Imagine if those little points of light were, to you, gods. The mysteries and portents of the sky would

⁷⁴ Some historians dispute this number. One wonders, then – when and how did it become traditional to refer to 1,080 stars?

have been almost overwhelming, and a penchant for awestruck star-gazing probably developed in lock-step with the evolution of human consciousness. We now believe that even Stone Age peoples were connecting the dots into constellations; certainly, by the time the most ancient civilizations we've identified were keeping records, maintaining a careful watch of the night sky was an exalted art performed by magi and high priests, who were already trading on many thousands of years of practice.

There are tantalizing hints that the ancient Egyptians might have been able to create models of the sky as it would appear in different eras. In a set of inscriptions known as the Coffin Texts, there's talk of being able to enter the underworld at Rostau (Giza) and "go down to any sky". Their mathematics, too, were surprisingly sophisticated. They had a base 10 number system, maybe the world's first, though no concept of place value, and crucially, no symbol for zero. They nevertheless seem to have calculated the value of pi, knew how to measure the internal volumes of their pyramids, and understood, long before Pythagorus, the theorem that bears his name, or at least that 3,4,5 triangles embody perfect right angles.

Despite this, and despite their flair for keeping track of stars and building celestial and solstitial alignments into their structures, the consensus view is that the Egyptians were not sophisticated astronomers. For me, that's a little tough to swallow, but as usual, I'm just some guy reading *Discover* magazine, so what do I know?

Orthodoxy, however, claims no such knock against the Sumerians, and their successor Babylonians, in Mesopotamia. The Sumerians invented writing, we are told, over 5,000 years ago, and they also seem to have invented astronomy. Their number system lives on to the present in our daily lives; theirs was "sexigesimal", base 60, not base 10, and it is to them that we owe our 60 minute hours, 360 degree circles, and triangles the internal angles of which always add to 180 degrees. Those of us who are attuned to the products of the universal number game will no doubt find it interesting that a base 60 system employs basic notational units that equal 60, 3,600 and 216,000 (that is, 60, 60 squared, and 60 cubed). Base 60 math seems counter-intuitive to us, and apparently it was sometimes cumbersome to use, but it had its advantages. It lends itself well to sophisticated problems involving fractions, and allows for a tidier expression of many numbers that become repeating decimals when written in base ten notation.

The Zodiac is a Sumerian invention too, we're told (though the logic of this essay requires it to be a much older invention), and you can find Sumerian star charts inscribed into clay tablets that date to about 3300 B.C.E.

Their knowledge, math, and astronomy were passed down to the Babylonians, who greatly refined them. By the eighth century B.C.E., Babylonian astronomy and mathematics were reaching heights that seem utterly counterintuitive to the lay appreciation of ancient history, but they were achieving great things almost a thousand years before that. They were true adepts. Modern astronomy begins with them. They seem to have been the first to understand that the sky operated in cycles, and that fixed periods between events could be measured, and predicted, mathematically. They took careful note of the movements of the five visible planets (especially Jupiter, standing in for their supreme god Marduk). They kept records in archives that stretched, eventually, back for hundreds of years, and carefully noted the patterns.

Their mathematical skills were outstanding. The abacus is a Babylonian invention, and they were no strangers to zero. Almost 2,000 years prior to the drafting of *Revelation*, the adepts of Mesopotamian civilization were already toying with abstract mathematical concepts and flirting with fundamental mysteries in a fashion that Western civilization wouldn't match prior to the Renaissance. They made short work of what still remain complex math problems, including those involved in the generation of astronomical predictions. It's no coincidence that the land that spawned the Chaldean Magi was the apparent birthplace of true scientific and astronomical mathematics.

It appears to strike no one as particularly odd that roughly 4,000 years ago there existed scientists whose facility with mathematics was not to be surpassed convincingly until Newton and Kepler. Thousands of years before the rest of us caught up, use of base 60 math was permitting the Mesopotamians to swim in some very deep mathematical waters without drowning. Ample evidence for this exists in literally thousands of clay tablets that have been unearthed in Iraq, the ancient equivalent of texts and workbooks, showing an extraordinary volume of calculations made with undoubted sophistication and subtlety. By no later - no later, mind you - than 1,800 B.C.E., Babylonian civilization was laughing off problems that would flummox virtually any university educated Western citizen today (save those with advanced graduate degrees in applied mathematics), problems that went well beyond mere arithmetic into the exotic realms of algebraic, geometric and trigonometric functions.

What I read trying to get a grip on this, I couldn't even comprehend; there were illustrations of how Babylonian scribes had cracked problems involving the volumes of areas, the area of geometric shapes, the derivation of inverses and reciprocals, and all manner of mind-twisters. By 1,800 B.C.E., they'd developed a facility for both linear and quadratic equations, and were well familiar with what would later become known as the "Pythagorean Theorem" for measuring the sides of right angled triangles. They solved problems using not just algebraic

variables, and reciprocals, but square roots and cube roots, and employed logarithmic functions. They also knew the value of Pi.

I found it all a little difficult to accept, but the reader can look it up - any orthodox textbook on the history of mathematics will explain that the Babylonians were etching things into clay tablets which in substance looked pretty much like the chalkboards of modern mathematicians.

Interesting, too, is that the Babylonians eased their computations through the use of elaborate tables similar to the ones that can be found at the backs of modern mathematical textbooks. A sufficiently evolved set of tables is practically as useful and labour-saving as an electronic calculator, and in this, perhaps, we can discern a hint of how *Revelation* could have embraced the elements I claim for it.

Even more interesting is the ease with which Babylonian mathematicians and astronomers approached celestial problems. An affinity for the stars is a signal characteristic of Babylonian civilization – it's uncanny the extent to which they kept such meticulous track of the movements of celestial bodies and maintained equally meticulous records of their observations. So detailed and reliable were their records that modern astronomers feel perfectly comfortable in determining the Gregorian date of a Babylonian observation by applying our own mathematical models to their recorded positions of stars and planets. If the Babylonians recorded Venus and Mars in certain positions relative to each other and to certain stars, then we can determine exactly when they must have been looking.

There's reason to believe that a Babylonian astronomer, transported to the modern era, could take an undated account of an ancient observation and determine when it happened, for we know that they were just as good at extrapolating as recording. Circular tables represented the anticipated positions of stars and planets throughout the twelve months of the year, and Babylonian astronomy eventually developed to a level of sophistication that permitted precise predictions of the movements of the Moon and planets, Sun and stars over lengthy periods. A collection of their knowledge was set out at about 300 B.C.E. in no fewer than 300 texts that detailed, among other things, the methods to predict the day to day, month to month movements of Venus, Mercury, Saturn, Jupiter and Mars.

Thus, by the time *Revelation* was written, an ancient system of mathematics and astronomy did exist, verifiably in more or less the right place and at the right time, which would have facilitated most, or all, of the calculations embodied by the *Revelation* number/sky picture game.

It bears repeating that there is nothing controversial in this assertion. The most orthodox historians of ancient civilizations are completely comfortable with the notion of Babylonians etching the Pythagorean Theorem into clay tablets almost two millennia before the birth of Christ. In fact, they've had to get comfortable with far more than that. In 2016, articles began appearing in scientific journals and popular science magazines with titles such as *Math whizzes of ancient Babylon figured out forerunner of calculus*⁷⁵, and *Ancient Babylonians used early calculus to track path of Jupiter, study finds*.⁷⁶

This was the discovery of Mathieu Ossendrijver of Humboldt University in Berlin, an "Astroarchaeologist". Looking at clay tablets created from between 300 B.C.E. and 50 B.C.E., Ossendrijver, a former astrophysicist, realized that certain trapezoidal figures within records of the movements of Jupiter were being used to measure the area under curves that represented the motion of Jupiter and its velocity along the ecliptic over time. That's the stuff of integral calculus, and the use of a geometric system to represent increments of time is profoundly abstract.

Calculus. It makes the simple encoded sky maps I claim to be seeing in *Revelation* seem rather mundane, as an achievement in applied mathematics.

It may have been even more mundane than I think, as there may have been devices other than abstract mathematics to help out with this sort of thing. The reader may recall the Antikythera Mechanism, described earlier, which in essence was a hand-cranked analog computer designed to predict the motions and locations of celestial objects. Over the years, various attempts have been made to reconstruct it, and to build working replicas, resulting in marvellous and fantastic-looking assemblages of interlocking cogwheels. While nobody gainsays that the mechanism is a marvel, the view of some of those most intimate with its workings is that the manufacturing tolerances that could have been achieved when it was built were simply not fine enough to accomplish the task. In this view it couldn't have been very accurate, and to the extent that all those cogwheels were meant to make predictions based on flawed Greek assumptions about planetary motion and such, I suppose that makes sense. I guess. It was certainly a lot of wasted effort, then, to build such an amazingly intricate device that didn't really work very well, and given its obvious sophistication, it must have been only the latest in a long line of such flawed devices, none of them accurate, that somebody, for some reason, persisted in trying to perfect. Recent investigations

⁷⁵ <http://www.sciencemag.org/news/2016/01/math-whizzes-ancient-babylon-figured-out-forerunner-calculus>

⁷⁶ <http://www.independent.co.uk/news/science/ancient-babylonians-used-early-calculus-to-track-path-of-jupiter-study-finds-a6840146.html>

suggest the efforts of the unknown inventor of the mechanism – some suspect Archimedes - came far closer to perfection than many have thought.⁷⁷

Yes, But Again: Who, and How?

In any case, we've arguably dealt with the math problem, which is fine, as far it goes. Unfortunately, that still leaves an outsize and irritated pachyderm glaring at us from the sofa, since potential issues concerning the available mathematics and number systems would seem to pale compared to the great mystery that lies at the heart of this exegesis. I skimmed over this before, but it needs to be grappled with: who, ultimately, is talking to us here?

The global presence of this code cannot have arisen by accident, nor could it have been arrived at by different cultures independently. It's conceivable, even likely, that the majority of the various ancient and semi-scientific cultures of which we're aware would have paid sufficient attention to the night sky to notice the general effect of precession (no mean feat in itself, since it takes 72 years to accomplish just one degree of precessional motion). However, it's entirely impossible that all of these cultures could have calculated, with near razor-sharp precision, in universal agreement, that the time periods involved were 12 increments of 2,160 years adding to 25,920 years, figures that are only slightly off (and seemingly rounded quite deliberately to these values, to facilitate their encoding). Nor is it likely that any one of the cultures with which we're familiar would have got it right and then communicated that knowledge throughout the world, thus creating a global consensus. It's safe to assume that the Maya never heard of the ancient Sumerians, and knew nothing about Biblical stories under draft in the Levant.

The first scientific calculation of precession, so far as we know, was made by the Greek Hipparchus roughly a century before the beginning of the Common Era, and he was way off the mark. In spite of miscalculating by hundreds of years, Hipparchus is justly celebrated for having made any sort of measurement in the right vicinity - given the instruments at hand, nobody could have done better. Yet the very nearly correct figures were already sitting there waiting to be discovered within myths already ancient when Hipparchus set about his scientific measurements over 2,000 years ago.

So who calculated the more accurate figures, and when? Given the existence of the code numbers in some of the oldest written instruments extant, and within oral traditions predating those, it simply must have been someone who attained the status of high culture before the supposed rise of human civilization. Short of

⁷⁷ See again this documentary, cited earlier: <https://www.youtube.com/watch?v=nZXjUqLMgxM>

invoking God or ancient astronauts, no other explanation is possible - somewhere back there were genuine astronomers. The authors of *Hamlet's Mill*, "brilliant but deliberately evasive"⁷⁸ in Hancock's estimation, ascribed the global dissemination of the universal code to some unknown, unbelievably ancient predecessor culture, already long gone by the time of Virgil, and took it no further. I can't do any better, really. It would seem to have been accomplished by someone with the vision, and the means, to pass the information on to all sorts of more primitive cultures in a medium that would survive the ages, and repeated retellings, until some day in the future when the meaning behind the apparently arbitrary numbers and weird symbols could be discerned.

Very well then, suppose we're happy to settle on a conclusion as flimsy as "no real idea, sorry, but probably somebody back there now remembered only in legends like Plato's account of Atlantis". Even if we take it as given that the lost civilization existed; even if we accept that we don't, and may never, know where and who they were; even if we get comfortable thinking they created a template for successive iterations of a precessional, constellation-based code, using word pictures on the one hand and a specific set of key numerical factors on the other; how in God's name did they spread that message all around the planet?

Are we to believe that the ships of lost Atlantis set out for the four corners of the globe, and seeded all the neo-primitive cultures they encountered with the myth of their civilization's destruction, which myth served as a vessel for their coded warning? In that scenario, the task would seem to have been undertaken during a window stretching from 13,000 to 11,000 years ago. That's an awfully long time for any sort of message to survive, largely intact, isn't it? Were they counting on the allure of myth to ensure the story's telling and retelling all the way down to the Age of Pisces, so many thousands of years in their future?

Or perhaps it didn't start as an encoded myth, but just developed into one as time passed, and cultural memory of the actual calamities faded?

If so, if their true story just degenerated into myths and stories about events that were no longer remembered – as the priest at Sais told Solon – then who kept this process on the straight and narrow, so that the message and its embedded number code never lost its coherence across cultures and times? Who kept insinuating the story, recalibrated as necessary for its geographic and cultural context, into the fables and religions of all those diverse societies? Who was it, if we're to believe that the precessional code kept reappearing in everything from the scale of monuments to systems of weights and measures, that worked so hard to make sure the code never died?

⁷⁸ See *Fingerprints of the Gods*, at p.244 of the hardcover edition.

Some group or other was obviously in on the game more recently than 11,000 years ago. It's not possible that the precessional code simply survived organically, on its own. The evidence that it kept getting helpful nudges along the way is overwhelming. *Revelation* provides a typical example, since the destruction myth seems to have been recalibrated for the constellations and their relative positions as they would appear, and once appeared long ago, at the latitude of the Roman world. Pick another vantage point higher or lower on the globe, and the eagle will never have been in mid-heaven, and the dragon would never have been taking its stand on the shore of the sea (see the comparative position of Aquila in the image concluding this chapter). For that matter, the whole language of the code in *Revelation* speaks to the culture and mythology prevalent in the Greco-Roman world. Greek legends are alluded to. Constellations as they were then drawn are referenced. Somebody must have known exactly what he was doing when *Revelation* was tacked on to the New Testament, and how can we account for that?

Further, if we can shrug that problem aside, then very well, what happened to them? Why did the relentless dissemination of the code just stop? There's evidence that this band of mysterious initiates might still have been hard at work in the Middle Ages, when the great Gothic cathedrals were built. The 13th Century Chartres Cathedral at Notre Dame embodies all the old tricks, from solstitial alignments (on the Summer Solstice the Sun shines right through a stain-glassed window depicting the Sun god Apollo, as "Saint Apollinaire", and its rays land precisely on a nail embedded in the floor) to multiple images of the Zodiac, in magnificent stained glass, and in multiple other images, including one with a cross that connects the four signs of Leo, Taurus, Aquarius, and Scorpio – yes, the "four living creatures" of *Ezekial* and *Revelation*.⁷⁹ The signs that commemorate the long-ago Age of Leo. The same imagery is incorporated into a carving of Christ in the archway above the Royal Portal; Jesus sits at the centre, surrounded by Leo, Aquarius, Scorpio and Taurus.⁸⁰ Evidently, somebody among the builders knew what the living creatures of Bible prophecy were supposed to signify.

Astrological symbolism was prevalent in churches and cathedrals all over Medieval Europe, indicating a robust tradition – a scholarly article on this can be found footnoted below⁸¹ - and of course astrology survives to this day, relegated to the fringes of our daily lives. There's little sign, though, of the effort to keep

⁷⁹ <http://atlantisrisingmagazine.com/article/secrets-of-the-cathedrals/>

⁸⁰ Have a look: <http://www.soniahalliday.com/category-view3.php?pri=FR4A-7-37BK.jpg>

⁸¹ <http://articles.adsabs.harvard.edu/full/2011ASPC..441..151S/0000151.000.html>

reiterating the precessional code persisting any later than the Middle Ages, so far as I've been able to tell. It's hard to know when this sort of encoding simply dried up and stopped. It would be quite helpful if someone would do a comprehensive survey of the monuments and architecture of the world, and all the literature too, please, and see where the insertion of the signs, symbols and numbers persists, and when it ceases.

The encoders may now be gone, but oh, they were there all right. You can sense their ancient presence in the way they address an obvious concern. In a world of hand-written copies, it would have been crucial to make sure that once you had a legend like *Revelation* out there on papyrus, no one started mucking about with the carefully calibrated imagery, the crucial numbers, the word pictures of the sky. The encoders seem to have been keenly aware of that necessity. Look at how *Revelation* ends (save for a couple of concluding "amens") at 22:18:

I warn everyone who hears the words of the prophecy of this book: if anyone adds to them, God will add to that person the plagues described in this book; if anyone takes away from the words of the book of this prophecy, God will take away that person's share in the tree of life and in the holy city, which are described in this book.

Or, to express the thought in a more modern idiom:

NOW HEAR THIS: DO NOT REPEAT DO NOT CHANGE ANYTHING.

By order of God Almighty.

The smallest variations could lay waste to the code. Those who substituted the number 616 for 666 in some versions of the text, whatever their rationale, must now, presumably, be suffering plagues and awaiting eternal damnation.

To me, an admonition like the one that ends *Revelation* is eloquent of an authorship by those who knew exactly what they were on about. It's just that this idea, taken to the lengths necessary to explain the almost universal reach of the code across time and geography, seems, well, kooky. It requires us to contemplate that down through the ages, certain cliques, I suspect unknown to each other, must have preserved the ancient tradition and ensured that the code numbers kept on cropping up. One hesitates to go down that road, since it forces you to contemplate secret societies, "Illuminati" and the like, putting you back with the Tinfoil Hat Brigade, but I can't see any alternative.

So that's what I'm claiming? A worldwide distribution of little cults of initiates? A secret global collection of societies preserving the esoteric knowledge down through the ages, and managing to always be in the right place at the right time

when different societies developed their geometry, their systems of time-keeping, their religious texts, even their lengths of units of measure? Really? That's Dan Brown territory, full-on *Da Vinci Code* material. Put it that way, and I feel like pushing the delete button on the whole of this obviously silly endeavour.

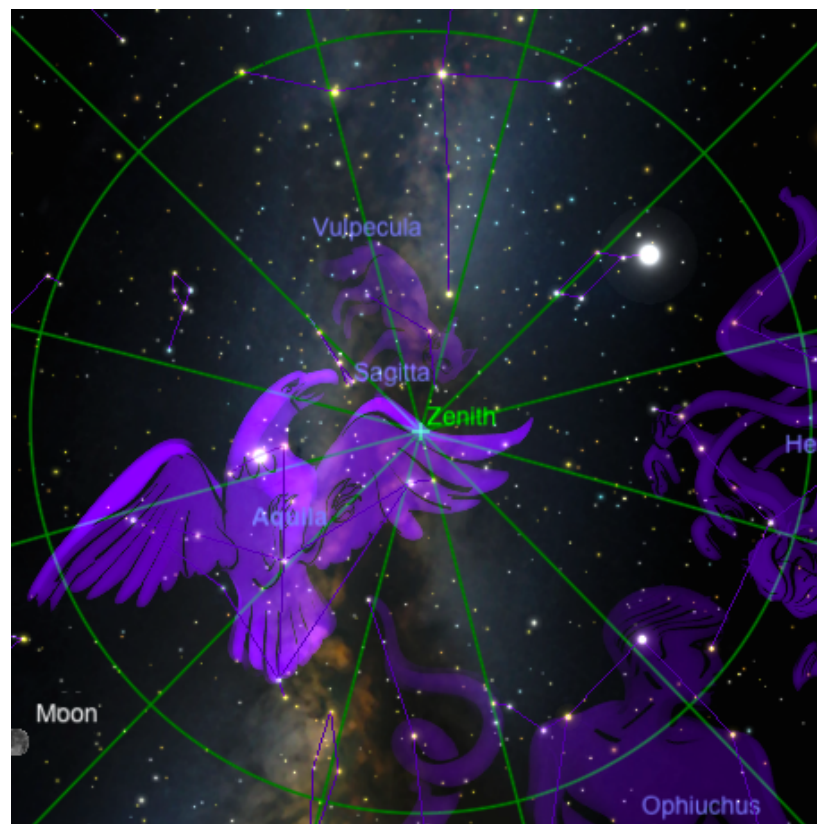
I hate to leave it at that, but I've no choice. I haven't the first clue how this vast project of encoding was initiated and sustained, and absent any sort of plausible mechanism for its dissemination and preservation, the reader may be inclined to doubt that the code really exists. Yet it *does*. I swear by all that's holy, it *does*.

I'm reminded of a two foot tall Looney Tunes gangster character named Mugsy, who once made the frustrated accusation through clenched teeth to his sidekick Rocky: "*I don't know how you's dunnit, but I know you's dunnit*". It's a completely unsatisfactory place to end up.

Maybe I should pin it on the Freemasons, they usually look good to take the rap for things like this.

Over on the sofa, that big grey thing with the long nose shifts uncomfortably, but never mind, let's carry on a little longer. Let's travel a little bit farther down this improbable road. We're nearly at the end.

Aquila, 8828 B.C.E., from the latitude of London, closest approach - no longer quite in the bulls-eye:



What Were They Afraid Of?

Then the sixth angel blew his trumpet, and I heard a voice from the four horns of the golden altar before God, saying to the sixth angel who had the trumpet, "Release the four angels who are bound at the great river Euphrates!" So the four angels were released, who had been held ready for this very hour, day, month and year to kill a third of humankind.

This very hour, day, month and year. Doom, the precise moment of its arrival pre-determined from the start.

Pacemaker of the Ice Ages

So there I sat, in 1998 going on 1999, wondering just what it was that made the encoders so sure that something was going to happen in the Age of Pisces, and what they thought that was. If it was the general upheavals at the end of the last ice age that did them in, were they expecting another such upheaval in our time? Were ice ages, the glacial advances and retreats, that predictable?

Like so many things that one at first assumes to be fully understood and entirely explained, ice ages remain, in no small measure, a mystery to modern science. This is understandable, given that ice age research is still in its infancy as a discipline. We have some ideas, but no one is really sure, not completely, why they begin or end, or what governs the regularity of their cycles.

It's common to think of the last ice age as having ended, but this is not quite right. To ice age researchers, the better way of looking at it is that we're living within a relatively balmy episode in the midst of a severe continuing ice age that has so far lasted about 80,000 years. These warm spells are part of the ice age pattern, and are known as "interglacials". They generally end after a few thousand years, again for reasons not fully understood, and then large scale glaciation returns.

The entire history of civilization as we know it has been played out in the latter half of an interglacial period, a fragile truce with our climate that must at some point dissolve back into open warfare. Any standard text discussing ice ages will inform the reader that the current interglacial is due, perhaps overdue, for termination, based solely on the averages. However, since we can't really be sure of all the factors at play, we can't really say when, exactly, and I can't find any commentary in the literature that predicts anything happening for at least a couple of thousand years. We also aren't sure whether the man-made greenhouse effect and attendant global warming will make a material difference to what nature would otherwise have in store for us.

There is, however, a general regularity to these things, and it ties in rather eerily with the precessional code.

In December, 1976, a groundbreaking article appeared in Science magazine, attempting an explanation for the periodicity of ice ages. Written by J.D. Hayes, John Imbrie and N.J. Shackleton, it bore the title *Variations in the Earth's Orbit: Pacemaker of the Ice Ages*.⁸² The root cause of cyclical episodes of glaciation, the authors argued, was likely to have something to do with the Earth's orbital mechanics. In this they were drawing upon scholarship at least as old as 1941, when M. Milankovich also proposed that the timing of the waxing and waning of ice ages was so regular, and so in tune with patterns of the Earth's orbit, that the two had to be connected.

Now here's the part that gave me goose bumps. One of the key orbital cycles determining ice age activity was, the authors concluded, undoubtedly the precession. The general timing of glaciation episodes tracked the precessional cycle fairly well. But that wasn't all.

The motion of the Earth through space is a little complicated. As our planet orbits the sun, spinning gyroscopically on its axis, it's buffeted by the gravitational forces exerted by other large bodies, including not just the pull of the Sun, but also of Jupiter, with its huge gravity well, and the much smaller, but nearer gravitational field of our own Moon. These forces combine to perturb the Earth's orbit in a number of ways, leading to several regular cycles of variation.

One such cycle is referred to as "the obliquity of the ecliptic". As everyone knows, the spin axis of the Earth is not perpendicular to its orbit, but lies on an angle - the Earth, as every schoolchild learns, is "tilted on its axis". Over very long periods the angle, or obliquity, of this tilt changes gradually, cycling from most oblique to most upright and back to most oblique again over a span of about 41,000 - 42,000 years. The angle of our axial tilt varies between 22.1 and 24.5 degrees. Today it stands at 23.4 degrees and is decreasing, meaning the Earth is in the part of the cycle in which it faces the Sun's rays ever more directly.

Meanwhile, as the Earth rotates gyroscopically and nods slowly back and forth on its spin axis, it orbits the sun along a path that is not quite circular - as Newton and Kepler demonstrated, the path of all objects orbiting the sun is really elliptical, egg-shaped, or to use the scientific term, eccentric. The eccentricity of our planet's orbit has a cycle too. Over a span of about 100,000 years, the orbit

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<https://books.google.ca/books?id=2k1zGwAACAAJ&dq=Pacemaker+of+the+Ice+Ages&hl=en&sa=X&ved=0ahUKEwiV79X2i63NAhXM4IMKHSMZCR8Q6AEIKzAB>

goes from its most circular, to most eccentric, and back to most circular again. At the moment, we're approaching a point of minimum eccentricity, or a nearly circular orbit. Soon the eccentricity will begin to increase, and it's thought that this, in combination with the effect of the other two cycles, will gradually, over the next 10,000 years, lengthen and deepen winters in the Northern Hemisphere. The opposite will happen below the equator.

Exact figures for the obliquity and eccentricity cycles (and for precession as well) are not attainable - the complexity of the interacting forces at work causes some variation that is difficult to quantify. Thus even the most hard-core scientific sources will quote the same rough figures of "about" 41,000 and 100,000 years.

Studying various geological factors indicating the timing of cycles of glaciation, Hayes, Imbrie and Shackleton were able to find strong support for the hypothesis that each of the three orbital cycles was somehow a causative factor. Climatic variations over the past half million years were characterized by peaks that coincided with cycles of 23,000, 42,000 and 100,000 years. The 23,000-year peaks coincided roughly with precession, the 42,000-year peaks matched obliquity, and the dominant, 100,000-year peaks had an average period very close to, and in phase with, orbital eccentricity. They suggested that the interaction of these cycles might be having an effect on the angle and amount of sunlight striking the earth, perhaps sufficient to bring on episodes of intense glaciation. Variations in exposure to sunlight ("insolation" to climatologists) due to these orbital wobbles continues to be the prevailing explanation for the timing of ice ages.

Precession, obliquity, and eccentricity. The latter two coinciding with climatic periods of 42,000 years and 100,000 years.

There was something about those figures that looked awfully familiar, owing to my many years of futzing with the meaning of *Revelation's* Big Clue, as I called it, at Chapter 17. Here it is again, but this time I'll excerpt the New International Version, not the New Revised Standard, for what may or may not be a crucial difference. The two versions recite a slightly different set of numbers. Below, those numbers are accentuated in bold red type. This time the excerpt is set out with more of the text quoted than last time, taking it right to the end of the chapter:

*This calls for a mind with wisdom. The **seven** heads are **seven** hills on which the woman sits. They are also **seven** kings. **Five** have fallen, **one** is, the other has not yet come; but when he does come, he must remain for only a little while. The beast who once was, and now is not, is an **eighth** king. He belongs to the **seven** and is going to his destruction. "The **ten** horns you saw are **ten** kings who*

*have not yet received a kingdom, but who for **one** hour will receive authority as kings along with the beast. They have **one** purpose and will give their power and authority to the beast. They will wage war against the Lamb, but the Lamb will triumph over them because he is Lord of lords and King of kings—and with him will be his called, chosen and faithful followers.” Then the angel said to me, “The waters you saw, where the prostitute sits, are peoples, multitudes, nations and languages. The beast and the **ten** horns you saw will hate the prostitute. They will bring her to ruin and leave her naked; they will eat her flesh and burn her with fire. For God has put it into their hearts to accomplish his purpose by agreeing to hand over to the beast their royal authority, until God’s words are fulfilled. The woman you saw is the great city that rules over the kings of the earth.”*

Three “tens”, an “eight”, four “sevens”, a “five” and three “ones”. In some translations, there are only two “ones”, owing to the part about the kings having “one purpose” being translated differently, as in the New Revised Standard, for example, in which a less literal “they are united” is substituted. As my focus for many years was to divine some independent meaning from this list of integers, on the premise that numbers in this game were never irrelevant, and that the surrounding text might just be a vessel to allow them to list this particular set, it seemed to me that the final “one” might be important.

I played every conceivable riff on this chain of numbers, adding them, multiplying them all together, multiplying the sum of the even ones by the sum of the odd ones, until finally I decided to add like with like and then multiply the addition products together:

10	8	7	5	1
10		7		1
10		7		1
		7		
Sum: 30	Sum: 8	Sum: 28	Sum: 5	Sum: 3

$$30 \times 8 \times 28 \times 5 \times 3 = 100,800$$

Using the numbers this way seemed a little too, I don't know, *precious*, too much like the sort of thing a conspiracy nut would do to prove that the Count on Sesame Street, in babbling all those numbers, was actually a pawn of Satan, because after 311 episodes they sum to 666. It also seemed too arcane, too difficult – once you know the rules, this game is supposed to be simple. But it was hard to ignore a result like 100,800, the product of two of the text's most prominent numbers, 7×144 (with some extra zeroes). When I hit upon the idea that we might be meant to count forward from the beginning of Pisces by seven increments of 144,000, making 1,008,000 days, I wondered whether this number was actually buried in the Big Clue to lead us in that direction. It was missing a decimal place, but the game, in all its incarnations, is always flexible about the number of zeroes on the end.

As I looked at the established figures for the obliquity and eccentricity cycles, another thought occurred: 100,800 is an awfully close approximation to “about 100,000 years”, the eccentricity figure. The universal game has already supplied us with its figure for the precession. Was its iteration in *Revelation* giving us a figure for eccentricity too? And look: all I had to do was subtract 100,800 from that prominent number 144,000 to arrive at 43,200, an arch precessional number, and also not a bad estimate for the 41,000 – 42,000 year obliquity cycle. That wasn't really in there, too, was it?

As I flip-flopped over just how much *Revelation* really was, and could possibly be, trying to tell us about key cycles of planetary motion, science kept supplying disturbing evidence that orbital irregularities are indeed the key to massive global change. Ice age research has maintained its focus on the interactions of the precessional, obliquity and eccentricity cycles as the determinants of ice age onset and severity, particularly eccentricity. Meanwhile, in the late 1990s another theory was proposed, linking precession in a different way to the extreme changes in sea level that have recurred repeatedly over long stretches of our planet's history. Under the title *Precession of the Equinoxes Shifts Oceans* a news release posted on the internet website *Planetary News* reported the findings of researchers at the University of Toronto. Essentially, the conclusion of physicist J. Mitrovica and Ph.D. student Jon Mound is that the precessional wobble of the Earth causes the oceans to slop around like water in a tilting wash basin. Dramatic sea-level increases of as much as 100 meters at certain locations are matched, in this model, by corresponding drops in sea-level at others. “We can essentially match the amplitude and timing of sea-level change over the last 400 million years just by using what we know about the history of the planet's rotation” said Mitrovica⁸³.

⁸³ I can no longer find this site. Mitrovica is still at it, and has fascinating theories on ice sheets and global sea levels, see: <http://nautil.us/issue/33/attraction/why-our-intuition-about-sea-level-rise-is-wrong>

What if the point of the precessional code was not just to provide a universal clock – what if the source of impending doom, to the encoders, was in part the precession itself? What if the encoders knew about obliquity and eccentricity too? Could *Revelation* possibly be flagging for us all three of the cycles that are so deeply implicated in major upheavals to climate and sea levels? Was the Age of Pisces, perhaps, another danger point in the Milankovich cycles, which the encoders had calculated, or maybe a point at which the sea is going to slosh around again?

It all seems unlikely, on a few scores. To begin with, while the scientific literature on this is rather dense, it seems that based on the rhythms of the cycles of planetary motion as they now interact, the climate (independent of man-made global warming, that is) should be stable for at least a further 1,500 years, and others think 20,000 years, and maybe as many as 50,000 years, making for a very long interglacial. See for example *Ice Ages and Sea Level*, an article by Anthony Watts.⁸⁴

Also, the 100,000 year long eccentricity cycle seems the dominant factor, based on the known dates for the onset of the last 20 ice ages, and the time scale that I think is embedded in the game, seven ages of the Zodiac, wouldn't seem to be anywhere near long enough for the orbital cycles to begin causing problems again.

As to sea level rise, the prospects are uncertain, and the causes complicated. Much of the current rise in sea level is the result of the oceans becoming warmer, and expanding, not glacial melt. If current climate science is correct, and we're beginning a gradual, perhaps 20,000 year descent toward the end of the current interglacial, lower temperatures should reverse both trends, unless global warming caused by humans changes the calculus. It's very hard to imagine anyone having a good idea about what our sea level in the 21st century is about to do, making predictions from the distance of the Age of Leo, or even the beginning of Pisces.

Besides, to my mind the clear implication of concluding *Revelation* with the wondrous descent of the New Jerusalem is that the end of the current Age of the Second Beast will witness a return to safety and stability, not the resumption of an ongoing calamity of prolonged glaciation, or another catastrophic bout of sea level changes. Moreover, I'm not at all confident that the Big Clue really means for us to derive, through what for the game is an unusual degree of numerological jiggery-pokery, the number 100,800. Even if it does, it might

⁸⁴ <https://wattsupwiththat.com/2009/02/23/ice-ages-and-sea-level/>

simply be there as a signal for us to count seven “baktun”, not to derive the values for two of the three cycles implicated in the timing of ice ages.

In short, I just don’t know. Numbers in this game are never meaningless or arbitrary, and that string of them in the Big Clue might well have significance beyond supporting the narrative that allows us to go around the wheel of the Zodiac and find our two beasts. I worked a long time to see if there was anything I could find, either in the scientific literature or commentary on the text of *Revelation*, that would advance this inquiry any further, and then I set it aside. Aside it remains. I started to think about other things, besides variations in planetary motion, that were more likely to be the thing the encoders dreaded. It had to be something predictable. Something that arrived more or less on schedule (albeit a loose schedule with a window of over 2,700 years). In meeting this criterion, an interaction of known orbital wobbles made sense. If not that, I was at a loss. What other sort of catastrophe occurs at set intervals?

A Visit From the Library Angels

There’s a phenomenon known to researchers that’s sometimes referred to as “help from the Library Angels”. I can’t recall where I first heard that term – maybe in something written by Hancock – but it refers to the tendency, when you’re spinning your wheels, poring over all the literature you can find and getting nowhere, to stumble quite by accident upon *just* the thing you need, *just* the thing you should have been looking for, as if somebody had decided to leave it where you couldn’t help but find it as you bumbled around looking for something else⁸⁵.

Well, back around 1998, in the midst of getting nowhere with these questions about ice ages and possible alternative existential threats, the Library Angels, bless them, paid me one of their visits and thrust two books under my nose. The first was by our old friend Graham Hancock, called *The Mars Mystery*⁸⁶, while the second, *Rain of Iron and Ice*⁸⁷, was by a professor of planetary sciences (and co-director of the NASA / University of Arizona Space Engineering Research Center) named John S. Lewis. Both authors attacked the same problem from opposite directions in discussing how our planet has been repeatedly bombarded by asteroids and comets, and is at risk - perhaps imminent risk - of suffering such bombardment again.

⁸⁵ I suppose in the Internet Age, what with the ease with which internet searches always turn things up and spoon feed them to you, the old Library Angels will soon be out of job. Google is the Library Angel now.

⁸⁶ <http://www.penguinrandomhouse.com/books/74589/the-mars-mystery-by-graham-hancock-and-robert-bauval/9780307557797>

⁸⁷ <https://www.chapters.indigo.ca/en-ca/books/rain-of-iron-and-ice/9780201154948-item.html>

Hancock's work traveled far afield into realms that seemed questionable even to someone like me, who by now had come to accept most of the contentions of *Fingerprints of the Gods* as bland expressions of the prevailing orthodoxy. Much of the book is occupied with an examination of the purported "monuments" discovered on the surface of Mars by the Viking orbiter in the late 1970s. Among these is the famous - or infamous - "face", and several large pyramidal structures (or mountains) located in a Martian region known as Cydonia. Hancock thought he saw the indicia of artificiality in these structures. The ratchet effect was upon him, I guess. More recent, higher resolution imagery from the later Pathfinder mission has settled the question of the face – it's now clear that the humanoid features of the Viking images were really just a trick of the light combined with the somewhat limited resolution of Viking's camera, playing upon the human mind's uncanny gift for pattern recognition. In any case I was less interested in all of that than I was in the rest of Hancock's thesis. This concentrated on the evidence of catastrophic impacts throughout the solar system, and particularly on Mars, as a sobering object lesson in the possible fate of life and civilization on Earth.

It was a time when worrying about such things seemed suddenly relevant. In 1994, comet Shoemaker-Levy 9 had slammed into the planet Jupiter with tremendous force; broken up by tidal forces into a slightly attenuated "string of pearls", the comet bombarded the massive gas giant in a series of ferocious impacts. These punched holes in Jupiter's atmosphere big enough to swallow the entirety of the little planet we live on. The impacts occurred out of sight on its far side, but as Jupiter rotated on its axis, and the black circles of atmospheric penetration rotated into view, it looked like the planet had been strafed by some sort of cosmic machine gun. Highly publicized, these impacts raised a chilling question in the minds of laity and scientists alike: *what if something like that was to happen to Earth?*

One need only look to Mars, answered Hancock. Once a warm and watery planet with large flowing rivers cutting across its surface (attesting to a balmy temperature and comfortable atmospheric pressure, by Earth standards), Mars is now a cold, dead planet, almost bereft of atmosphere, as lifeless now as it was once promising as a home for living things. Something went horribly wrong on Mars, and Hancock cites a growing body of evidence suggesting that the Red Planet didn't gradually evolve into the lifeless Hell of its present incarnation; Mars was, rather, destroyed for all practical purposes by comet and/or asteroid bombardment. The signs of this are numerous. Mars has a highly eccentric orbit; its rate of rotation is slower than current theory would predict; its spin axis is yawing at a high rate, much higher than Earth's; the Martian sphere is divided by a "line of dichotomy" between its two hemispheres, which marks a precipitous drop in the hemispheric level of the Martian crust; its surface is pockmarked by huge craters on one side, which oppose enormous bulges and rifts on the other.

It would take a whole book to go into all of this properly, and I recommend *The Mars Mystery* to the interested reader. The possibility of catastrophic impacts being the cause of the current state of Mars remains a matter of scientific discussion. The bottom line is that while natural forces of planetary evolution, working slowly, may account for some or all of these odd features of Martian geography and orbit, it's beginning to look as if the wet, more benign Mars of old could have been destroyed quickly in a series of mammoth impacts. The force of this bombardment may have accelerated much of the Martian crust and most of the Martian atmosphere to escape velocity, throwing chunks of the planet into orbit around the sun⁸⁸. These impacts, it would appear, left Mars a derelict, wobbling husk of its former self, marked by "entrance wound" impact craters on one side and "exit wounds" in the form of huge tears and bulges on the other, the latter resulting from great shock waves traveling straight through the planet and expending their energy on the opposite crust.

Not a pretty picture.

More unnerving is that most of the inner planets betray similar signs of catastrophic bombardment, including Mercury and our own Moon. Hancock suggests nothing contentious in asserting that the Earth, too, must have been subject to similar impacts, and perhaps some of them were similarly catastrophic, and comparatively recent.

The idea that impacts may be at the root of many of the disturbances recorded in the Earth's fossil record is now far from novel. Indeed, the theory that a particularly nasty impact at the end of Cretaceous period, about 64 million years ago, was the cause of the mass extinction that wiped out the dinosaurs, is now well known, having almost reached the status of dogma. Similar, disturbingly *punctual* mass extinctions in the more distant past may also have been caused by impacts, including the most devastating extinction event of them all, which occurred in the Permian era approximately 230 million years ago, plunging over 95% of all living things into the darkness of extinction.

Hancock discussed research that was linking the more or less regular periodicity of these mass extinctions to the movement of our solar system back and forth through the galactic spiral arm that it now inhabits⁸⁹. Nothing in the universe stays still, and our whole solar system is engaged in a bobbing gravitational dance through the Milky Way Galaxy, following an arcing, dolphin-like motion up and down through a dense conglomeration of stars and surrounding gasses in the local spiral arm. The timing of this up and down bobbing motion matches

⁸⁸ There verifiably is a fair bit of Mars orbiting the Sun, and sometimes Earth's gravity sweeps up a chunk. Mars rocks have been found in Antarctica.

⁸⁹ See the discussion beginning at p.240 of the hardcover edition, *Comet Factories*

rather closely the periodicity of mass extinction events on Earth, which occur approximately every 30 million years.

It may be that interactions between the Solar System and the gravity of other stars in the denser parts of the galactic spiral arm are perturbing large cometary objects, which are thought to surround the solar system in a spherical mass known as the “Oort cloud”. As the Solar System approaches other stars more closely, the comets, perhaps, tumble out of the Oort cloud and plunge into dangerous orbits around the Sun, the paths of which intercept those of the planets, resulting, eventually, in collisions. This is a gross simplification of the process as envisioned by the theory; the movement of large comets into planet-crossing orbits would undoubtedly involve numerous complex interactions with the Solar System’s many gravitational attractors. Essentially, though, it may be that our Solar System is engaged in a cosmic game of bumper cars that dislodges comets from their distant, harmless orbits at 30 million year intervals, setting in train a protracted series of orbital interactions that will lead the comets toward dangerous, planet-crossing trajectories. Thus, the lives of the planets would be punctuated by intense bombardment episodes, which would begin sometime after the comets were tumbled from the Oort cloud, and continue until the bulk of the planet-crossing comets were torn apart by tidal forces or vaporized by impacts.

The last really major global extinction event occurred approximately 36.8 million years ago. We are, then, overdue for another, perhaps linked to a renewed episode of intense bombardment, and Hancock thinks the episode may already have begun, and that *impacts may have been responsible for the meltdown of the last ice age during the Age of Leo*. Impacts of sufficient size could, by sheer release of energy, raise global temperatures. In *The Mars Mystery*, he cites a good deal of science to support this hypothesis; most compelling, that astronomers think it credible that a very large comet may have broken into fragments around 20,000 years ago, creating a “swarm” that has since been subjecting the inner planets to periodic assaults⁹⁰.

Was the impact of comets the unknown culprit behind the undoubted catastrophe in the Age of Leo?

Rain of Iron and Ice

Just as Hancock’s ideas were beginning to sink in, my friend Leonard, always a favourite instrument of the Library Angels, and still hitting the stacks trying to sate his own curiosity on these questions, brought the work of John Lewis to my attention. In essence, his book *Rain of Iron and Ice* made the same points as *The Mars Mystery*, absent the discussion of strange Martian surface features. The

⁹⁰ See the discussion beginning at p.250 of the hardcover edition, *The Trail of a Giant Comet*

Earth is swimming in a sea of small but exceedingly dangerous objects. As our beautiful, vulnerable home courts disaster on its orbits about the Sun, its path is regularly crossed by missiles that are small in relation to the Earth, but nevertheless large enough to do us egregious harm. Some are big enough to create major disasters, some, larger still, have the potential to eradicate all civilization, while a few, as big as Himalayan mountains, could create another global mass extinction on the scale of the Cretaceous event. It is, thankfully, a very big solar system, and extremely long odds have to come through before one of these comparatively small objects and our planet occupy the same space at the same time. But it happens - it has happened before, and it's only a matter of time before it happens again. We lack the data to say when, exactly, but some day the odds will catch up with us.

A rather frightening warning of this was sounded in 1908, when a relatively large object had the decent restraint to slam into a vast and sparsely populated region of Siberia near a place called Tunguska. The object detonated in mid-air as a result of atmospheric heating, exploding with a force of about 20 megatons, roughly the size of the largest thermonuclear warheads ever deployed. A seismic shock wave passed straight through the Earth not once, but twice, and the night sky was noticeably brightened in cities as distant as London England. Had it hit the ocean, a deadly tidal wave might have been the outcome, and had it detonated over a city of any size, there wouldn't have been a great deal left afterwards. If it had to hit at all, it couldn't have gone much better.

It's probable that Tunguska-like impacts have occurred with some regularity throughout recorded history, in remote regions, perhaps, or in the ocean. Significantly for our purposes, it's now thought that some may even be commemorated in mythology and oral histories passed down for millennia. At an early point in his book, Lewis discusses the history of ideas surrounding objects plummeting from space, and how accounts of impacts may lie buried in the imagery of the world's mythologies. In a remarkable aside, he focuses for a moment on none other than the *Book of Revelation*.

As we've discussed, the complex narrative of *Revelation* proceeds in several stages. There is the throne room vision of Chapter 4. In Chapters 6 through 7, the story of the four horsemen and the seven seals are played out. Next, the seven angels standing before the throne of God blow their seven trumpets; in the midst of this the "woes" arrive, leading to plagues, battles in the heavens, the rise and destruction of the beasts, the slaughter of the wicked, the pouring of the seven bowls of God's wrath, and the obliteration of the "great city".

Intriguingly, there are three woes; as if emphasizing this, at the end of Chapter 8 the eagle in mid-heaven is portrayed crying "Woe! Woe! Woe!" It's the way the woes arrive in the *Revelation* narrative that sparked the interest of John Lewis. The trouble begins with the seven angels blowing their trumpets in Chapter 8:

When the first one blew his trumpet, there came hail and fire mixed with blood, which was hurled down to earth. A third of the land was burned up, along with a third of the trees and green grass.

When the second angel blew his trumpet, something like a large burning mountain was hurled into the sea. A third of the sea was turned to blood, a third of the creatures living in the sea died, and a third of the ships were wrecked.

When the third angel blew his trumpet, a large star burning like a torch fell from the sky. It fell on a third of the rivers and on the springs of water. The star was called "wormwood", and a third of the water turned to wormwood. Many people died from this water, because it was made bitter.

When the fourth angel blew his trumpet, a third of the sun, a third of the moon, and a third of the stars were struck, so that a third of them became dark. The day lost its light for a third of the time, as did the night.

The eagle then cries woe to the inhabitants of the earth, and the fifth angel kicks off Chapter 9:

Then the fifth angel blew his trumpet, and I saw a star that had fallen from the sky to the earth. It was given the key to the passage to the abyss. It opened the passage to the abyss, and smoke came up out of the passage like smoke from a huge furnace. The sun and the air were darkened by the smoke from the passage.

So ends the first woe. We've already seen how the second woe starts when the sixth angel releases the four angels at the four corners of the earth, and their 200 million cavalry. What we have not stressed before now is that the cavalry kill a third of humanity through three plagues of fire, smoke and sulphur. Great earthquakes climax the second woe, and then the seventh angel blows his trumpet, and there follow the episodes of the sun-robed woman, the dragon, the two beasts, the climax of mass destruction, and the feasting by the birds of heaven upon the entrails of the fallen, interspersed with the seven angels pouring out their seven bowls. Throughout, the encoders keep alluding to miseries issuing from the sky: at Chapter 14, "John" states:

I heard a sound from heaven, like the sound of rushing water or a loud peal of thunder.

In Chapter 16, when the seven angels pour out their seven bowls, the last is followed by a passage, which the reader may recall:

Then there were lightning flashes, rumblings, and peals of thunder, and a great earthquake. It was such a violent earthquake that there has never been one like it since the human race began on earth....Every island fled, and mountains disappeared. Large hailstones like huge weights came down from the sky on people and they blasphemed God for the plague of hail, so severe was it.

For millennia, this imagery has been interpreted as vision, prophecy, allegory or half-mad delusion, but Lewis makes the point that it might simply be a description of events as they really happened at some point in the past. The above-quoted passages are entirely consistent with what are now known to be the effects of asteroid and comet bombardment, right down to the acidification of water, the lightning, the hail, the earthquakes, and the opening of the abyss. The various historical accounts of known impacts set out in Lewis's book, from Russian eyewitness testimony about the Tunguska event to a sailor's account of an open ocean impact, bear a striking resemblance to the woes described by "John".

The arrival of a comet or asteroid really would be accompanied by a sound like rushing water and thunder from the heavens. The force of the impact really might open the abyss, by puncturing the earth's crust. The resulting fire and smoke, along with other impact debris thrown high into the atmosphere, really would blot out the sky and shorten the apparent length of the day, while at the same time dimming the stars at night. Atmospheric heating caused by the enormous energy discharges of significant impacts would release nitric oxides that would mix with water vapour to produce vast quantities of nitrous and nitric acids, poisoning drinking water. Earthquakes would also, certainly, be a feature of any large impacts.

Compare the *Revelation* narrative to this account, quoted in the afterword of Lewis's book. In his research, Lewis came across a report of a small impact witnessed out to sea in the North Atlantic:

Captain C.D. Swart of the Dutch bark JPA reports in the American Journal of Meteorology (vol.4, 1887) that, when sailing at 37 degrees 39 minutes North and 57 degrees 0 minutes West, at about 5 PM on March 19, 1887, during a severe storm in which it was "as

dark as night above”, two brilliant fireballs appeared as in a sea of fire. One ball “fell into the water very close alongside with a roar, and caused the sea to make tremendous breakers which swept over the vessel. A suffocating atmosphere, and perspiration ran down every person’s face on board and caused everyone to gasp for fresh air. Immediately after this, solid lumps of ice fell on deck, and everything on deck and in the rigging became iced, notwithstanding that the thermometer registered 19 degrees centigrade⁹¹.

Does that ring any bells? It certainly did for Lewis, who concludes his brief discussion of *Revelation* with this extraordinary paragraph:

Why should a “falling star” (meteor) give the waters a bitter taste and make them deadly...why should a star, falling to Earth, open up a great pit and fill the air with enough smoke to darken the sun? The central theme is clear and unambiguous: the events described in Revelation are of astronomical origin, and describe real physical events, not mere portents or symbols. Did John somehow know more about impact phenomena than any scientist before the present decade? Or, if he was simply borrowing a metaphor to convey his message, from what earlier source did he derive his inspiration⁹²?

I could only sit there, having read this, feeling a little tingly. Lewis was laying out something so obvious I felt foolish for having missed it; maybe if the encoders are saying that something like a burning mountain was hurled into the sea, what they mean is, *something like a burning mountain was hurled into the sea*. Maybe it was *that simple*. As if intent upon wrapping up whatever other nagging questions I might have, Lewis adds this in the midst of a later chapter:

What really happened eight thousand to ten thousand years ago to end the hunter-gatherer chapter in human history? Quite suddenly, agriculture became common, specialized occupations arose, and cities appeared. Writing was invented, giving rise to record

⁹¹ See the Afterwood of the paperback edition at p.224

⁹² At p.13

keeping and literacy. And the earliest human records all record stories of floods that devastated civilization. The Babylonian Epic of Gilgamesh, the Greek Flood of Deucalion and the Noachic Flood are merely the most familiar examples. The study of the literature of catastrophes even has a name: it is called eschatology. Modern Biblical scholars seem generally intent upon tracing which eschatological writings may have been imported from other cultures, completely ignoring the most important question: what actually happened? Central Asian and Amerind traditions speak of the emergence of dry land from beneath a global ocean (a peculiar concept to arise among Plains Indians if they "invented" the story!). What did happen then? Was the clock of human history reset by an event (or more than one) that devastated civilization?⁹³

Lewis is no archaeologist, but he's no New Age darling, either. He's a scientist, and whether he knew it or not, he was going down the same road already blazed by Hancock, and coming to the same conclusions.

Burning mountains and poison stars falling from the sky. Three woes. Tremendous energy, held dormant until this very year and month, day and hour, then to be released in spasms of terrible violence. A Biblical narrative setting out the known scientific effects of impacts.

This very year and month, day and hour. Like a countdown. Like the relentless progress towards that one point in time and space when two objects traveling in two intersecting orbits finally meet, as inevitably they must. Like ticking off the days until finally, there's a collision at a moment that was pre-ordained for millennia, perhaps even from the first second that a comet tumbled out of the Oort cloud and plunged toward the sun; a moment that could even, perhaps, with sufficient data and expertise, be predicted with a certain amount of accuracy.

Recall that comet Shoemaker-Levy 9, ruptured by tidal forces, separated into a long string of sub-cometary bodies that hit Jupiter one after the other. It's not unusual for large comets to be torn apart by gravitational tidal forces as they travel past the gravity wells of large bodies (especially massive Jupiter) on their orbits around the Sun. The resulting strings of fragments, each still large enough to wreak havoc, can become much more thinly spread over time. As comets whip around the sun, they are assaulted by the destructive energies of sunlight itself,

⁹³ At p.185

which can rip them up and cause them to spew hot gasses from their evaporating icy surfaces - this is why comets have visible tails. In the process, smaller chunks are separated from larger, and different orbital velocities are established; the entire orbit of a comet may become a moving toroid of large and small chunks of debris going around the sun, like a garden hose full of sandy water that varies in its density. Predictable yearly “meteor showers” are the result of this phenomenon, as the Earth passes through the trails of orbiting debris.

Is the encoder’s message that the Age of Pisces will witness the intersection of the Earth with the largest, most deadly fragments of such an orbiting debris field - or perhaps more than one - after a relatively safe period of about 11,000 years? Are long odds about to come through?

There is at present no way to conclusively test such a hypothesis. We lack the data to know where all the most threatening chunks of cometary and asteroid bodies are orbiting out there, and decades of careful and sustained observation will be necessary before we can fully get a handle on such a complex problem. The right people are, one notes with some relief, now on the case. The tracking of potentially dangerous objects was once a forlorn and understaffed affair, but now substantial efforts are underway, with NASA’s Near Earth Object Program, while cooperation with the European Union has resulted in a joint effort called Spaceguard. NASA’s Jet Propulsion Laboratory keeps track of the orbits of dangerous objects, continuously calculating impact probabilities, with a monitoring system called Sentry. At the beginning of 2016 NASA announced the creation of a Planetary Defence Coordination Office, and the University of Hawaii is establishing the Asteroid Terrestrial-impact Last Alert System (ATLAS) program.⁹⁴

We think we’ve found and plotted most of the objects that pose real danger, those that are more than a kilometer wide, maybe as much as 90-95% of them, of which over 150 are considered dangerous.⁹⁵ It’s calculated that none of them present any immediate threat. It’s hard to be sure about how many more are out there, though. So far, NASA has catalogued about 1,400 “Potentially Hazardous Objects” of all sizes,⁹⁶ none of which are in orbits that will intersect ours within the next century, but more can always tumble in from formerly stable orbits in the

⁹⁴ This went live in 2015: <http://fallingstar.com/home.php>

⁹⁵ <http://neo.jpl.nasa.gov/stats/> Over the next 16 years, we should have solid data on over 90% of all NEOs bigger than about 140 metres across: <http://www.planetary.org/blogs/emily-lakdawalla/2012/10241103-dps-impact-risk.html?referrer=https://www.google.ca/>

⁹⁶ The official Sentry Program catalogue is available for your light reading pleasure: <http://neo.jpl.nasa.gov/risk/>

asteroid belt between Mars and Jupiter. Asteroids are hard to spot until they're quite close, since they aren't independently luminous, and significant chunks of rock do arrive unexpectedly from time to time. In 2013, for example, an object penetrated the atmosphere over Russia's southern Ural Mountains at an incredible velocity of over 60,000 KPH, and detonated in the atmosphere with a force of 500 kilotons, about 20 times the force of the Hiroshima Bomb. On the possible scale of such events, this was almost trivial (though the shock wave damaged thousands of buildings in the towns close to the explosion, and about 1,500 people suffered various kinds of injury), and it's a big world in which the odds of such an object coming close enough to a population center to wreak real havoc are tiny, but still, 500 kilotons is nothing to take lightly. Spaceguard didn't see it coming. It was fairly small, maybe 20 metres across, and came at us out of the Sun.

Large comets are easier to spot, but their orbits can be devilishly difficult to predict, even after long observation. Encounters with the sun and planets perturb their trajectories, even if they aren't broken apart, and the explosive out-gassing that occurs as comets approach the boiling Sun is powerful enough to act as a rocket motor that adjusts a comet's vector as it slingshots around our star and heads back out to the distant reaches of the Solar System.

One particularly frightening comet in our neighborhood is an Earth-crosser called "Swift-Tuttle", which has an orbital period of about 130 years (it has varied since it was first observed), and is big enough - about 26 kilometers wide - to cause as much grief as the one that eradicated the dinosaurs.⁹⁷ As recently as the 1990s, astronomers had calculated that Swift-Tuttle had a good chance of hitting the Earth in 2126 C.E.⁹⁸ Detailed recalculation in subsequent years led astronomers to conclude that Swift-Tuttle will miss us after all in 2126, passing by at a distance of about 14 million miles. Before we heave a huge sigh of relief, however, it's worth remembering that the comet business is a tricky one; current predictions may yet be revised, and as the date approaches, further number crunching may again show that the comet has a likelihood of hitting. This isn't likely - on the contrary, Swift-Tuttle, thankfully, seems to have a very stable orbit. But prudence demands that we keep an eye on this object.⁹⁹

Could it be that the encoders were worried about something like Swift-Tuttle? Even I could scarcely believe it, at first. Yet as I contemplated the apparent likelihood that whatever they really knew, and whatever their capabilities, the encoders were apparently trying to warn us about asteroid and comet

⁹⁷ Debris scattered in the wake of Swift-Tuttle is the source of Perseid meteor showers each year.

⁹⁸ <http://www.as.wvu.edu/~jel/skywatch/swfttle.html>

⁹⁹ https://en.wikipedia.org/wiki/Comet_Swift%E2%80%93Tuttle

bombardment, I was repeatedly struck by the consonance of this with the standard themes of ancient flood mythologies. One of these repeating themes is the notion of warning time; in none of these myths does the hero wake up with water seeping under his bedroom door and decide to head for the hills while he still has a chance. Instead, some agency, often divine, but sometimes down to earth, provides a warning that the hero, perhaps unlike his contemporaries, decides to heed. Others may party or ignore the portents, but Noah and Utnapishatim build their arks. Wondering at the sadness of his flock, the Inca shepherd poses a question to his llama, and gets the surprising answer that mother sea will be here in five days. The arrival of calamity is sudden, but not unexpected. What other sort of disaster arrives on schedule, after a sometimes-lengthy period of warning?

Another continuing theme is a connection with astronomy and the stars. As we've seen, in one version of the Inca legend, the hero of the tale is perplexed that his llama stare sadly at the stars - when he asks them what's the matter, they tell him the conjunction of stars shows that the world will be destroyed by water. On the other side of the world, as related by Collins¹⁰⁰, an even more suggestive story is told about the pyramids:

When the earth was a little younger, Saurid Ibn Salhouk, the king of Egypt - who lived three hundred years before the Great Flood - found that his slumber was constantly being disturbed by terrible nightmares. He saw that "the whole world was turned over", its inhabitants too. He saw men and women falling upon their faces and "stars falling down and striking one another with terrible noise". As a consequence, all mankind took refuge in terror.

These nightmares continued to trouble the good king, but for some time he concealed them, without telling another soul what he had seen. Finally, after a further night of misery, he summoned his chief priests, who came from all the provinces of Egypt. No less than 130 of them stood before him, the chief among them being the learned Almamon, or Aclimon.

King Saurid related every detail of his curious nightmare, and before they offered their own opinions concerning this strange portent, each one consulted the altitude of the stars. Upon returning they

¹⁰⁰ See *From The Ashes of Angels* at p.338

unanimously announced to the worried king that his nightmare foretold that first a great flood would cover the Earth. Then a great fire would “come from the direction of the constellation Leo”. They assured him, however, that after these disasters “the firmament would return to its former site”.

“Will it come to our country?” the king asked. They answered him honestly. “Yes”, they said, “and it will destroy it”.

Having accepted the future fate of his kingdom, Saurid decided that he would command the building of three wondrous pyramids as well as a very strong vault. All these were to be filled with “the knowledge of the secret sciences”, which included everything they had learned of astronomy, mathematics and geometry. All this knowledge would remain concealed for those who would one day come and find these places.

This story was recorded in the ninth century C.E.. Nobody knows how old it is, and I don't for a moment suggest that any Egyptian King Saurid ever existed, or that a “hall of records” lies concealed on the Giza plateau. But look at the central events of this tale. A king dreams of “stars falling” and demands of his priests - astronomers - an answer. They consult the stars and come back with disturbing news of a great fire coming out of the constellation Leo - Leo, the first beast of *Revelation* - and admit it will destroy civilization. Nothing can stop it. Is it coincidence, too, that the narrative sounds just about exactly like a mythologized account of the detection of an incoming missile from space? Doesn't the story have the ring of truth to it? Doesn't it sound, in its essentials, like a modern account of a response to the threat of a catastrophic impact?

Do all of these myths preserve a memory of a time when astronomers in the Age of Leo saw an incoming comet and advised those who would listen that nothing could be done? Were such astronomers the predecessors of the encoders, who preserved their knowledge? Is it the point of the code embedded in *Revelation* to go another step, telling us not only about how it happened last time, but also when, roughly, we can expect the comet's return?

Back to the Bomb Shelter

In a prior chapter, we briefly discussed an anomalous site in Turkey, the rock-hewn “churches” of Cappadocia, supposedly constructed by Christians fleeing

invading Muslim antagonists in the 8th century C.E.. Let's return, now, to this mystery.

In all of our reading, Leonard and I discovered nothing written about Cappadocia and the underground cities of Turkey until they were discussed in Andrew Collins' book *From the Ashes of Angels*¹⁰¹. Collins describes how, on a visit to Turkey, he was himself taken aback to be asked by a local tour guide if he wanted to see the "underground cities". Underground cities? Yes, he was assured, they were actual cities, big enough to hold thousands of people, maybe 20,000 or more. One can sense Collins was inclined to doubt it - surely he would have heard about such a place before - but of course he wanted to go see. It turned out that his tour guide had a flair for understatement.

The underground cities were there all right, and they were mind-boggling. Going down below ground, Collins saw:

*corridor after corridor hewn out perfectly from volcanic rock, which hardens on exposure to air. Each passageway seemed enormous, with a width of ten or so feet and headroom of well over six and a half feet. Into each passage opened other connecting tunnels, leading to still more sections of the complex. On each side of the corridors were maze-like complexes of rooms and halls that had once formed bedrooms, food warehouses, water stores, and yes, even a Christian church. Each room had been cut with such accuracy from the bedrock that it was clear that only thin walls divided it from its neighbors. Ventilation was provided by a whole system of shafts that connected all levels with the surface, while huge wheel-like doors made of a hard dark stone known locally as tırhiz, or tarkoz, could be used to seal off each individual section or level as and when required*¹⁰².

The official story was that these complexes originated in the 7th or 8th century C.E., as Byzantine Christians tried to cope with the invading Muslim armies. Really? This marvel of engineering was a product of early Christians? They had the skills? The time? Vexed by repeated incursions of invading Muslims, they set

¹⁰¹ See discussion beginning at p.281 of softcover edition, *Subterranean Worlds*

¹⁰² Collins, *From the Ashes of Angels* at p.282

up shop in a fixed location and proceeded with a mammoth construction project? No doubt, early Christians had stumbled onto the site, as their artifacts in some of the higher chambers showed, but there was little basis for concluding they'd actually built the complexes. It would have taken years, maybe decades, using then-current technologies, just to build the one site that Collins had seen, and this was by no means the only site - the Cappadocian region was populated by numerous subterranean sites, no fewer than 35 of them, connected, amazingly, by tunnels up to five or six miles long, in all containing accommodation for perhaps 200,000 people. What may be the largest of them all was discovered just recently, in 2013, and might have been big enough on its own to house over 20,000 people. Its lowest levels are reckoned to be almost 400 feet deep. It has tunnels roomy enough to drive a car through. Archaeologists have dated it to 5,000 years ago, not the 8th century, but they admit this is tentative, and that they don't really know who built it.

It seems certain that Byzantine Christians did take refuge in these cities from time to time, there's plenty of evidence for that, but did they build any of them, or just use them?

The underground cities of Cappadocia must be the most under-hyped structures on Earth. They're nothing short of being the eighth wonder of the ancient world, yet Collins describes the work of a lone Turkish archaeologist who had at that time taken the trouble to examine them closely. This is Omer Demir - his work was not then available in English, but Collins provided a summary¹⁰³, and Demir, it seems, is convinced that the cities are far, far older than anyone has suspected, perhaps over 11,000 years old. Surely, more should be done to investigate this; by any standard, the underground cities represent an amazing achievement, and it's a pity that so few know of them. There are signs that the 2013 discovery is finally prompting the sort of attention these structures deserve.

Suppose Demir is right. What if the underground cities really do date to the Age of Leo? A lot of disparate strands of evidence can then be woven together. There is a global tradition of world-destroying cataclysm, often linked to falling stars, and objects arriving from the heavens. There is recent scholarship that suggests that comet or asteroid impacts may have had something to do with the meltdown of the last ice age, which occurred during the Age of Leo. *Revelation* references the Age of Leo and speaks of burning mountains falling from the sky. And, preserved in the volcanic rock of Turkey is the remnant of a grand and sophisticated project to put a huge number of people into underground shelters where they could live in relative comfort for an extended period - underground cities that look for all the world like bomb shelters.

¹⁰³ Ibid Collins

Maybe they *were* bomb shelters, in a way. It's unlikely they could have been dug in advance of an impact, which would probably arrive with too little warning, but they could well have served as a refuge from climatic upheavals that may have resulted from the bombardment of large objects. The key characteristic of such subterranean caverns is near-constant temperature, irrespective of what's going on above. I was left to wonder: did impacts heat the world up, as suggested by Hancock's research, or did they cool the world down? We think the dinosaurs went into the dark quite literally in the wake of the late Cretaceous impact, as clouds of smoke and debris circled the earth and created an analog to nuclear winter. Yet, if the world was cooling down, why the glacial melting and catastrophic flooding that occurred in the same general time as Omar Demir suspects the underground cities were completed?

Perhaps a complex interaction of forces was at play. As far as I could tell as I completed the first draft of this essay, there was nothing out there to tell me.

Judgment Day

That's where it sat, for me, in 1999. I finished my draft, found it unsatisfactory, and moved on to other things, not the least of which was a none-too-delightful career as a lawyer at the commercial epicenter of the Canadian economy, the towers near the corner of King and Bay streets in Toronto. It takes it out of you, being a "Bay Street Lawyer". The job demands a lot of energy, including a huge amount of intellectual energy, trying to analyze and understand the unbelievably complex regulatory environment in which corporations do things like sell securities to the public.

While I Wasn't Watching...

I never lost interest, but having abandoned any intensive research, I missed a lot. I never discovered that a German physicist named Otto Muck had published a book, *The Secret of Atlantis*,¹⁰⁴ as far back as 1978, in which he argued that Atlantis was a real civilization destroyed by asteroid impact. I hadn't noticed that discussion of this scenario had become widespread over the internet. I didn't even notice that Graham Hancock had published a sequel to *Fingerprints of the Gods* in 2014, which I still haven't read, though I skimmed a preview copy on line. Titled "*Magic of the Gods*", I gather that it, too, argues that impacts were at the root of global catastrophe in the Age of Leo, and I noted with some dismay that Hancock is talking about the Scablands, Cappadocia, Gobekli Tepe, and pretty much everything else that I'd gathered independent of his calling my attention to it. Bound to happen. I imagine I'll devour it as soon as I stop typing here (despite the predictable, generally savage reviews it received), and for all I know he talks about *Revelation*, too.

While I was off doing other things, the notion that some sort of impact might be the genesis of the global destruction myths had, over the years, gone virtually mainstream. Books and articles were written on it, such as the 2013 paper *Comets, Meteors & Myth: New Evidence for Toppled Civilizations and Biblical Tales*, by science writer Robert Roy Britt.¹⁰⁵

This formed part of a set of assertions that the Biblical flood was real, the result of an asteroid or comet impact about 5,000 years ago, which may be the reason that Bronze Age civilizations such as Egypt's show a marked decline in this period. There was a flurry of commentary and reporting around this possibility beginning around 2007. A 2012 article titled *Deep Impact: Comets in Ancient*

¹⁰⁴ <https://www.amazon.com/Secret-Atlantis-Otto-muck/dp/0671464825>

¹⁰⁵ <http://www.rense.com/general16/cometsmeteorsandmyth.htm>

Cultures by Noah Goldman of the University of Maryland formed part of what I've recently discovered to be a large and varied literature on the widespread and ancient dread with which comets are viewed around the world.¹⁰⁶

A tradition that comets portend doom and are to be feared seems to be as widespread, almost, as the flood myths themselves. This is from a 2007 article by Michael Goodread:¹⁰⁷

But according to the ancient record, comets have long aroused terror in human beings, and this fear has clearly persisted into modern times. Even the astronomical mainstream recognizes that comets have historically been viewed as portents of destruction. The NASA report "Comets in Ancient Cultures" observes: "Comets have inspired dread, fear, and awe in many different cultures and societies around the world and throughout time. They have been branded with such titles as 'the Harbinger of Doom' and 'the Menace of the Universe.'"

I've even found a book titled *Impact! The Threat of Comets and Asteroids*,¹⁰⁸ by Gerrit L. Verschuur, that was published while I was just getting interested in all this, in 1997. It was not unlike *Rain of Iron and Ice*, being a general survey of impacts throughout Earth's history, and again we see discussion of *Revelation*, Verschuur opining that John's imagery is certainly suggestive of a comet or asteroid strike, and in this was paralleled by all sorts of ancient traditions¹⁰⁹. He cites an article from 1992, years before I was drawn to the topic, by Edith Kristan-Tollmann and Alexander Tollmann of the University of Vienna, which concluded that the reason *Revelation* harps on "seven" is because seven large comet fragments struck the Earth about 9,500 years ago. Verschuur concurs that *Revelation*, Chapter 8 in particular, is clearly an account of an impact catastrophe. And look at this, from a 1998 *Frontiers* article by astronomer Bill Napier:¹¹⁰

¹⁰⁶ <http://transmissionsmedia.com/deep-impact-comets-in-ancient-cultures/>

¹⁰⁷ <http://www.thunderbolts.info/webnews/122107doomsdaycomet.htm>

¹⁰⁸ <https://www.amazon.com/Impact-Asteroids-Gerrit-L-Verschuur/dp/0195119193>

¹⁰⁹ See generally chapter 8, titled The Killer Strikes.

¹¹⁰ <https://www.sott.net/article/156224-Comets-dragons-prophets-of-doom>

Is there any evidence for this giant comet in the terrestrial record? One of the most puzzling and widespread features of early societies is their preoccupation with the sky. People have assumed that this was driven by the need for a calendar for both agricultural and ritual purposes. However, this explanation does not account for the doom-laden nature of much cosmic iconography and early sky-centred cosmic religions associated with these societies. For example, some of them involve celestial combat myths in which winged serpents battle it out in the sky before one or other crashes to Earth. Numerous prophecies of doom, from Zoroaster to the Book of Revelation, clearly show celestial impact motifs: the Persian prophet Zoroaster (c. 500 BC) predicts a world-end in which "Ahriman (Satan) will make a comet strike the Earth causing a huge conflagration"; the Book of Revelation describes a huge burning mountain falling from the sky, dropping hail and fire on the Earth, while the Sun and Moon are darkened by smoke pouring from the abyss; Sodom and Gomorrah were destroyed by a rain of fire from Heaven, and so on. Cometary as well as meteor motifs are also found in these myths (for example, Revelation has a huge, red, multiple-headed dragon in the sky) and were recognised as such by ancient writers.

Mr. Napier has made something of a career of this topic, I learned, and has been writing about it since 1982. Note the title of this piece: *Comets, Dragons and Prophets of Doom*. We'll be returning to dragons shortly. Michael Goodread, in the article quoted above, also had this to say:

In fact, increasing numbers of scientists may be coming to see that the global theme of the Doomsday comet is not a figment of human imagination, but a universal memory yet to be deciphered. The recent Discover Magazine article "Did a Comet Cause the Great Flood?" discusses the research of Bruce Masse, an environmental archaeologist at Los Alamos National Laboratory. Masse says of ancient petroglyphs depicting coiling serpents, "You can't tell me that isn't a comet." Masse concludes that, perhaps 5,000 years ago, a body three-miles wide smashed into the ocean off the coast of Madagascar. A watery cataclysm ensued, killing roughly eighty percent of the world's population.

The whole world, it seems, was buzzing with the impact hypothesis, even citing evidence in *Revelation*, back when I thought I was one of the first to join the party. All of that slipped by me, in large part because the internet wasn't then

what it so quickly became. Neither the sheer volume of its posted content, nor the almost magical efficacy of the tools we now use to search it, were at anywhere near the stage we take pretty much for granted these days. Now all of these different sources are presented to the eager searcher within tenths of a second of typing in the first key words that come to mind. Not in 1999!

Nanodiamonds

Thus, for many years I was oblivious to how common and widespread ideas about impacts had become, but eventually I began to notice, via intermittent Google searches of a much more robust internet, that mainstream science was starting to get very interested in comet and asteroid strikes in the recent geological past. In 2009 a paper was published in *Science*, the title of which was rather dry, considering its implications: *Nanodiamonds in the Younger Dryas Boundary Sediment Layer*¹¹¹. This is the abstract:

We report abundant nanodiamonds in sediments dating to 12.9 ± 0.1 thousand calendar years before the present at multiple locations across North America. Selected area electron diffraction patterns reveal two diamond allotropes in this boundary layer but not above or below that interval. Cubic diamonds form under high temperature-pressure regimes, and n-diamonds also require extraordinary conditions, well outside the range of Earth's typical surficial processes but common to cosmic impacts. N-diamond concentrations range from ≈ 10 to 3700 parts per billion by weight, comparable to amounts found in known impact layers. These diamonds provide strong evidence for Earth's collision with a rare swarm of carbonaceous chondrites or comets at the onset of the Younger Dryas cool interval, producing multiple airbursts and possible surface impacts, with severe repercussions for plants, animals, and humans in North America.

They found sediments of carbon across a broad swath of the North American heartland, suggesting massive fires, and in those sediments they found abundant “nanodiamonds”, small diamonds that form under the tremendous heat and pressure that impacts would provide. They believed that this might be the explanation for the great dying of mammals that occurred across North America,

¹¹¹ <http://science.sciencemag.org/content/323/5910/94.abstract> Joint Authors: D. J. Kennett¹, J. P. Kennett A. West, C. Mercer, S. S. Que Hee, L. Bement, T. E. Bunch, M. Sellers, W. S. Wolbach

and also the apparent disappearance of the first humans to arrive on the continent, the Clovis People.

In one possible scenario, a long warming trend, which had been steadily dumping huge amounts of glacial water into the oceans, was reversed for a time by a series of impacts that had a similar effect to the one that killed the dinosaurs. Before the cooling effect of atmospheric dust and debris took hold, tremendous heat energy from the impacts could have melted great stretches of the North American ice sheet, causing a countervailing meltwater pulse of cold water that contributed to the cooling trend, and may have altered ocean currents. Impacts in the ocean may have caused enormous tsunamis, contributing to coastal flooding and general mayhem.

Debate on the merits of this theory continued for a few years, and then revived in 2013 when Richard Firestone of the Lawrence Berkeley National Laboratory, among many others in league with him, asserted that he, too, had discovered a mound of evidence for an impact about 12,900 years ago. An abstract of an article titled *Mammoths, Meteorites and Supernovae* can be found at the website of the Northern California Geological Society.¹¹²

Firestone begins:

We have discovered a thin layer at 10 Clovis-age sites across North America and into Europe dating to 12.9 kyr containing magnetic microspherules and grains enriched in iridium, carbon spherules containing soot, nanodiamonds, glass-like carbon containing Fullerenes, all of which are evidence of an ET impact. This layer often lies at the base of a black mat contemporaneous with the onset of Younger Dryas cooling and the disappearance of the mammoths. Analysis of the impact layer indicates that the impact likely occurred as an airburst over the Laurentide Ice Sheet.

A detailed paper¹¹³ is located on the website of the Proceedings of the National Academy of Sciences of the United States of America.

¹¹² <http://www.ncgeolsoc.org/SpeakerInfo/2008%20-%202009/Feb%202009%20Firestone%20Bio%20&%20Abstract.pdf>

¹¹³ <http://www.pnas.org/content/104/41/16016.full> Joint Authors: R. B. Firestone, A. West, J. P. Kennett, L. Becker, T. E. Bunchf, Z. S. Revay, P. H. Schultz, T. Belgayag, D. J. Kennett, J. M. Erlandson, O. J. Dickenson, A. C. Goodyear, R. S. Harrish, G. A. HowardI, J. B. Kloostermanm,

Whatever may have happened 5,000 years ago, the period in which many now speculate an impact wrought destruction upon Bronze Age cultures, here was solid evidence for a catastrophe that matches the time frame we've been looking at. The proposed date of impact, 12,900 years ago, was, the reader may now fully realize, just at the beginning of the Age of Leo. The Age when the eagle soaring through mid-heaven called woe three times, heralding, I couldn't help but think, three successive impacts.

The authors reason that catastrophic impact is the root cause of the disappearance of all those Pleistocene mega-fauna, all those camels and bears and sloths and dire wolves, and yes, the mammoth too¹¹⁴. The Clovis People *didn't* eat them all. In fact, this is why those people also become scarce at the onset of the Younger Dryas.

Of course, the theory is still controversial, and has come under challenge. Follow-up research indicated that the evidence reported by Firestone *et al.* was improperly dated, and that the impacts they found are too recent, or sometimes too old, to be the trigger of climate disruption in the Younger Dryas.¹¹⁵ Still later study supported the Younger Dryas impact theory, and even asserted to have narrowed the timing to a range of just 100 years, from 12,735 years to 12,835 years ago. Research also suggests that the impact might have been an asteroid, not a comet.¹¹⁶

A Horse, a Sword, and a Dragon Bound by a Heavy Chain

The surge in discussion of the comet/asteroid hypothesis, radiating now from all points of the compass, prompted me to revisit the text of *Revelation* in a way I hadn't for a long time. I was drawn particularly to the horror show of Chapters 19 and 20, when the narrative reaches its crescendo before everything is set right again by the descent of the New Jerusalem. I'd always assumed these chapters were just more mayhem, consonant with what's already been laid out in graphic detail, but there's more to it. The hideous climax may be telling us exactly what the encoders want us to worry about, not merely by describing the misery and

P. Lechlern, P. A. Mayewski, J. Montgomery, R. Poreda, T. Darrah, S. S. Que Hee, A. R. Smith, A. Stichr, W. Toppings, J. H. Wittke and W. S. Wolbach

¹¹⁴ This PBS documentary from NOVA is well worth checking out:

<http://www.pbs.org/wgbh/nova/evolution/last-extinction.html>

¹¹⁵ <http://www.dailymail.co.uk/sciencetech/article-2628213/A-comet-impact-DIDNT-spark-climate-change-trigger-mass-extinction-12-800-years-ago-study-claims.html>

¹¹⁶ <http://www.dailymail.co.uk/sciencetech/article-3181425/Asteroid-impact-triggered-sudden-cooling-Earth-12-800-years-ago-killed-mammoths.html>

destruction that awaits, but by identifying the very agent of that destruction. Once again, language that seems purely allegorical may instead have a straightforward meaning, just as Michael Goodread and others have suggested.

The closing chapters are the parts of *Revelation* that have buried themselves most deeply into western Christian consciousness. This is the source of our notions of a Judgment Day to come, when God consults a book of names, and casts anyone not listed into a lake of fire. This is when good fights evil to the death, in the cataclysmic End of Days that will sort the wicked from the righteous, once and for all.

It begins with the arrival of a rider on a white horse, in Chapter 19:

Then I saw heaven opened, and there was a white horse! Its rider is called Faithful and True, and in righteousness he judges and makes war. His eyes are like a flame of fire, and on his head are many diadems; and he has a name inscribed that no one knows but himself. He is clothed in a robe dipped in blood, and his name is called The Word of God. And the armies of heaven, wearing fine linen, white and pure, were following him on white horses. From his mouth comes a sharp sword with which to strike down the nations, and he will rule them with a rod of iron; he will tread the wine press of the fury of the wrath of God the Almighty. On his robe and on his thigh he has a name inscribed, "King of kings and Lord of lords."

The Beast and its armies are defeated, slaughtered by the rider, and then cast into hellfire while the birds feed on the legion of corpses that litter the battlefield:

And the rest were killed by the sword of the rider on the horse, the sword that came from his mouth; and all the birds were gorged with their flesh.

A dragon, representing Satan, is then imprisoned, but his imprisonment won't last:

Then I saw an angel coming down from heaven, holding in his hand the key to the bottomless pit and a great chain. He seized the dragon, that ancient serpent, who is the Devil and Satan, and bound him for a thousand years, and threw him into the pit, and locked and sealed it over him, so that he would deceive the nations no more, until the thousand years were ended. After that he must be let out for a little while.

A thousand-year reign of Christ ensues, but then, as promised, the Dragon is back:

When the thousand years are ended, Satan will be released from his prison and will come out to deceive the nations at the four corners of the earth, Gog and Magog, in order to gather them for battle; they are as numerous as the sands of the sea. They marched up over the breadth of the earth and surrounded the camp of the saints and the beloved city. And fire came down from heaven and consumed them. And the devil who had deceived them was thrown into the lake of fire and sulfur, where the beast and the false prophet were, and they will be tormented day and night forever and ever.

The dead are then judged, the wicked are cast into Hell, and that's that. Then it's all wine and roses in the New Jerusalem, with its 12 gates, three to a side, an obvious symbol for a new age of the Zodiac.¹¹⁷

The rider on the white horse, with the sword coming strangely out of his mouth, is clearly intended to represent a supreme being – he's the King of kings, his name is the Word of God, he's Faithful and True. Who else could this be but Christ himself? Yes, but remember D.M. Murdock's thesis, that Christ, like Mithras and others before him, is just a manifestation of the Sun God, in a new religion that repackages an ancient astrological cult that goes back thousands of years.¹¹⁸ Remember, too, the rules of the game. Objects like horses in the sky, things that have colours attributed to them, are likely planets, or to be more precise, one or another of the seven visible non-stellar objects known to the ancients, the five planets, the Moon, and the Sun.

This Christ figure isn't the Moon. He's the Sun, ruler of the Zodiac and all the constellations, with eyes of fire and a red cloak that he wears when he rises and falls each day, ever there, ever to return at night's end, faithful and true. The pure white stars that form the armies of heaven are at his command.

That sword coming out of his mouth, and that chained dragon, are symbolic of something in the heavens too. Both are very ancient symbols for comets.

¹¹⁷ The city even has a foundation made of 12 birthstones, representing the 12 months of the year, and the 12 signs of the zodiac: *the first jasper, the second sapphire, the third agate, the fourth emerald, the fifth onyx, the sixth carnelian, the seventh chrysolite, the eighth beryl, the ninth topaz, the tenth chrysoprase, the eleventh jacinth, the twelfth amethyst.*

¹¹⁸ Having "come out" as the author of *The Christ Conspiracy*, Murdock had to suffer through years of sustained and vitriolic abuse. She persevered, and continued the theme in a subsequent self-published ebook, *Jesus as the Sun Throughout History*, which you can read about here:

<http://stellarhousepublishing.com/jesusasthesun.html>

Those with ears, let them hear.

The description and depiction of a comet as a heavenly sword was very common in the Middle East in Roman times. Roman historian Josephus described in *The Wars of the Jews* what he took to be a portent of the coming fall of the Second Temple:

Thus were the miserable people persuaded by these deceivers, and such as belied God himself; while they did not attend, nor give credit, to the signs that were so evident, and did so plainly foretell their future desolation; but, like men infatuated, without either eyes to see or minds to consider, did not regard the denunciations that God made to them. Thus there was a star resembling a sword, which stood over the city, and a comet, that continued a whole year.¹¹⁹

Roman historian Dion Cassius, seeing, in what we think was Halley's comet, a grim portent of the death of an emperor, reported how a star 'hung like a sword over Rome before the death of Agrippa'.¹²⁰

Heavenly swords appear in the Bible too. This passage from 1 Chronicles 22:16 is widely considered to be about a comet:

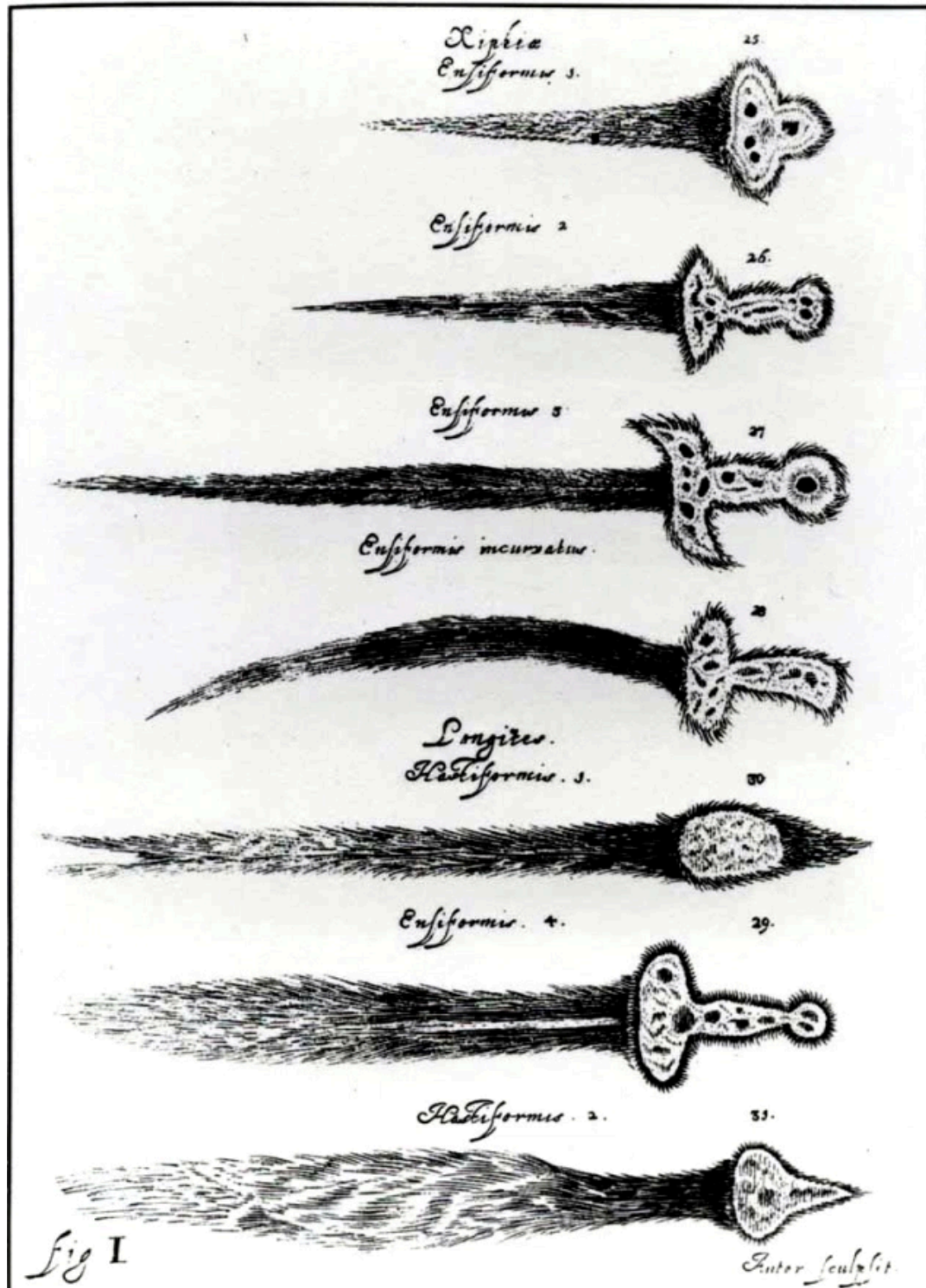
When David looked up, he saw the Messenger of the LORD standing between heaven and earth. The Messenger had a sword in his hand and stretched it over Jerusalem. David and the leaders were dressed in sackcloth. They bowed down with their faces touching the ground.¹²¹

The depiction of comets as fiery swords continued throughout Europe into modern times, as can be seen in the illustration on the following page, taken from Johannes Hevelius' *Cometographia* (Danzig, 1668). Visually, the association of comets with swords is a natural one, especially for those that pass quite near to the Earth, their long tails arcing across the sky like curved blades. More to the point, as I see it, is that swords are lethal weapons. In line with the general apprehension societies all over the world have felt towards comets, their characterization as fiery swords renders them as something dangerous and threatening, as indeed they are.

¹¹⁹ <http://www.bible.ca/pre-flavius-josephus-70AD-Mt24-fulfilled.htm>

¹²⁰ <http://www.ianridpath.com/halley/halley7.htm>

¹²¹ http://biblehub.com/1_chronicles/21-16.htm



The symbolic description of comets as fiery dragons in the sky is perhaps even more widespread, depending upon what you think the dragons represent. We certainly see fiery flying dragons in myths and stories all over the world, evidencing the same sort of dispersal across cultures and time that characterizes the flood myth. This has often piqued the curiosity of historians, amateur and professional alike. Astronomer Carl Sagan speculated, in *The Dragons of Eden*,¹²² that the near universal mythology of fearsome dragons might have something to do with embedded genetic memory, a holdover from a time when our proto-human ancestors may have faced far more threat from large reptiles like crocodiles and Komodo dragons than we do today. More recently, the notion that the dragon is a metaphor for comets has gained traction, and the global fascination with dragons has even been connected to the impact that I (and others!) think is described in *Revelation*. I think Michael Goodread is right when he sees the long fiery tails of comets in the dragons of *Revelation*.

I started thinking about this when I happened upon a small article by Hans Starlife titled *Dragons From Space*, in which the author surveys the various dragon myths from around the globe and concludes that comets could well be the source:

*It is just a theory, not yet fully proven. But perhaps one of the world's oldest and most wide-spread symbols, the Dragon, is really a memory of these fiery visitors from the universe. A reminder of our place in the cosmic drama, influencing entire cultures, their legends and symbols.*¹²³

More startling for me was an article appearing on the Space Intelligence website, which asked, point-blank, *Are Dragons a Representation of Comet Impacts?*¹²⁴ It's astonishing what you can find with Google and a few pertinent search terms. Here was a brief essay, uncredited, linking dragons not merely to comets in general, but comet impacts, including the one that's now being debated as the trigger for the onset of the Younger Dryas:

The cataclysmic event may well have formed the basis for the many myths and legends about a winged serpent or fire-breathing dragon. Snakes had already been in use as religious

¹²² <https://www.amazon.com/Dragons-Eden-Speculations-Evolution-Intelligence/dp/0345346297>

¹²³ www.hansstarlife.com/1-profile/12-writings/docs/space-dragons.rtf

¹²⁴ <https://www.spaceandintelligence.com/index.php/evolution-of-man/165-are-dragons-a-representation-of-comet-impacts>

and archetypal symbols long before, but the appearance of a havoc wreaking serpent in the sky might have been the reason to add the image of a flying dragon to that.

Quite apart from the myriad traditions of “conventional” dragons, I’m reminded of the various Saxon tales of deadly “worms” (“wyrn” is “serpent” in Old English), and of the Vala’s Prophecy, quoted briefly in a prior chapter, that described how a “snake is coiled in the rage of the fire-giant”. I’m also reminded of the widespread appearance in Central and South American cultures of a feathered serpent, the symbol/alter ego of Quetzlcoatl to the Aztecs, Kulkulkan to the Maya. This strikes me as an apt metaphor for a comet and its feathery tail.

Remember, too, the description of the second Beast at 13 *Revelation*. He *speaks like a dragon*.

Seen in this light, the dragon in 20 *Revelation* takes on a whole new character. Two things, apart from its origin in the sky and its obvious connection to the second Beast, suggest strongly to me that this can only be a comet. First, he’s bound by a great chain, and second, while imprisoned by the angel with the key to the abyss for 1,000 years, he must be let loose after that.

Comets are likewise bound by a great chain: gravity. Comets also return from the abyss, sometimes after a very protracted absence. They may have extremely long orbits that take them out beyond the planets of the solar system, but the inexorable pull of gravity will eventually bring them back. Having vanished from our sky, we’ll see them again, whipping around the Sun, like a sword issuing from the Sun’s very mouth. What else vanishes into the black for a thousand years, but can be predicted to return at a specific time?

This dragon, this sword from the mouth of the rider on the white horse, bears every resemblance to a long-period comet, perhaps one with an orbital period of about a thousand years, if that’s to be taken literally.

A comet with an orbit of that duration, still out somewhere in space when *Revelation* was inserted into the Bible, should have passed us twice by now, and research will quickly reveal appearances of a number of long-period comets in the past which came close, and haven’t been seen again. The Great Comet of 1843, so bright it was visible in broad daylight, was reckoned to have an orbital period of about 600-800 years, but we really can’t be sure. There was a Great Comet in 1106, which was observed all over the world. It’s possible that it was a long-period comet and was observed again as the Great Comet of 1882, though again we just don’t know. Any comet that hasn’t been observed by modern science, especially a long-period comet, is very hard for us to catalog and predict. Careful analysis of ancient and often obscure observations is required, to see if a pattern emerges. This is how Halley calculated the orbit of the comet that

bears his name, and even though Halley's has a relatively short 76-year orbital period, making for plenty of observations, it took painstaking research to put it all together. The task is that much harder when dealing with long-period comets. Observations from a thousand years ago or so are spotty, and not always easy to interpret.

If the Earth is occasionally menaced by a long-period comet traveling in a thousand-year orbit, and the Age of Pisces is when it presents the highest risk, it would have about three cracks at us before we emerged into a time of safety. It struck me just recently: the eagle in mid-heaven calls out a warning of three woes. Three woes – three passes of the comet, or of an orbiting swarm of comet fragments?

It's hard to know what to think. Maybe the three woes are an account of what happened before, when there were three successive impacts. I don't suppose there's any way to get much closer to the bottom of that, at least, not from further exegesis of *Revelation*; but if the encoders are flagging a whole astrological age as a time of peril then maybe they worried that the people living in Pisces might experience repeated impacts. Maybe that's what happened in the Age of Leo. Perhaps, if science really has dated an impact to the very beginning of that long-past age, there are still more recent ones to be found.

Which thought provoked a small epiphany. I was just finishing the draft you're now reading, thinking about the three woes and the possibility of multiple impacts, when a synapse fired that had somehow lain dormant since the beginning of this century. Sometime after I'd wrapped up writing in 1999, and decided I didn't much like the result, I happened upon a book called *Uriel's Machine*,¹²⁵ by Christopher Knight and Robert Lomas, published the same year. It was another volume in the "lost civilization" vein, the focus of which was in part an attempt to demonstrate a connection between the many ancient observatories scattered around the globe. What I'd forgotten was that this book, too, described the evidence that it was comet impacts that wiped out the prior civilization¹²⁶, and drew a great deal of this from an old religious text, in this case *The Book of Enoch*. This is a non-canonical Jewish work, written, probably, between 300 and 200 B.C.E., just when I think the original text of *Revelation* was probably first set down. Scholars believed it was an influence on the drafters of the New Testament.

Somehow, I was insufficiently impressed at the time with the parallels between *Revelation* and *The Book of Enoch*. It's a sprawling work, to which no sort of

¹²⁵ <https://www.chapters.indigo.ca/en-ca/books/uriels-machine-reconstructing-the-disaster/9781446410448-item.html>

¹²⁶ How about that, *another* one. It can seem like *everybody* got to the party ahead of me.

justice can be done here (it would need a book of its own), and is broken into five parts, which were once probably separate, and written at different times: The Book of the Watchers, The Book of Parables, The Astronomical Book, The Book of Dream Visions, and The Epistle of Enoch. Along the way it touches on many of *Revelation's* themes, including the appearance of the Messiah, a judgment upon mankind, and the ultimate initiation of a Heavenly Kingdom on Earth. Like *Revelation*, it relates a tale of cataclysm, and the apocalyptic language is highly similar. What's also fascinating is that the *Book of Enoch* includes (among a great many other things) not just a tale of destruction quite like the one portrayed in John's apocalypse, but also a portion of one version of the story of Noah.

The "Noah fragment" is set out in the second book, the Parables. In this telling, Enoch is Noah's grandfather, and is the agent of warning, telling Noah that the world must soon be destroyed, as its inhabitants have advanced too far into esoteric realms where they don't belong, and in the process have mastered sorcery and the dark arts, becoming too powerful. This cannot be tolerated. This is from Chapter 65:

And a command has gone forth from the presence of the Lord concerning those who dwell on the earth that their ruin is accomplished because they have learnt all the secrets of the angels, and all the violence of the Satans, and all their powers-- the most secret ones--and all the power of those who practice sorcery, and the power of witchcraft, and the power of those who make molten images for the whole earth: And how silver is produced from the dust of the earth, and how soft metal originates in the earth.

Just as in *Revelation*, angels stand ready to destroy the Earth, but are held in check. This is from Chapter 66, Noah speaking now:

And after that he showed me the angels of punishment who are prepared to come and let loose all the powers of the waters which are beneath in the earth in order to bring judgement and destruction on all who [abide and] dwell on the earth. And the Lord of Spirits gave commandment to the angels who were going forth, that they should not cause the waters to rise but should hold them in check; for those angels were over the powers of the waters. And I went away from the presence of Enoch.

Noah, the one righteous man, is favoured by God, and will be saved. He isn't told to build an ark in this version; God tells him that some sort of wooden building will be provided for him, where God will keep him safe.

At this point, the reader must regard this as fairly standard stuff, but I found it striking that while *Revelation* generally describes phenomena typical of an impact upon land, here, the four angels are holding back *water*. I'm reminded of the two Inca fables of the melancholy Llama. They, too, were afraid of water, and how the conjunction of the stars meant the world was about to be destroyed by the ocean. Earlier, we read how Bruce Masse, an environmental archaeologist at Los Alamos National Laboratory, theorized that an ocean impact of a comet had caused the great floods of myth, and one can easily imagine the tidal waves that would result if something big enough crashed into the sea. Isn't that also what *Revelation* is telling us about – that something like a burning mountain was hurled into the sea?

Even more interesting for our purposes is the initial Book of Watchers. It's at once a strange and familiar tale, in which heavenly angels begin to lust after the increasingly beautiful daughters of men, and descend from on high, desiring to interbreed with them. In an echo of the "civilizer" myths of South and Central America, the angels teach human beings all the arts of civilization, everything from metallurgy and weapons manufacture to astronomy and even how to make jewellery. Naturally, this being a tale in which the world is destroyed, there is also much fornication and corruption, on top of the unforgiveable spilling of all the secrets of Heaven, while the mating of angels with the daughters of men is depicted as the most heinous of sins. Looking down on all this from Heaven, the archangels, Michael, Uriel, Raphael, and Gabriel, are mightily displeased. In the Book of Watchers, Uriel is the one sent to warn Noah that the whole world is going to be drowned in a flood.

In many ways, so far, so unremarkable. By now we've seen this all before in various forms, seen it a hundred times and more, though the lusting of angels after human women is a new twist. But then comes the part that Knight and Lomas describe thusly:

Then the coming disaster is foreseen with a comet smashing down upon the Earth. The cause of the Flood is explicitly stated as being due to extraterrestrial impacts.¹²⁷

They describe how Enoch is taken to a place where he sees seven stars. From the ancient text:

I saw there seven stars like great burning mountains, and to me, when I inquired regarding them, the angel said: 'This place is the end of heaven and earth: this has become a prison for the stars

¹²⁷ See *Uriel's Machine* at p. 89

and the host of heaven. And the stars which roll over the fire are they which have transgressed the commandment of the Lord in the beginning of their rising, because they did not come forth at their appointed times. And He was wroth with them, and bound them till the time when their guilt should be consummated (even) for ten thousand years...

And I proceeded to where things were chaotic. And I saw there something horrible: I saw neither a heaven above nor a firmly founded earth, but a place chaotic and horrible. And there I saw seven stars of the heaven bound together in it, like great mountains and burning with fire. Then I said: 'For what sin are they bound, and on what account have they been cast in hither?' Then said Uriel, one of the holy angels, who was with me, and was chief over them, and said: 'Enoch, why dost thou ask, and why art thou eager for the truth? These are of the number of the stars of heaven, which have transgressed the commandment of the Lord, and are bound here till ten thousand years, the time entailed by their sins, are consummated.' And from thence I went to another place, which was still more horrible than the former, and I saw a horrible thing: a great fire there which burnt and blazed, and the place was cleft as far as the abyss, being full of great descending columns of fire: neither its extent or magnitude could I see, nor could I conjecture. Then I said: 'How fearful is the place and how terrible to look upon!'

In the later Book of Dream Visions, Enoch has a sleeping premonition of just how awful this is all going to be, and if the reader isn't reminded of *Revelation* and all the other ancient tales of cataclysm from around the world, I'm failing badly in my task here:

I saw in a vision how the heaven collapsed and was borne off and fell to the earth. And when it fell to the earth I saw how the earth was swallowed up in a great abyss, and mountains were suspended on mountains, and hills sank down on hills, and high trees were rent from their stems, and hurled down and sunk in the abyss. And thereupon a word fell into my mouth, and I lifted up (my voice) to cry aloud, and said: 'The earth is destroyed.'

Seven rogue stars, like great mountains burning with fire, stars which have transgressed the commandment of the Lord because, intriguingly, they didn't come forth at their appointed times. This might mean they appeared unexpectedly. Knight and Lomas are convinced this is a reference to seven comet fragments.

Revisiting this brought me up short: wait - *seven*? I'm quite convinced that *Revelation* is about seven Ages of the Zodiac, just as I'm fairly sure we're meant to count forward from Year 1 by seven increments of 144,000 days, but could this possibly be yet another reason why John lays the number seven before us a full and tedious 54 times? Is this why there are seven seals, seven trumpets, seven bowls?

Remember Edith Kristan-Tollmann and Alexander Tollmann of the University of Vienna? That's just what they were saying, that there were seven comet fragments, apparently drawing their inspiration from the litany of sevens set out in *Revelation*.¹²⁸ We just saw, too, how Michael Goodread singled out *Revelation's* dragon with seven heads – an image we've associated with the constellation Hydra, as part of the tableaux of the woman clothed in the Sun – as a metaphor for a comet. Perhaps this dragon is pulling double duty, leading us not just to Virgo, but also to the horror that brought an end to everything that was accomplished in that golden age. The seven heads, evocative of multi-headed Hydra, could also denote seven comet fragments.

If *Revelation* is speaking to seven successive impacts, then what are the three woes? Are the woes the varied consequences of impact? Or did the seven fragments arrive over time in three clusters? Or perhaps the last three impacts were the worst? Either way, the idea that it was not a single impact, but a series of them caused by comet fragments, just like the pieces of Shoemaker-Levy 9 that hit Jupiter a few years back, lends itself to both great floods and the piercing of the Earth's crust. Some fragments could have landed in the sea, while others hit land.

It's also interesting that in *The Book of Enoch*, the stars are bound for 10,000 years, not a thousand, like *Revelation's* dragon. Does this indicate a 10,000-year periodicity to our orbiting nemesis? Did *Revelation* get it wrong? Or maybe it's over intervals of 10,000 years that something with a thousand-year long orbit starts swinging close by for a time, until the vagaries of interacting orbital dynamics render us safe again for another 10,000 years?

Perhaps what it means is that we're dealing with a long-period comet, but nobody in the run-up to the end of the Age of Aries really had any idea anymore what the period was, and the authors simply picked a figure that seemed to them like a long, long time. Say a thousand years. Or ten thousand years. You know, a great while. What mattered, perhaps, was that it was coming back soon, after a very long absence.

¹²⁸ As reported in the book *Impact!: The Threat of Comets and Asteroids* by Gerrit L. Verschuur, at p.103.

The notion that our history as fully-evolved human beings might consist of cycles of long periods of calm, punctuated by episodes of repeated bombardment that might last for two or three millennia, made me think about the 11,000-year-old temple complex at Gobekli Tepe, discussed in a prior chapter. Archaeologists are mystified that when it was abandoned, it was deliberately buried. Why would they do that?

Maybe to protect it. The impacts described by Firestone *et al.* don't fit with the timing of the temple's abandonment, which seemed to have happened much later, but *Revelation*, and *The Book of Enoch* too, lead me to wonder whether we still have more to learn about the calamitous Age of Leo and the miseries that were visited on the world back then. *Revelation's* eagle is most perfectly in mid-heaven not 13,000 years ago, but about 11,000, when Aquila soars right through the zenith, close to when we think Gobekli Tepe was abandoned. Maybe large-scale changes to their surroundings forced the temple's congregation to pack up and move out, and they couldn't bear to leave their sacred site exposed to what was coming down around them. Maybe they, like the kings and shepherds in the fables, like Noah and Utnapishatim, had warning that something awful was on the way. In my perhaps over-heated imagination, I can see them finishing up and trudging away sadly toward the safety of some distant underground city in the Anatolian Plateau, hoping one day to return.

It's a chilling scenario to toy with as sleep approaches. The llamas, staring balefully at the stars, having seen something up there that brings imminent destruction...the eagle crying woe to all humanity...the astronomers telling King Saurid that something was coming, a great fire out the constellation Leo, and nothing could stop the destruction...seven rogue stars like burning mountains...a burning mountain plunging into the sea...a dragon that will return in a millennium...powerful angels held temporarily in check, waiting to be unleashed to destroy mankind...dire warnings about the second beast, Pisces...

Pisces is the age we live in, and it's running out.

How could the encoders have been so sure, if sure they were? Sometimes, at night, when I'm thinking of the story of the llamas, I try to take solace in the idea that they couldn't possibly have made an accurate prediction about the timing of impacts, not from a distance of almost 2,000 years, (and maybe much longer, if they had no independent means of updating predictions they may have inherited from their predecessors in the Age of Leo). This sounds right, and one can be buttressed in that view by discrepancy between the 10,000 vs. 1,000-year periods suggested by Enoch and John, respectively. After all, NASA refuses to make predictions about impact probabilities that extend more than 100 years into the future.

However, it's one thing to make a specific prediction of an event occurring on a precise date, and another to identify broad windows of potential danger. For example, our science has reached the point at which we can calculate the probability that perturbations in planetary orbits could cause a collision of the Earth with Mercury over the next few billion years.¹²⁹ Once they detected their nemesis hurtling inbound, the people who long ago calculated the precession may just have had the skill to make a rough but confident calculation of its orbit. *Revelation* embodies no precise prediction, as far as I can tell. It flags an entire astrological Age, our Age, a span of over 2,700 years, and there's nothing tentative about John's warning, no sort of "who can say?" sentiment to indicate that maybe there's nothing to worry about at all.

Another possibility is suggested by Plato's story of Atlantis. Solon was told that there were cycles of destruction. The catastrophe that occurred 9,000 years prior to Greek times wasn't a one-off, it was just the latest. In for a penny, in for a pound; if we're going to lend credence to the tale, we may as well lend credence to all of it. It's worth considering whether a rough prediction of a future window of danger seemed possible because the encoders inherited a rough knowledge of when it happened before the one that took down civilization in the Age of Leo.

This may seem to suggest an impossibly ancient evolution of civilization, but bear in mind: while human beings have been around for the merest wink of an eye, from an evolutionary perspective, by the scale of recent human achievement we've been wandering the Earth for a good long while. DNA research has reached the astonishing conclusion that all living humans share an ancestry with one woman, dubbed Mitochondrial Eve, who lived at some point from about 100,000 to 200,000 years ago.

The history of civilization as we know it is but a small fraction of the history of modern *Homo Sapiens*. In this book, I'm representing a revisionist school that argues that civilization might be a much older development, set back for a time by natural disaster. From this, I think, must follow a further inquiry: if our civilization represents a "reboot" following a calamity that occurred 11,000 years ago, why couldn't there have been other such reboots earlier than that?

One of the things that has always made the idea of a lost predecessor civilization seem credible to me is that the alternative is to assume that fully-evolved human beings accomplished nothing much for almost the entirety of their existence, and then created all that we see around us in just five millennia. Within the established view, that means a history of as many as 200,000 years of expanding our numbers, migrating out of Africa into all of Eurasia, displacing our Neanderthal cousins, finally reaching the Americas, but none of us anywhere, ever, advancing far beyond the Stone Age. Then, over the past 5,000 years,

¹²⁹ <http://www.space.com/6824-long-shot-planet-hit-earth-distant-future.html>

we've gone from inventing the written word, scribing symbols into clay with pointed wooden sticks, to throwing autonomous robots the size of small cars to the surface of Mars.

For the civilization that I claim flourished in the Age of Virgo to have been the very first, essentially the same logic holds; that still means that people as intelligent as you and I were content to wander around clothed in animal skins, trailing herds of large mammals and gathering what they could of the available nuts and berries, never changing the rhythm of their Stone Age lives, for as much as about 190 millennia.

Does that make sense? Might not pockets of humanity at various times and places have jumped ahead? Why not? Within our own history, we have many such examples of uneven development, with the empires of Egypt and Rome rising and falling, and the Olmecs, Toltecs, Maya, Inca and Aztecs making huge advances in South and Central America, while at the same time the First Nations tribes of North America, in the main, seem to have seen no reason to stop living out their lives amid what were essentially Stone Age conditions.¹³⁰ They were still living that way when Europeans of French and English extraction arrived to make their customary imperial mess of things for the locals. Couldn't there have been similar conditions in the distant past? Isn't it possible that at the same time that the Stone Age Clovis People were leaving evidence of their efforts across much of North America, enclaves of people elsewhere were evolving far, far beyond the use of flint knives and wooden spears?

If you think about it that way, these words supposed to have been spoken to Solon by the Priest at Sais become truly unnerving:

There is a story, which even you have preserved, that once upon a time Paethon, the son of Helios, having yoked the steeds in his father's chariot, because he was not able to drive them in the path of his father, burnt up all that was upon the earth, and was himself destroyed by a thunderbolt. Now this has the form of a myth, but really signifies a declination of the bodies moving in the heavens around the earth, and a great conflagration of things upon the earth, which recurs after long intervals...

A conflagration caused by heavenly bodies that recurs after long intervals. Perhaps the approximate length of these intervals was something already known when the last conflagration happened. Perhaps the amazing global project of encoding that I'm insisting really did happen, starting long ago, was something

¹³⁰ Looking around, it's hard not to think that they may have had the right idea.

planned long in advance of a disaster its victims could do little to prevent, but something to mitigate, if not this time, then maybe the next.

All I can say with confidence is that *Revelation* is no mere history. By its very nature it's prophecy, and the message isn't "*A long time ago a culture was wiped out, and oh, by the way, you're about to enter the Age of Pisces, which we think is pretty interesting*". Everything about it indicates that the arrival of the Second Beast is a time to fear. Did they know what they were talking about, or did they only *think* they knew? Perhaps they were more or less on the mark, but the moment of high danger has already passed. Maybe we dodged the bullet, and some great comet whizzed by many centuries ago, was observed but then forgotten, and we never knew how close we came. Maybe a giant comet broke into harmless pieces during a prior pass – comets often break apart. Maybe its orbit changed, just enough that by the time Pisces arrived, it was no longer dangerous – many comets have irregular orbits. Maybe Jupiter ran interference for us, as it probably has many times in the past.

Maybe a deadly string of comet fragments is racing back along a great ellipse towards the Sun that chains them, having been away so long that they're among the few really dangerous Earth-crossing objects we've failed to detect so far.

It's real to me now. I actually believe it. Long ago, a once-flourishing civilization that must already have been under tremendous pressure, whip-sawed by changing climate, sea level rise, maybe even outburst floods, was sent to its fate by orbiting rocks or comets that caused both tidal waves and the disastrous effects of hitting a land mass. The high-energy impacts temporarily exacerbated the global melt-down, perhaps while they also created huge tsunamis, and eradicated or submerged all trace of the forgotten culture, while ushering in a sudden cooling all around the planet.

Maybe not without some warning, though. Somehow, it's that sober statement attributed to the llama, "Pay very close attention, and remember what I am about to tell you", that most haunts me. This llama, apparently, knew his business. In the book *Secret of the Incas*, where I first encountered this story, the author, William Sullivan, notes that the Inca word for "llama" - "paqo" - matches the word for "shaman"¹³¹. Is this the voice of a priest/astronomer of the ancient world, commemorated in myth?

¹³¹ <https://www.chapters.indigo.ca/en-ca/books/the-secret-of-the-incas/9780517888513-item.html>
at p.18

The Strange, Unavoidable Conclusions

(In Handy, Condensed Form.)

I suppose it might be in order to summarize the conclusions of this analysis. This is just repetition, and the reader may choose to skip it, but the journey *has* been a little complicated - though now we're here, it turns out the whole story boils down to a few simple propositions. Here's the CliffsNotes version:

An alternative view of history is being proposed, one that takes Plato's account of Atlantis seriously.

This is surely nothing new. Many others have gone down this road, and many think they've seen concrete evidence that Plato's story was more than a flight of fancy. Perhaps there really was a predecessor civilization. If it existed more or less when Plato said, it's perfectly plausible that it could have been destroyed with barely a trace, given what we know about the truly cataclysmic conditions back then, as reflected in the universal flood mythology. Yet the archaeological remnants of this lost culture may, in some cases, lie in plain view at various sites, though this is hotly disputed and dismissed by orthodoxy.

Archaeology does tell us one thing incontrovertibly: ancient monument builders all over the world were obsessed with the passage of time as reflected in the movements of the Sun and stars, particularly on solstices and equinoxes. It's arguable that this obsession with time and the heavens reflects some sort of cultural memory, shared worldwide, that keeping an eye on the sky has an importance far beyond the mundane goal of marking the seasons or maintaining calendars. I think *Revelation* tells us why.

The same obsession with time, and the sky, is the very essence of *Revelation*, which embodies a simple numerical and pictorial code related to Ages of the Zodiac and the precession of the equinoxes. Elements of this code appear in the mythologies and number systems of cultures scattered throughout the world, and separated by vast gulfs of space and time. The wide distribution of this code, which is almost inconceivably ancient, is powerful evidence that somebody unknown to our history created it. Nobody of whom we're aware could have spread it all over the planet.

An understanding of the precessional cycle via the code isn't the object of the exercise. It isn't just about giving us a universal clock. We are meant to use this clock to get a more or less precise grip on a particular span of the precessional cycle, and particular points within it.

Revelation gives us clues and imagery to understand what this span must be: from the dawn of the Age of Virgo to the end of the Age of Pisces.

By giving us word pictures of astronomical conjunctions that point to a particular year, it allows us to situate the beginning of the Age of Pisces, the dawning Age, we are told, which is characterized as the second “beast”. At the time of writing, Pisces had not yet arrived, but it was coming on fast, and the preceding Age of Aries was coming to an end.

This benchmark for year “1”, plus clues involving a repeated invocation of seven events that lead to a climax, tied to the notion of there being 42 “months” (or 1,260 “days”) in total, allows us to divine with some certainty when, for the purposes of the code, the Age of Virgo began, and when the Age of Pisces will end.

Other elements of the text clearly indicate that the “first beast” was the Age of Leo, following on the heels of Virgo.

The arrival of each of *Revelation’s* beasts ushers in an era of chaos and destruction. It follows that in *Revelation* and other myths, we are hearing about someone back there who suffered through the calamitous Age of Leo. We can infer this was a culture that rose and thrived in the Age of Virgo before it met its fate, and *Revelation* tells us that whoever that was, they were a civilized, city-dwelling, seafaring people, just as Plato relates in his story of Atlantis. Maybe they really were.

We can also infer a prediction that the Age of Pisces, our Age, will involve a recurrence of calamity.

The feared calamity is clearly asteroid or comet bombardment, a conclusion bolstered by the work of numerous others analyzing both ancient mythologies and a growing body of scientific evidence suggesting that impacts did indeed occur, just about when *Revelation* tells us, and when Plato said Atlantis met its fate. Those impacts may have been a factor in glacial melting and sea level rise – given the prevalence of floods as the mythological agent of destruction, there seems to have been a relationship between the two.

If the encoders were concerned about a long period cluster of orbiting debris coming back to wreak havoc during the Age we live in, it’s impossible to know whether they were right, and whether, even if they were right, we already dodged the bullet and the danger has passed.

That we’re getting this warning at all indicates that somebody, over thousands of years, has kept this tradition alive. This was a project that was conducted on a global scale. The precessional code is everywhere, and those who drafted *Revelation* can’t be the only ones who understood its full import. As hard as it is (and should be) to swallow, it seems certain that throughout history, mysterious cliques in other cultures, perhaps among the ranks of priests, shamans, and

astrologers, were also awaiting the time when the burning mountains would once again fall from the sky.

Who were they? Who was keeping the game alive? What became of them, and their esoteric knowledge? I have a real feeling we'll never know.

We may also never know who it was back there at the beginning, or ever be sure we've found any tangible trace of them. After all this, however, I find it pretty much impossible to believe they were never even there.

Afterword - Message in a Bottle

Somewhere along the line, the message encoded into *Revelation*, which I think might once have been broadcast “in the clear”, became the stuff of ciphers, cults, religions and esoteric knowledge. Maybe that was the only way to keep it alive. Maybe it was always that way. In any case, in the form in which it reached us in the modern world, you have to be in on the game, you need the secret decoder ring, to understand it.

Once you know what’s going on, it’s easy to decipher, and it becomes painful to contemplate the intellectual gymnastics, the nonsense, the belief in an angry and vindictive Supreme Being, the dogmatic tyranny, that has always accompanied the last book of the Christian Bible. Before they all burned to death in a compound in Waco, the followers of David Koresh were harangued ceaselessly with the text of *Revelation*. They died never knowing how horribly they were being misled. They could never have guessed that when the message was first sent, before the many thousands of years in which cultures all over the world equated the events of the story with the wrath of vengeful deities and the judging of the wicked, the intent was not to cheer on the coming End of Days, but rather to sound the alarm.

Imagine finding out that the boulder you set rolling had careened through town such that a group like the Jehovah’s Witnesses became convinced that only 144,000 people can get into Heaven. Imagine discovering that your message had been presented in a context that suggested to nut-jobs like Charles Manson that it was time to go on a killing spree to bring about a race war here in the modern era. It’s reached the point at which any crazed cult run by a wild-eyed maniac that *doesn’t* draw its inspiration from *Revelation* seems not to be following the playbook. Meanwhile, in America at least, belief in the coming End Times, and a literal appearance of an antichrist and all the rest, remains widespread and deeply entrenched. Whoever it was that first promulgated the message, back in the Age of Leo, the modern iterations and interpretations of their saga would, I think, have broken their hearts. Their story did survive, and find its way to us, but how sad that it had to be misunderstood and misused in the process.

Were you to write a modern plain language version of the saga that is hidden within *Revelation*, no codes, no tricks, no nebulous clues and word pictures, stripped of the surrounding camouflage of Christian symbolism, simply setting out clearly the message of the original authors, I’m positive it would go more like this:

Hello, unknown reader. I have no idea who you are, and I'm not sure when you'll be reading this. But I want to tell you a story, and trust me, you want to hear it.

It's a crucial part of this story that you and I measure time in the same way, because to you it's a story about something that happened so long ago that all memory of it will probably have been lost; it happened long before your calendar could have come into being, and thus as I write this, I don't know what your calendar is. So, I can't use dates from any calendar that's familiar to you. We have to find some way to measure time by the same scale, you and I. I have to be able to tell you exactly when the events in this story happened, and will happen, from your perspective, as you read this.

There is a way. Bear with me.

I need you to think about the stars, and constellations, and I'm hoping you have figured out, in your culture, a phenomenon called the precession of the equinoxes. If you haven't, and you don't know where the stars and planets were, and will be, into the past and into the future too, then I won't be able to get through to you properly.

I'm hoping you still have a tradition of the Zodiac, and that whoever is keeping my message alive, and in circulation, is writing it in a way that makes sense within whatever your scheme of the constellations happens to be. If this works out the way I hope, a lot of what you read from here will have been modified to make sense to you. It will still be my voice; but much will be changed to accommodate changes in the way you see things.

Not this, though: do these numbers mean anything to you? 12, 72, 2,160 and 25,920? Do you still see 12 signs of the zodiac in the skies above you? Does it mean anything to you if I describe things according to what age of the Zodiac they were in? Do you know of the scrolling effect up there, and that the stars, at any given time of successive years, move from your perspective, but at a very slow pace – so slow it takes 72 years for the relative positions of the stars to shift so much as one of the 360 degrees of the circle of the heavens?

Are you aware of the time it takes for each sign of the Zodiac to scroll through the sky on the spring equinox – that the signs change, on average, once every 2,160 years? After 25,920 years, $12 \times 2,160$, they've gone full circle and are back at the start, do you know that? It's like a great big universal clock in the sky, with 12 numbers, ticking very slowly. Think of it like a wheel

turning in the heavens. If you still pay attention to whatever constellation sits behind the sun during the spring equinox in your time, and I tell you which one it was in our time, you'll be able to figure out when, roughly how long ago, this story happened.

If you understand me, here's what you need to know. The catastrophic events in my story happened during the Age of Leo, at a time when the constellation Aquila rotated through the sky at night on a path that took it right through the zenith, as you see it, right through the middle of the sky above your heads. I know that whenever it is you're reading this, it's no longer the Age of Leo, and Aquila doesn't go through the zenith in your sky, and I hope you can figure out, from your perspective, just when exactly I'm talking about, according to your calendar.

It was a long time ago.

Prior to Leo, we had a civilization, a pretty well advanced one, and we reached our peak during the Age of Virgo, an Age that began over 13,000 years before the year I'm going to identify for you below. But when the Age of Leo arrived, a cataclysm happened, and we were mostly wiped out. It was, generally, a terrible time. Sea levels had been steadily rising. Our original settlements went under water. The climate was changing. We were under terrible pressure.

Then huge objects struck the earth - they fell out of the sky, reader, like burning mountains, and when they hit, all hell broke loose. There was fire, smoke, and terrible stuff that rained down and poisoned the waters. One mountain that plunged from the sky pierced the very crust of the Earth, and one landed in the ocean, and the after-effects destroyed our great city in less than a day. What was left of us was scattered - some of us, in ships at sea, made it through - and to you, I'm supposing, we never existed. Or maybe you know about us from other stories like this one, if you understood them. I expect this won't be the only time this story has been told, over the ages. I expect it's been told in a lot of places, to a lot of different peoples, in one form or another. That's our plan, anyway.

Now here's the bad part, and why this story is of such vital interest to you, all these years later. We think that there might be another cataclysm, more mountains falling from the sky, and we

think it might occur in the Age of Pisces. To help you out, we reckon that as good a point as any at which to designate the dawn of the age of Pisces is on the first day of a year in which there are four very distinct conjunctions of planets with constellations, each one occurring on one of the four cardinal points of the year, the solstices and equinoxes. If the cataclysm comes, it will be some time after that, we think. These four conjunctions, occurring on those dates, are very unusual; the occurrence of all four of them doesn't happen often in a single year, and if you can calculate future or past positions of stars and planets, or just observe it when it happens, you'll be able to figure out which year we mean. It will be the only one anywhere close to a plausible time to decide that the equinoctial Sun just began rising in Pisces for the first time. Here they are: on the successive cardinal dates of that year, Orion with Mars, Sagittarius with the Moon, Scorpio with Jupiter, Libra with Mercury.

That's the year when the renewed danger begins, and I'm assuming that it's still in the future for you, though if its long past from your perspective, you may already be out of the woods – you see, we figure that the danger will have passed by the time the Age of Pisces has ended, and you transition to Aquarius. This will be in the year 2760, as reckoned from that year “1” marked by the special conjunctions.

If whoever is around in the age of Pisces makes it to the end, we think the danger will have passed for them. If that's you, and you aren't there yet, watch out. (If you are, sorry for the late warning, we tried).

We flourished long ago, as we hope you flourish now. Maybe you're going to be all right, we hope so, but if you can take any steps to protect yourselves, to preserve your culture and achievements, do it. Do it now.

Good luck.

[Editorial note: *this version of the story was written during the Age of Aries, long after the original was drafted. Changes have been made to refer to constellations and ages of the Zodiac compatible with current systems.]*

This all would have gone a lot more smoothly if we'd had something that laid it out like that, wouldn't it? Put it that way, and the whole point of the message, and the spirit in which it's given, changes radically from what young Christians are still being taught in Sunday School.

It turns out that in interpreting *Revelation* as a thinly-disguised account of a real calamity in ancient times, I've merely joined a very long parade I was once so foolish as to believe I might lead. What others have missed, though, is that John's apocalypse isn't just a vague memory of a time when objects in the sky menaced us on Earth, it's a finely-calibrated instrument that means to tell us with some specificity when it happened before, and when it could happen again. The precessional code, in all its manifestations, has a purpose far beyond signalling that a high culture once existed in pre-history. It's there to facilitate a message about a future we might yet face today. In that sense, those who believe in the literal truth of this spooky apocalypse are actually correct. They just don't understand what it says.

In substance, *Revelation* resembles nothing so much as a message in a bottle, washed up here after drifting thousands of years, its original authors, who knows where, long since gone and never to be known. There is something poignant, even mournful, about this, qualities wholly at odds with what can only be taken at first blush as the violent, vengeful, and powerfully demented animus it seems to embody. Martin Luther thought it was vile, and un-Christian. The modern reader recoils from what seems like the superstitious screed of a deranged mystic, inspired by religious fanaticism and the sort of apocalyptic death wish that once more afflicts us in this post-9/11 world.

Somebody dressed it up to look that way, but it isn't that at all. Amazingly, it's the opposite. It reaches out to us across time from those who had the heart to wonder who we'd be, and worry on our fate, its nature not only benign, but in a way hopeful.

On the one hand it's an urgent warning, sent by people who sought to benefit some future culture they'd never know, one that wouldn't share their language, calendar, or history, and perhaps not even their most cherished values. Come the dawn of the Age of Pisces, some distant civilization would be in grave peril, and whoever they were, whatever they were like, it was vital to tell them in a way they could understand: *This happened to us. We think it could happen to you.*

On the other, it's that most human of statements, the one we always seem driven to make, ever since Stone Age artists in the caves of Lascaux blew ochre over their hands to leave behind the painted outlines we can still see on the rocks today: *We were here.*

Were they confident, or did they merely hope against hope, that their message would live on, and that one day some astonished stranger, as unable to believe it as he was to doubt it, would receive it and be sad he wasn't able to respond? If only there was some way to get back to them: You got through. You succeeded. I can hear you.

Appendix A – The Book of Revelation

For copyright reasons, this is the King James Version

Revelation

Rev.1

[1] The Revelation of Jesus Christ, which God gave unto him, to shew unto his servants things which must shortly come to pass; and he sent and signified it by his angel unto his servant John:

[2] Who bare record of the word of God, and of the testimony of Jesus Christ, and of all things that he saw.

[3] Blessed is he that readeth, and they that hear the words of this prophecy, and keep those things which are written therein: for the time is at hand.

[4] John to the seven churches which are in Asia: Grace be unto you, and peace, from him which is, and which was, and which is to come; and from the seven Spirits which are before his throne;

[5] And from Jesus Christ, who is the faithful witness, and the first begotten of the dead, and the prince of the kings of the earth. Unto him that loved us, and washed us from our sins in his own blood,

[6] And hath made us kings and priests unto God and his Father; to him be glory and dominion for ever and ever. Amen.

[7] Behold, he cometh with clouds; and every eye shall see him, and they also which pierced him: and all kindreds of the earth shall wail because of him. Even so, Amen.

[8] I am Alpha and Omega, the beginning and the ending, saith the Lord, which is, and which was, and which is to come, the Almighty.

[9] I John, who also am your brother, and companion in tribulation, and in the kingdom and patience of Jesus Christ, was in the isle that is called Patmos, for the word of God, and for the testimony of Jesus Christ.

[10] I was in the Spirit on the Lord's day, and heard behind me a great voice, as of a trumpet,

[11] Saying, I am Alpha and Omega, the first and the last: and, What thou seest, write in a book, and send it unto the seven churches which are in Asia; unto Ephesus, and unto Smyrna, and unto Pergamos, and unto Thyatira, and unto Sardis, and unto Philadelphia, and unto Laodicea.

[12] And I turned to see the voice that spake with me. And being turned, I saw seven golden candlesticks;

[13] And in the midst of the seven candlesticks one like unto the Son of man, clothed with a garment down to the foot, and girt about the paps with a golden girdle.

[14] His head and his hairs were white like wool, as white as snow; and his eyes were as a flame of fire;

[15] And his feet like unto fine brass, as if they burned in a furnace; and his voice as the sound of many waters.

[16] And he had in his right hand seven stars: and out of his mouth went a sharp two edged sword: and his countenance was as the sun shineth in his strength.

[17] And when I saw him, I fell at his feet as dead. And he laid his right hand upon me, saying unto me, Fear not; I am the first and the last:

[18] I am he that liveth, and was dead; and, behold, I am alive for evermore, Amen; and have the keys of hell and of death.

[19] Write the things which thou hast seen, and the things which are, and the things which shall be hereafter;

[20] The mystery of the seven stars which thou sawest in my right hand, and the seven golden candlesticks. The seven stars are the angels of the seven churches: and the seven candlesticks which thou sawest are the seven churches.

Rev.2

- [1] Unto the angel of the church of Ephesus write; These things saith he that holdeth the seven stars in his right hand, who walketh in the midst of the seven golden candlesticks;
- [2] I know thy works, and thy labour, and thy patience, and how thou canst not bear them which are evil: and thou hast tried them which say they are apostles, and are not, and hast found them liars:
- [3] And hast borne, and hast patience, and for my name's sake hast laboured, and hast not fainted.
- [4] Nevertheless I have somewhat against thee, because thou hast left thy first love.
- [5] Remember therefore from whence thou art fallen, and repent, and do the first works; or else I will come unto thee quickly, and will remove thy candlestick out of his place, except thou repent.
- [6] But this thou hast, that thou hatest the deeds of the Nicolaitans, which I also hate.
- [7] He that hath an ear, let him hear what the Spirit saith unto the churches; To him that overcometh will I give to eat of the tree of life, which is in the midst of the paradise of God.
- [8] And unto the angel of the church in Smyrna write; These things saith the first and the last, which was dead, and is alive;
- [9] I know thy works, and tribulation, and poverty, (but thou art rich) and I know the blasphemy of them which say they are Jews, and are not, but are the synagogue of Satan.
- [10] Fear none of those things which thou shalt suffer: behold, the devil shall cast some of you into prison, that ye may be tried; and ye shall have tribulation ten days: be thou faithful unto death, and I will give thee a crown of life.
- [11] He that hath an ear, let him hear what the Spirit saith unto the churches; He that overcometh shall not be hurt of the second death.
- [12] And to the angel of the church in Pergamos write; These things saith he which hath the sharp sword with two edges;
- [13] I know thy works, and where thou dwellest, even where Satan's seat is: and thou holdest fast my name, and hast not denied my faith, even in those days wherein Antipas was my faithful martyr, who was slain among you, where Satan dwelleth.
- [14] But I have a few things against thee, because thou hast there them that hold the doctrine of Balaam, who taught Balac to cast a stumblingblock before the children of Israel, to eat things sacrificed unto idols, and to commit fornication.
- [15] So hast thou also them that hold the doctrine of the Nicolaitans, which thing I hate.
- [16] Repent; or else I will come unto thee quickly, and will fight against them with the sword of my mouth.
- [17] He that hath an ear, let him hear what the Spirit saith unto the churches; To him that overcometh will I give to eat of the hidden manna, and will give him a white stone, and in the stone a new name written, which no man knoweth saving he that receiveth it.
- [18] And unto the angel of the church in Thyatira write; These things saith the Son of God, who hath his eyes like unto a flame of fire, and his feet are like fine brass;
- [19] I know thy works, and charity, and service, and faith, and thy patience, and thy works; and the last to be more than the first.
- [20] Notwithstanding I have a few things against thee, because thou sufferest that woman Jezebel, which calleth herself a prophetess, to teach and to seduce my servants to commit fornication, and to eat things sacrificed unto idols.
- [21] And I gave her space to repent of her fornication; and she repented not.
- [22] Behold, I will cast her into a bed, and them that commit adultery with her into great tribulation, except they repent of their deeds.
- [23] And I will kill her children with death; and all the churches shall know that I am he which searcheth the reins and hearts: and I will give unto every one of you according to your works.
- [24] But unto you I say, and unto the rest in Thyatira, as many as have not this doctrine, and which have not known the depths of Satan, as they speak; I will put upon you none other burden.

[25] But that which ye have already hold fast till I come.

[26] And he that overcometh, and keepeth my works unto the end, to him will I give power over the nations:

[27] And he shall rule them with a rod of iron; as the vessels of a potter shall they be broken to shivers: even as I received of my Father.

[28] And I will give him the morning star.

[29] He that hath an ear, let him hear what the Spirit saith unto the churches.

Rev.3

[1] And unto the angel of the church in Sardis write; These things saith he that hath the seven Spirits of God, and the seven stars; I know thy works, that thou hast a name that thou livest, and art dead.

[2] Be watchful, and strengthen the things which remain, that are ready to die: for I have not found thy works perfect before God.

[3] Remember therefore how thou hast received and heard, and hold fast, and repent. If therefore thou shalt not watch, I will come on thee as a thief, and thou shalt not know what hour I will come upon thee.

[4] Thou hast a few names even in Sardis which have not defiled their garments; and they shall walk with me in white: for they are worthy.

[5] He that overcometh, the same shall be clothed in white raiment; and I will not blot out his name out of the book of life, but I will confess his name before my Father, and before his angels.

[6] He that hath an ear, let him hear what the Spirit saith unto the churches.

[7] And to the angel of the church in Philadelphia write; These things saith he that is holy, he that is true, he that hath the key of David, he that openeth, and no man shutteth; and shutteth, and no man openeth;

[8] I know thy works: behold, I have set before thee an open door, and no man can shut it: for thou hast a little strength, and hast kept my word, and hast not denied my name.

[9] Behold, I will make them of the synagogue of Satan, which say they are Jews, and are not, but do lie; behold, I will make them to come and worship before thy feet, and to know that I have loved thee.

[10] Because thou hast kept the word of my patience, I also will keep thee from the hour of temptation, which shall come upon all the world, to try them that dwell upon the earth.

[11] Behold, I come quickly: hold that fast which thou hast, that no man take thy crown.

[12] Him that overcometh will I make a pillar in the temple of my God, and he shall go no more out: and I will write upon him the name of my God, and the name of the city of my God, which is new Jerusalem, which cometh down out of heaven from my God: and I will write upon him my new name.

[13] He that hath an ear, let him hear what the Spirit saith unto the churches.

[14] And unto the angel of the church of the Laodiceans write; These things saith the Amen, the faithful and true witness, the beginning of the creation of God;

[15] I know thy works, that thou art neither cold nor hot: I would thou wert cold or hot.

[16] So then because thou art lukewarm, and neither cold nor hot, I will spue thee out of my mouth.

[17] Because thou sayest, I am rich, and increased with goods, and have need of nothing; and knowest not that thou art wretched, and miserable, and poor, and blind, and naked:

[18] I counsel thee to buy of me gold tried in the fire, that thou mayest be rich; and white raiment, that thou mayest be clothed, and that the shame of thy nakedness do not appear; and anoint thine eyes with eyesalve, that thou mayest see.

[19] As many as I love, I rebuke and chasten: be zealous therefore, and repent.

[20] Behold, I stand at the door, and knock: if any man hear my voice, and open the door, I will come in to him, and will sup with him, and he with me.

[21] To him that overcometh will I grant to sit with me in my throne, even as I also overcame, and am set down with my Father in his throne.

[22] He that hath an ear, let him hear what the Spirit saith unto the churches.

Rev.4

[1] After this I looked, and, behold, a door was opened in heaven: and the first voice which I heard was as it were of a trumpet talking with me; which said, Come up hither, and I will shew thee things which must be hereafter.

[2] And immediately I was in the spirit: and, behold, a throne was set in heaven, and one sat on the throne.

[3] And he that sat was to look upon like a jasper and a sardine stone: and there was a rainbow round about the throne, in sight like unto an emerald.

[4] And round about the throne were four and twenty seats: and upon the seats I saw four and twenty elders sitting, clothed in white raiment; and they had on their heads crowns of gold.

[5] And out of the throne proceeded lightnings and thunderings and voices: and there were seven lamps of fire burning before the throne, which are the seven Spirits of God.

[6] And before the throne there was a sea of glass like unto crystal: and in the midst of the throne, and round about the throne, were four beasts full of eyes before and behind.

[7] And the first beast was like a lion, and the second beast like a calf, and the third beast had a face as a man, and the fourth beast was like a flying eagle.

[8] And the four beasts had each of them six wings about him; and they were full of eyes within: and they rest not day and night, saying, Holy, holy, holy, Lord God Almighty, which was, and is, and is to come.

[9] And when those beasts give glory and honour and thanks to him that sat on the throne, who liveth for ever and ever,

[10] The four and twenty elders fall down before him that sat on the throne, and worship him that liveth for ever and ever, and cast their crowns before the throne, saying,

[11] Thou art worthy, O Lord, to receive glory and honour and power: for thou hast created all things, and for thy pleasure they are and were created.

Rev.5

[1] And I saw in the right hand of him that sat on the throne a book written within and on the backside, sealed with seven seals.

[2] And I saw a strong angel proclaiming with a loud voice, Who is worthy to open the book, and to loose the seals thereof?

[3] And no man in heaven, nor in earth, neither under the earth, was able to open the book, neither to look thereon.

[4] And I wept much, because no man was found worthy to open and to read the book, neither to look thereon.

[5] And one of the elders saith unto me, Weep not: behold, the Lion of the tribe of Juda, the Root of David, hath prevailed to open the book, and to loose the seven seals thereof.

[6] And I beheld, and, lo, in the midst of the throne and of the four beasts, and in the midst of the elders, stood a Lamb as it had been slain, having seven horns and seven eyes, which are the seven Spirits of God sent forth into all the earth.

[7] And he came and took the book out of the right hand of him that sat upon the throne.

[8] And when he had taken the book, the four beasts and four and twenty elders fell down before the Lamb, having every one of them harps, and golden vials full of odours, which are the prayers of saints.

[9] And they sung a new song, saying, Thou art worthy to take the book, and to open the seals thereof: for thou wast slain, and hast redeemed us to God by thy blood out of every kindred, and tongue, and people, and nation;

- [10] And hast made us unto our God kings and priests: and we shall reign on the earth.
- [11] And I beheld, and I heard the voice of many angels round about the throne and the beasts and the elders: and the number of them was ten thousand times ten thousand, and thousands of thousands;
- [12] Saying with a loud voice, Worthy is the Lamb that was slain to receive power, and riches, and wisdom, and strength, and honour, and glory, and blessing.
- [13] And every creature which is in heaven, and on the earth, and under the earth, and such as are in the sea, and all that are in them, heard I saying, Blessing, and honour, and glory, and power, be unto him that sitteth upon the throne, and unto the Lamb for ever and ever.
- [14] And the four beasts said, Amen. And the four and twenty elders fell down and worshipped him that liveth for ever and ever.

Rev.6

- [1] And I saw when the Lamb opened one of the seals, and I heard, as it were the noise of thunder, one of the four beasts saying, Come and see.
- [2] And I saw, and behold a white horse: and he that sat on him had a bow; and a crown was given unto him: and he went forth conquering, and to conquer.
- [3] And when he had opened the second seal, I heard the second beast say, Come and see.
- [4] And there went out another horse that was red: and power was given to him that sat thereon to take peace from the earth, and that they should kill one another: and there was given unto him a great sword.
- [5] And when he had opened the third seal, I heard the third beast say, Come and see. And I beheld, and lo a black horse; and he that sat on him had a pair of balances in his hand.
- [6] And I heard a voice in the midst of the four beasts say, A measure of wheat for a penny, and three measures of barley for a penny; and see thou hurt not the oil and the wine.
- [7] And when he had opened the fourth seal, I heard the voice of the fourth beast say, Come and see.
- [8] And I looked, and behold a pale horse: and his name that sat on him was Death, and Hell followed with him. And power was given unto them over the fourth part of the earth, to kill with sword, and with hunger, and with death, and with the beasts of the earth.
- [9] And when he had opened the fifth seal, I saw under the altar the souls of them that were slain for the word of God, and for the testimony which they held:
- [10] And they cried with a loud voice, saying, How long, O Lord, holy and true, dost thou not judge and avenge our blood on them that dwell on the earth?
- [11] And white robes were given unto every one of them; and it was said unto them, that they should rest yet for a little season, until their fellowservants also and their brethren, that should be killed as they were, should be fulfilled.
- [12] And I beheld when he had opened the sixth seal, and, lo, there was a great earthquake; and the sun became black as sackcloth of hair, and the moon became as blood;
- [13] And the stars of heaven fell unto the earth, even as a fig tree casteth her untimely figs, when she is shaken of a mighty wind.
- [14] And the heaven departed as a scroll when it is rolled together; and every mountain and island were moved out of their places.
- [15] And the kings of the earth, and the great men, and the rich men, and the chief captains, and the mighty men, and every bondman, and every free man, hid themselves in the dens and in the rocks of the mountains;
- [16] And said to the mountains and rocks, Fall on us, and hide us from the face of him that sitteth on the throne, and from the wrath of the Lamb:
- [17] For the great day of his wrath is come; and who shall be able to stand?

Rev.7

[1] And after these things I saw four angels standing on the four corners of the earth, holding the four winds of the earth, that the wind should not blow on the earth, nor on the sea, nor on any tree.

[2] And I saw another angel ascending from the east, having the seal of the living God: and he cried with a loud voice to the four angels, to whom it was given to hurt the earth and the sea,

[3] Saying, Hurt not the earth, neither the sea, nor the trees, till we have sealed the servants of our God in their foreheads.

[4] And I heard the number of them which were sealed: and there were sealed an hundred and forty and four thousand of all the tribes of the children of Israel.

[5] Of the tribe of Juda were sealed twelve thousand. Of the tribe of Reuben were sealed twelve thousand. Of the tribe of Gad were sealed twelve thousand.

[6] Of the tribe of Aser were sealed twelve thousand. Of the tribe of Nepthalim were sealed twelve thousand. Of the tribe of Manasses were sealed twelve thousand.

[7] Of the tribe of Simeon were sealed twelve thousand. Of the tribe of Levi were sealed twelve thousand. Of the tribe of Issachar were sealed twelve thousand.

[8] Of the tribe of Zabulon were sealed twelve thousand. Of the tribe of Joseph were sealed twelve thousand. Of the tribe of Benjamin were sealed twelve thousand.

[9] After this I beheld, and, lo, a great multitude, which no man could number, of all nations, and kindreds, and people, and tongues, stood before the throne, and before the Lamb, clothed with white robes, and palms in their hands;

[10] And cried with a loud voice, saying, Salvation to our God which sitteth upon the throne, and unto the Lamb.

[11] And all the angels stood round about the throne, and about the elders and the four beasts, and fell before the throne on their faces, and worshipped God,

[12] Saying, Amen: Blessing, and glory, and wisdom, and thanksgiving, and honour, and power, and might, be unto our God for ever and ever. Amen.

[13] And one of the elders answered, saying unto me, What are these which are arrayed in white robes? and whence came they?

[14] And I said unto him, Sir, thou knowest. And he said to me, These are they which came out of great tribulation, and have washed their robes, and made them white in the blood of the Lamb.

[15] Therefore are they before the throne of God, and serve him day and night in his temple: and he that sitteth on the throne shall dwell among them.

[16] They shall hunger no more, neither thirst any more; neither shall the sun light on them, nor any heat.

[17] For the Lamb which is in the midst of the throne shall feed them, and shall lead them unto living fountains of waters: and God shall wipe away all tears from their eyes.

Rev.8

[1] And when he had opened the seventh seal, there was silence in heaven about the space of half an hour.

[2] And I saw the seven angels which stood before God; and to them were given seven trumpets.

[3] And another angel came and stood at the altar, having a golden censer; and there was given unto him much incense, that he should offer it with the prayers of all saints upon the golden altar which was before the throne.

[4] And the smoke of the incense, which came with the prayers of the saints, ascended up before God out of the angel's hand.

[5] And the angel took the censer, and filled it with fire of the altar, and cast it into the earth: and there were voices, and thunderings, and lightnings, and an earthquake.

[6] And the seven angels which had the seven trumpets prepared themselves to sound.

[7] The first angel sounded, and there followed hail and fire mingled with blood, and they were cast upon the earth: and the third part of trees was burnt up, and all green grass was burnt up.

[8] And the second angel sounded, and as it were a great mountain burning with fire was cast into the sea: and the third part of the sea became blood;

[9] And the third part of the creatures which were in the sea, and had life, died; and the third part of the ships were destroyed.

[10] And the third angel sounded, and there fell a great star from heaven, burning as it were a lamp, and it fell upon the third part of the rivers, and upon the fountains of waters;

[11] And the name of the star is called Wormwood: and the third part of the waters became wormwood; and many men died of the waters, because they were made bitter.

[12] And the fourth angel sounded, and the third part of the sun was smitten, and the third part of the moon, and the third part of the stars; so as the third part of them was darkened, and the day shone not for a third part of it, and the night likewise.

[13] And I beheld, and heard an angel flying through the midst of heaven, saying with a loud voice, Woe, woe, woe, to the inhabitants of the earth by reason of the other voices of the trumpet of the three angels, which are yet to sound!

Rev.9

[1] And the fifth angel sounded, and I saw a star fall from heaven unto the earth: and to him was given the key of the bottomless pit.

[2] And he opened the bottomless pit; and there arose a smoke out of the pit, as the smoke of a great furnace; and the sun and the air were darkened by reason of the smoke of the pit.

[3] And there came out of the smoke locusts upon the earth: and unto them was given power, as the scorpions of the earth have power.

[4] And it was commanded them that they should not hurt the grass of the earth, neither any green thing, neither any tree; but only those men which have not the seal of God in their foreheads.

[5] And to them it was given that they should not kill them, but that they should be tormented five months: and their torment was as the torment of a scorpion, when he striketh a man.

[6] And in those days shall men seek death, and shall not find it; and shall desire to die, and death shall flee from them.

[7] And the shapes of the locusts were like unto horses prepared unto battle; and on their heads were as it were crowns like gold, and their faces were as the faces of men.

[8] And they had hair as the hair of women, and their teeth were as the teeth of lions.

[9] And they had breastplates, as it were breastplates of iron; and the sound of their wings was as the sound of chariots of many horses running to battle.

[10] And they had tails like unto scorpions, and there were stings in their tails: and their power was to hurt men five months.

[11] And they had a king over them, which is the angel of the bottomless pit, whose name in the Hebrew tongue is Abaddon, but in the Greek tongue hath his name Apollyon.

[12] One woe is past; and, behold, there come two woes more hereafter.

[13] And the sixth angel sounded, and I heard a voice from the four horns of the golden altar which is before God,

[14] Saying to the sixth angel which had the trumpet, Loose the four angels which are bound in the great river Euphrates.

[15] And the four angels were loosed, which were prepared for an hour, and a day, and a month, and a year, for to slay the third part of men.

[16] And the number of the army of the horsemen were two hundred thousand thousand: and I heard the number of them.

[17] And thus I saw the horses in the vision, and them that sat on them, having breastplates of fire, and of jacinth, and brimstone: and the heads of the horses were as the heads of lions; and out of their mouths issued fire and smoke and brimstone.

[18] By these three was the third part of men killed, by the fire, and by the smoke, and by the brimstone, which issued out of their mouths.

[19] For their power is in their mouth, and in their tails: for their tails were like unto serpents, and had heads, and with them they do hurt.

[20] And the rest of the men which were not killed by these plagues yet repented not of the works of their hands, that they should not worship devils, and idols of gold, and silver, and brass, and stone, and of wood: which neither can see, nor hear, nor walk:

[21] Neither repented they of their murders, nor of their sorceries, nor of their fornication, nor of their thefts.

Rev.10

[1] And I saw another mighty angel come down from heaven, clothed with a cloud: and a rainbow was upon his head, and his face was as it were the sun, and his feet as pillars of fire:

[2] And he had in his hand a little book open: and he set his right foot upon the sea, and his left foot on the earth,

[3] And cried with a loud voice, as when a lion roareth: and when he had cried, seven thunders uttered their voices.

[4] And when the seven thunders had uttered their voices, I was about to write: and I heard a voice from heaven saying unto me, Seal up those things which the seven thunders uttered, and write them not.

[5] And the angel which I saw stand upon the sea and upon the earth lifted up his hand to heaven,

[6] And swore by him that liveth for ever and ever, who created heaven, and the things that therein are, and the earth, and the things that therein are, and the sea, and the things which are therein, that there should be time no longer:

[7] But in the days of the voice of the seventh angel, when he shall begin to sound, the mystery of God should be finished, as he hath declared to his servants the prophets.

[8] And the voice which I heard from heaven spake unto me again, and said, Go and take the little book which is open in the hand of the angel which standeth upon the sea and upon the earth.

[9] And I went unto the angel, and said unto him, Give me the little book. And he said unto me, Take it, and eat it up; and it shall make thy belly bitter, but it shall be in thy mouth sweet as honey.

[10] And I took the little book out of the angel's hand, and ate it up; and it was in my mouth sweet as honey: and as soon as I had eaten it, my belly was bitter.

[11] And he said unto me, Thou must prophesy again before many peoples, and nations, and tongues, and kings.

Rev.11

[1] And there was given me a reed like unto a rod: and the angel stood, saying, Rise, and measure the temple of God, and the altar, and them that worship therein.

[2] But the court which is without the temple leave out, and measure it not; for it is given unto the Gentiles: and the holy city shall they tread under foot forty and two months.

[3] And I will give power unto my two witnesses, and they shall prophesy a thousand two hundred and threescore days, clothed in sackcloth.

[4] These are the two olive trees, and the two candlesticks standing before the God of the earth.

[5] And if any man will hurt them, fire proceedeth out of their mouth, and devoureth their enemies: and if any man will hurt them, he must in this manner be killed.

[6] These have power to shut heaven, that it rain not in the days of their prophecy: and have power over waters to turn them to blood, and to smite the earth with all plagues, as often as they will.

- [7] And when they shall have finished their testimony, the beast that ascendeth out of the bottomless pit shall make war against them, and shall overcome them, and kill them.
- [8] And their dead bodies shall lie in the street of the great city, which spiritually is called Sodom and Egypt, where also our Lord was crucified.
- [9] And they of the people and kindreds and tongues and nations shall see their dead bodies three days and an half, and shall not suffer their dead bodies to be put in graves.
- [10] And they that dwell upon the earth shall rejoice over them, and make merry, and shall send gifts one to another; because these two prophets tormented them that dwelt on the earth.
- [11] And after three days and an half the Spirit of life from God entered into them, and they stood upon their feet; and great fear fell upon them which saw them.
- [12] And they heard a great voice from heaven saying unto them, Come up hither. And they ascended up to heaven in a cloud; and their enemies beheld them.
- [13] And the same hour was there a great earthquake, and the tenth part of the city fell, and in the earthquake were slain of men seven thousand: and the remnant were affrighted, and gave glory to the God of heaven.
- [14] The second woe is past; and, behold, the third woe cometh quickly.
- [15] And the seventh angel sounded; and there were great voices in heaven, saying, The kingdoms of this world are become the kingdoms of our Lord, and of his Christ; and he shall reign for ever and ever.
- [16] And the four and twenty elders, which sat before God on their seats, fell upon their faces, and worshipped God,
- [17] Saying, We give thee thanks, O Lord God Almighty, which art, and wast, and art to come; because thou hast taken to thee thy great power, and hast reigned.
- [18] And the nations were angry, and thy wrath is come, and the time of the dead, that they should be judged, and that thou shouldest give reward unto thy servants the prophets, and to the saints, and them that fear thy name, small and great; and shouldest destroy them which destroy the earth.
- [19] And the temple of God was opened in heaven, and there was seen in his temple the ark of his testament: and there were lightnings, and voices, and thunderings, and an earthquake, and great hail.

Rev.12

- [1] And there appeared a great wonder in heaven; a woman clothed with the sun, and the moon under her feet, and upon her head a crown of twelve stars:
- [2] And she being with child cried, travailing in birth, and pained to be delivered.
- [3] And there appeared another wonder in heaven; and behold a great red dragon, having seven heads and ten horns, and seven crowns upon his heads.
- [4] And his tail drew the third part of the stars of heaven, and did cast them to the earth: and the dragon stood before the woman which was ready to be delivered, for to devour her child as soon as it was born.
- [5] And she brought forth a man child, who was to rule all nations with a rod of iron: and her child was caught up unto God, and to his throne.
- [6] And the woman fled into the wilderness, where she hath a place prepared of God, that they should feed her there a thousand two hundred and threescore days.
- [7] And there was war in heaven: Michael and his angels fought against the dragon; and the dragon fought and his angels,
- [8] And prevailed not; neither was their place found any more in heaven.
- [9] And the great dragon was cast out, that old serpent, called the Devil, and Satan, which deceiveth the whole world: he was cast out into the earth, and his angels were cast out with him.
- [10] And I heard a loud voice saying in heaven, Now is come salvation, and strength, and the kingdom of our God, and the power of his Christ: for the accuser of our brethren is cast down, which accused them before our God day and night.

- [11] And they overcame him by the blood of the Lamb, and by the word of their testimony; and they loved not their lives unto the death.
- [12] Therefore rejoice, ye heavens, and ye that dwell in them. Woe to the inhabitants of the earth and of the sea! for the devil is come down unto you, having great wrath, because he knoweth that he hath but a short time.
- [13] And when the dragon saw that he was cast unto the earth, he persecuted the woman which brought forth the man child.
- [14] And to the woman were given two wings of a great eagle, that she might fly into the wilderness, into her place, where she is nourished for a time, and times, and half a time, from the face of the serpent.
- [15] And the serpent cast out of his mouth water as a flood after the woman, that he might cause her to be carried away of the flood.
- [16] And the earth helped the woman, and the earth opened her mouth, and swallowed up the flood which the dragon cast out of his mouth.
- [17] And the dragon was wroth with the woman, and went to make war with the remnant of her seed, which keep the commandments of God, and have the testimony of Jesus Christ.

Rev.13

- [1] And I stood upon the sand of the sea, and saw a beast rise up out of the sea, having seven heads and ten horns, and upon his horns ten crowns, and upon his heads the name of blasphemy.
- [2] And the beast which I saw was like unto a leopard, and his feet were as the feet of a bear, and his mouth as the mouth of a lion: and the dragon gave him his power, and his seat, and great authority.
- [3] And I saw one of his heads as it were wounded to death; and his deadly wound was healed: and all the world wondered after the beast.
- [4] And they worshipped the dragon which gave power unto the beast: and they worshipped the beast, saying, Who is like unto the beast? who is able to make war with him?
- [5] And there was given unto him a mouth speaking great things and blasphemies; and power was given unto him to continue forty and two months.
- [6] And he opened his mouth in blasphemy against God, to blaspheme his name, and his tabernacle, and them that dwell in heaven.
- [7] And it was given unto him to make war with the saints, and to overcome them: and power was given him over all kindreds, and tongues, and nations.
- [8] And all that dwell upon the earth shall worship him, whose names are not written in the book of life of the Lamb slain from the foundation of the world.
- [9] If any man have an ear, let him hear.
- [10] He that leadeth into captivity shall go into captivity: he that killeth with the sword must be killed with the sword. Here is the patience and the faith of the saints.
- [11] And I beheld another beast coming up out of the earth; and he had two horns like a lamb, and he spake as a dragon.
- [12] And he exerciseth all the power of the first beast before him, and causeth the earth and them which dwell therein to worship the first beast, whose deadly wound was healed.
- [13] And he doeth great wonders, so that he maketh fire come down from heaven on the earth in the sight of men,
- [14] And deceiveth them that dwell on the earth by the means of those miracles which he had power to do in the sight of the beast; saying to them that dwell on the earth, that they should make an image to the beast, which had the wound by a sword, and did live.
- [15] And he had power to give life unto the image of the beast, that the image of the beast should both speak, and cause that as many as would not worship the image of the beast should be killed.

[16] And he causeth all, both small and great, rich and poor, free and bond, to receive a mark in their right hand, or in their foreheads:

[17] And that no man might buy or sell, save he that had the mark, or the name of the beast, or the number of his name.

[18] Here is wisdom. Let him that hath understanding count the number of the beast: for it is the number of a man; and his number is Six hundred threescore and six.

Rev.14

[1] And I looked, and, lo, a Lamb stood on the mount Sion, and with him an hundred forty and four thousand, having his Father's name written in their foreheads.

[2] And I heard a voice from heaven, as the voice of many waters, and as the voice of a great thunder: and I heard the voice of harpers harping with their harps:

[3] And they sung as it were a new song before the throne, and before the four beasts, and the elders: and no man could learn that song but the hundred and forty and four thousand, which were redeemed from the earth.

[4] These are they which were not defiled with women; for they are virgins. These are they which follow the Lamb whithersoever he goeth. These were redeemed from among men, being the firstfruits unto God and to the Lamb.

[5] And in their mouth was found no guile: for they are without fault before the throne of God.

[6] And I saw another angel fly in the midst of heaven, having the everlasting gospel to preach unto them that dwell on the earth, and to every nation, and kindred, and tongue, and people,

[7] Saying with a loud voice, Fear God, and give glory to him; for the hour of his judgment is come: and worship him that made heaven, and earth, and the sea, and the fountains of waters.

[8] And there followed another angel, saying, Babylon is fallen, is fallen, that great city, because she made all nations drink of the wine of the wrath of her fornication.

[9] And the third angel followed them, saying with a loud voice, If any man worship the beast and his image, and receive his mark in his forehead, or in his hand,

[10] The same shall drink of the wine of the wrath of God, which is poured out without mixture into the cup of his indignation; and he shall be tormented with fire and brimstone in the presence of the holy angels, and in the presence of the Lamb:

[11] And the smoke of their torment ascendeth up for ever and ever: and they have no rest day nor night, who worship the beast and his image, and whosoever receiveth the mark of his name.

[12] Here is the patience of the saints: here are they that keep the commandments of God, and the faith of Jesus.

[13] And I heard a voice from heaven saying unto me, Write, Blessed are the dead which die in the Lord from henceforth: Yea, saith the Spirit, that they may rest from their labours; and their works do follow them.

[14] And I looked, and behold a white cloud, and upon the cloud one sat like unto the Son of man, having on his head a golden crown, and in his hand a sharp sickle.

[15] And another angel came out of the temple, crying with a loud voice to him that sat on the cloud, Thrust in thy sickle, and reap: for the time is come for thee to reap; for the harvest of the earth is ripe.

[16] And he that sat on the cloud thrust in his sickle on the earth; and the earth was reaped.

[17] And another angel came out of the temple which is in heaven, he also having a sharp sickle.

[18] And another angel came out from the altar, which had power over fire; and cried with a loud cry to him that had the sharp sickle, saying, Thrust in thy sharp sickle, and gather the clusters of the vine of the earth; for her grapes are fully ripe.

[19] And the angel thrust in his sickle into the earth, and gathered the vine of the earth, and cast it into the great winepress of the wrath of God.

[20] And the winepress was trodden without the city, and blood came out of the winepress, even unto the horse bridles, by the space of a thousand and six hundred furlongs.

Rev.15

- [1] And I saw another sign in heaven, great and marvellous, seven angels having the seven last plagues; for in them is filled up the wrath of God.
- [2] And I saw as it were a sea of glass mingled with fire: and them that had gotten the victory over the beast, and over his image, and over his mark, and over the number of his name, stand on the sea of glass, having the harps of God.
- [3] And they sing the song of Moses the servant of God, and the song of the Lamb, saying, Great and marvellous are thy works, Lord God Almighty; just and true are thy ways, thou King of saints.
- [4] Who shall not fear thee, O Lord, and glorify thy name? for thou only art holy: for all nations shall come and worship before thee; for thy judgments are made manifest.
- [5] And after that I looked, and, behold, the temple of the tabernacle of the testimony in heaven was opened:
- [6] And the seven angels came out of the temple, having the seven plagues, clothed in pure and white linen, and having their breasts girded with golden girdles.
- [7] And one of the four beasts gave unto the seven angels seven golden vials full of the wrath of God, who liveth for ever and ever.
- [8] And the temple was filled with smoke from the glory of God, and from his power; and no man was able to enter into the temple, till the seven plagues of the seven angels were fulfilled.

Rev.16

- [1] And I heard a great voice out of the temple saying to the seven angels, Go your ways, and pour out the vials of the wrath of God upon the earth.
- [2] And the first went, and poured out his vial upon the earth; and there fell a noisome and grievous sore upon the men which had the mark of the beast, and upon them which worshipped his image.
- [3] And the second angel poured out his vial upon the sea; and it became as the blood of a dead man: and every living soul died in the sea.
- [4] And the third angel poured out his vial upon the rivers and fountains of waters; and they became blood.
- [5] And I heard the angel of the waters say, Thou art righteous, O Lord, which art, and wast, and shalt be, because thou hast judged thus.
- [6] For they have shed the blood of saints and prophets, and thou hast given them blood to drink; for they are worthy.
- [7] And I heard another out of the altar say, Even so, Lord God Almighty, true and righteous are thy judgments.
- [8] And the fourth angel poured out his vial upon the sun; and power was given unto him to scorch men with fire.
- [9] And men were scorched with great heat, and blasphemed the name of God, which hath power over these plagues: and they repented not to give him glory.
- [10] And the fifth angel poured out his vial upon the seat of the beast; and his kingdom was full of darkness; and they gnawed their tongues for pain,
- [11] And blasphemed the God of heaven because of their pains and their sores, and repented not of their deeds.
- [12] And the sixth angel poured out his vial upon the great river Euphrates; and the water thereof was dried up, that the way of the kings of the east might be prepared.
- [13] And I saw three unclean spirits like frogs come out of the mouth of the dragon, and out of the mouth of the beast, and out of the mouth of the false prophet.
- [14] For they are the spirits of devils, working miracles, which go forth unto the kings of the earth and of the whole world, to gather them to the battle of that great day of God Almighty.

[15] Behold, I come as a thief. Blessed is he that watcheth, and keepeth his garments, lest he walk naked, and they see his shame.

[16] And he gathered them together into a place called in the Hebrew tongue Armageddon.

[17] And the seventh angel poured out his vial into the air; and there came a great voice out of the temple of heaven, from the throne, saying, It is done.

[18] And there were voices, and thunders, and lightnings; and there was a great earthquake, such as was not since men were upon the earth, so mighty an earthquake, and so great.

[19] And the great city was divided into three parts, and the cities of the nations fell: and great Babylon came in remembrance before God, to give unto her the cup of the wine of the fierceness of his wrath.

[20] And every island fled away, and the mountains were not found.

[21] And there fell upon men a great hail out of heaven, every stone about the weight of a talent: and men blasphemed God because of the plague of the hail; for the plague thereof was exceeding great.

Rev.17

[1] And there came one of the seven angels which had the seven vials, and talked with me, saying unto me, Come hither; I will shew unto thee the judgment of the great whore that sitteth upon many waters:

[2] With whom the kings of the earth have committed fornication, and the inhabitants of the earth have been made drunk with the wine of her fornication.

[3] So he carried me away in the spirit into the wilderness: and I saw a woman sit upon a scarlet coloured beast, full of names of blasphemy, having seven heads and ten horns.

[4] And the woman was arrayed in purple and scarlet colour, and decked with gold and precious stones and pearls, having a golden cup in her hand full of abominations and filthiness of her fornication:

[5] And upon her forehead was a name written, MYSTERY, BABYLON THE GREAT, THE MOTHER OF HARLOTS AND ABOMINATIONS OF THE EARTH.

[6] And I saw the woman drunken with the blood of the saints, and with the blood of the martyrs of Jesus: and when I saw her, I wondered with great admiration.

[7] And the angel said unto me, Wherefore didst thou marvel? I will tell thee the mystery of the woman, and of the beast that carrieth her, which hath the seven heads and ten horns.

[8] The beast that thou sawest was, and is not; and shall ascend out of the bottomless pit, and go into perdition: and they that dwell on the earth shall wonder, whose names were not written in the book of life from the foundation of the world, when they behold the beast that was, and is not, and yet is.

[9] And here is the mind which hath wisdom. The seven heads are seven mountains, on which the woman sitteth.

[10] And there are seven kings: five are fallen, and one is, and the other is not yet come; and when he cometh, he must continue a short space.

[11] And the beast that was, and is not, even he is the eighth, and is of the seven, and goeth into perdition.

[12] And the ten horns which thou sawest are ten kings, which have received no kingdom as yet; but receive power as kings one hour with the beast.

[13] These have one mind, and shall give their power and strength unto the beast.

[14] These shall make war with the Lamb, and the Lamb shall overcome them: for he is Lord of lords, and King of kings: and they that are with him are called, and chosen, and faithful.

[15] And he saith unto me, The waters which thou sawest, where the whore sitteth, are peoples, and multitudes, and nations, and tongues.

[16] And the ten horns which thou sawest upon the beast, these shall hate the whore, and shall make her desolate and naked, and shall eat her flesh, and burn her with fire.

[17] For God hath put in their hearts to fulfil his will, and to agree, and give their kingdom unto the beast, until the words of God shall be fulfilled.

[18] And the woman which thou sawest is that great city, which reigneth over the kings of the earth.

Rev.18

[1] And after these things I saw another angel come down from heaven, having great power; and the earth was lightened with his glory.

[2] And he cried mightily with a strong voice, saying, Babylon the great is fallen, is fallen, and is become the habitation of devils, and the hold of every foul spirit, and a cage of every unclean and hateful bird.

[3] For all nations have drunk of the wine of the wrath of her fornication, and the kings of the earth have committed fornication with her, and the merchants of the earth are waxed rich through the abundance of her delicacies.

[4] And I heard another voice from heaven, saying, Come out of her, my people, that ye be not partakers of her sins, and that ye receive not of her plagues.

[5] For her sins have reached unto heaven, and God hath remembered her iniquities.

[6] Reward her even as she rewarded you, and double unto her double according to her works: in the cup which she hath filled fill to her double.

[7] How much she hath glorified herself, and lived deliciously, so much torment and sorrow give her: for she saith in her heart, I sit a queen, and am no widow, and shall see no sorrow.

[8] Therefore shall her plagues come in one day, death, and mourning, and famine; and she shall be utterly burned with fire: for strong is the Lord God who judgeth her.

[9] And the kings of the earth, who have committed fornication and lived deliciously with her, shall bewail her, and lament for her, when they shall see the smoke of her burning,

[10] Standing afar off for the fear of her torment, saying, Alas, alas, that great city Babylon, that mighty city! for in one hour is thy judgment come.

[11] And the merchants of the earth shall weep and mourn over her; for no man buyeth their merchandise any more:

[12] The merchandise of gold, and silver, and precious stones, and of pearls, and fine linen, and purple, and silk, and scarlet, and all thyine wood, and all manner vessels of ivory, and all manner vessels of most precious wood, and of brass, and iron, and marble,

[13] And cinnamon, and odours, and ointments, and frankincense, and wine, and oil, and fine flour, and wheat, and beasts, and sheep, and horses, and chariots, and slaves, and souls of men.

[14] And the fruits that thy soul lusted after are departed from thee, and all things which were dainty and goodly are departed from thee, and thou shalt find them no more at all.

[15] The merchants of these things, which were made rich by her, shall stand afar off for the fear of her torment, weeping and wailing,

[16] And saying, Alas, alas, that great city, that was clothed in fine linen, and purple, and scarlet, and decked with gold, and precious stones, and pearls!

[17] For in one hour so great riches is come to nought. And every shipmaster, and all the company in ships, and sailors, and as many as trade by sea, stood afar off,

[18] And cried when they saw the smoke of her burning, saying, What city is like unto this great city!

[19] And they cast dust on their heads, and cried, weeping and wailing, saying, Alas, alas, that great city, wherein were made rich all that had ships in the sea by reason of her costliness! for in one hour is she made desolate.

[20] Rejoice over her, thou heaven, and ye holy apostles and prophets; for God hath avenged you on her.

[21] And a mighty angel took up a stone like a great millstone, and cast it into the sea, saying, Thus with violence shall that great city Babylon be thrown down, and shall be found no more at all.

[22] And the voice of harpers, and musicians, and of pipers, and trumpeters, shall be heard no more at all in thee; and no craftsman, of whatsoever craft he be, shall be found any more in thee; and the sound of a millstone shall be heard no more at all in thee;

[23] And the light of a candle shall shine no more at all in thee; and the voice of the bridegroom and of the bride shall be heard no more at all in thee: for thy merchants were the great men of the earth; for by thy sorceries were all nations deceived.

[24] And in her was found the blood of prophets, and of saints, and of all that were slain upon the earth.

Rev.19

[1] And after these things I heard a great voice of much people in heaven, saying, Alleluia; Salvation, and glory, and honour, and power, unto the Lord our God:

[2] For true and righteous are his judgments: for he hath judged the great whore, which did corrupt the earth with her fornication, and hath avenged the blood of his servants at her hand.

[3] And again they said, Alleluia. And her smoke rose up for ever and ever.

[4] And the four and twenty elders and the four beasts fell down and worshipped God that sat on the throne, saying, Amen; Alleluia.

[5] And a voice came out of the throne, saying, Praise our God, all ye his servants, and ye that fear him, both small and great.

[6] And I heard as it were the voice of a great multitude, and as the voice of many waters, and as the voice of mighty thunderings, saying, Alleluia: for the Lord God omnipotent reigneth.

[7] Let us be glad and rejoice, and give honour to him: for the marriage of the Lamb is come, and his wife hath made herself ready.

[8] And to her was granted that she should be arrayed in fine linen, clean and white: for the fine linen is the righteousness of saints.

[9] And he saith unto me, Write, Blessed are they which are called unto the marriage supper of the Lamb. And he saith unto me, These are the true sayings of God.

[10] And I fell at his feet to worship him. And he said unto me, See thou do it not: I am thy fellowservant, and of thy brethren that have the testimony of Jesus: worship God: for the testimony of Jesus is the spirit of prophecy.

[11] And I saw heaven opened, and behold a white horse; and he that sat upon him was called Faithful and True, and in righteousness he doth judge and make war.

[12] His eyes were as a flame of fire, and on his head were many crowns; and he had a name written, that no man knew, but he himself.

[13] And he was clothed with a vesture dipped in blood: and his name is called The Word of God.

[14] And the armies which were in heaven followed him upon white horses, clothed in fine linen, white and clean.

[15] And out of his mouth goeth a sharp sword, that with it he should smite the nations: and he shall rule them with a rod of iron: and he treadeth the winepress of the fierceness and wrath of Almighty God.

[16] And he hath on his vesture and on his thigh a name written, KING OF KINGS, AND LORD OF LORDS.

[17] And I saw an angel standing in the sun; and he cried with a loud voice, saying to all the fowls that fly in the midst of heaven, Come and gather yourselves together unto the supper of the great God;

[18] That ye may eat the flesh of kings, and the flesh of captains, and the flesh of mighty men, and the flesh of horses, and of them that sit on them, and the flesh of all men, both free and bond, both small and great.

[19] And I saw the beast, and the kings of the earth, and their armies, gathered together to make war against him that sat on the horse, and against his army.

[20] And the beast was taken, and with him the false prophet that wrought miracles before him, with which he deceived them that had received the mark of the beast, and them that worshipped his image. These both were cast alive into a lake of fire burning with brimstone.

[21] And the remnant were slain with the sword of him that sat upon the horse, which sword proceeded out of his mouth: and all the fowls were filled with their flesh.

Rev.20

[1] And I saw an angel come down from heaven, having the key of the bottomless pit and a great chain in his hand.

[2] And he laid hold on the dragon, that old serpent, which is the Devil, and Satan, and bound him a thousand years,

[3] And cast him into the bottomless pit, and shut him up, and set a seal upon him, that he should deceive the nations no more, till the thousand years should be fulfilled: and after that he must be loosed a little season.

[4] And I saw thrones, and they sat upon them, and judgment was given unto them: and I saw the souls of them that were beheaded for the witness of Jesus, and for the word of God, and which had not worshipped the beast, neither his image, neither had received his mark upon their foreheads, or in their hands; and they lived and reigned with Christ a thousand years.

[5] But the rest of the dead lived not again until the thousand years were finished. This is the first resurrection.

[6] Blessed and holy is he that hath part in the first resurrection: on such the second death hath no power, but they shall be priests of God and of Christ, and shall reign with him a thousand years.

[7] And when the thousand years are expired, Satan shall be loosed out of his prison,

[8] And shall go out to deceive the nations which are in the four quarters of the earth, Gog and Magog, to gather them together to battle: the number of whom is as the sand of the sea.

[9] And they went up on the breadth of the earth, and compassed the camp of the saints about, and the beloved city: and fire came down from God out of heaven, and devoured them.

[10] And the devil that deceived them was cast into the lake of fire and brimstone, where the beast and the false prophet are, and shall be tormented day and night for ever and ever.

[11] And I saw a great white throne, and him that sat on it, from whose face the earth and the heaven fled away; and there was found no place for them.

[12] And I saw the dead, small and great, stand before God; and the books were opened: and another book was opened, which is the book of life: and the dead were judged out of those things which were written in the books, according to their works.

[13] And the sea gave up the dead which were in it; and death and hell delivered up the dead which were in them: and they were judged every man according to their works.

[14] And death and hell were cast into the lake of fire. This is the second death.

[15] And whosoever was not found written in the book of life was cast into the lake of fire.

Rev.21

[1] And I saw a new heaven and a new earth: for the first heaven and the first earth were passed away; and there was no more sea.

[2] And I John saw the holy city, new Jerusalem, coming down from God out of heaven, prepared as a bride adorned for her husband.

[3] And I heard a great voice out of heaven saying, Behold, the tabernacle of God is with men, and he will dwell with them, and they shall be his people, and God himself shall be with them, and be their God.

[4] And God shall wipe away all tears from their eyes; and there shall be no more death, neither sorrow, nor crying, neither shall there be any more pain: for the former things are passed away.

- [5] And he that sat upon the throne said, Behold, I make all things new. And he said unto me, Write: for these words are true and faithful.
- [6] And he said unto me, It is done. I am Alpha and Omega, the beginning and the end. I will give unto him that is athirst of the fountain of the water of life freely.
- [7] He that overcometh shall inherit all things; and I will be his God, and he shall be my son.
- [8] But the fearful, and unbelieving, and the abominable, and murderers, and whoremongers, and sorcerers, and idolaters, and all liars, shall have their part in the lake which burneth with fire and brimstone: which is the second death.
- [9] And there came unto me one of the seven angels which had the seven vials full of the seven last plagues, and talked with me, saying, Come hither, I will shew thee the bride, the Lamb's wife.
- [10] And he carried me away in the spirit to a great and high mountain, and shewed me that great city, the holy Jerusalem, descending out of heaven from God,
- [11] Having the glory of God: and her light was like unto a stone most precious, even like a jasper stone, clear as crystal;
- [12] And had a wall great and high, and had twelve gates, and at the gates twelve angels, and names written thereon, which are the names of the twelve tribes of the children of Israel:
- [13] On the east three gates; on the north three gates; on the south three gates; and on the west three gates.
- [14] And the wall of the city had twelve foundations, and in them the names of the twelve apostles of the Lamb.
- [15] And he that talked with me had a golden reed to measure the city, and the gates thereof, and the wall thereof.
- [16] And the city lieth foursquare, and the length is as large as the breadth: and he measured the city with the reed, twelve thousand furlongs. The length and the breadth and the height of it are equal.
- [17] And he measured the wall thereof, an hundred and forty and four cubits, according to the measure of a man, that is, of the angel.
- [18] And the building of the wall of it was of jasper: and the city was pure gold, like unto clear glass.
- [19] And the foundations of the wall of the city were garnished with all manner of precious stones. The first foundation was jasper; the second, sapphire; the third, a chalcedony; the fourth, an emerald;
- [20] The fifth, sardonyx; the sixth, sardius; the seventh, chrysolite; the eighth, beryl; the ninth, a topaz; the tenth, a chrysoprasus; the eleventh, a jacinth; the twelfth, an amethyst.
- [21] And the twelve gates were twelve pearls; every several gate was of one pearl: and the street of the city was pure gold, as it were transparent glass.
- [22] And I saw no temple therein: for the Lord God Almighty and the Lamb are the temple of it.
- [23] And the city had no need of the sun, neither of the moon, to shine in it: for the glory of God did lighten it, and the Lamb is the light thereof.
- [24] And the nations of them which are saved shall walk in the light of it: and the kings of the earth do bring their glory and honour into it.
- [25] And the gates of it shall not be shut at all by day: for there shall be no night there.
- [26] And they shall bring the glory and honour of the nations into it.
- [27] And there shall in no wise enter into it any thing that defileth, neither whatsoever worketh abomination, or maketh a lie: but they which are written in the Lamb's book of life.

Rev.22

- [1] And he shewed me a pure river of water of life, clear as crystal, proceeding out of the throne of God and of the Lamb.
- [2] In the midst of the street of it, and on either side of the river, was there the tree of life, which bare twelve manner of fruits, and yielded her fruit every month: and the leaves of the tree were for the healing of the nations.

[3] And there shall be no more curse: but the throne of God and of the Lamb shall be in it; and his servants shall serve him:

[4] And they shall see his face; and his name shall be in their foreheads.

[5] And there shall be no night there; and they need no candle, neither light of the sun; for the Lord God giveth them light: and they shall reign for ever and ever.

[6] And he said unto me, These sayings are faithful and true: and the Lord God of the holy prophets sent his angel to shew unto his servants the things which must shortly be done.

[7] Behold, I come quickly: blessed is he that keepeth the sayings of the prophecy of this book.

[8] And I John saw these things, and heard them. And when I had heard and seen, I fell down to worship before the feet of the angel which shewed me these things.

[9] Then saith he unto me, See thou do it not: for I am thy fellowservant, and of thy brethren the prophets, and of them which keep the sayings of this book: worship God.

[10] And he saith unto me, Seal not the sayings of the prophecy of this book: for the time is at hand.

[11] He that is unjust, let him be unjust still: and he which is filthy, let him be filthy still: and he that is righteous, let him be righteous still: and he that is holy, let him be holy still.

[12] And, behold, I come quickly; and my reward is with me, to give every man according as his work shall be.

[13] I am Alpha and Omega, the beginning and the end, the first and the last.

[14] Blessed are they that do his commandments, that they may have right to the tree of life, and may enter in through the gates into the city.

[15] For without are dogs, and sorcerers, and whoremongers, and murderers, and idolaters, and whosoever loveth and maketh a lie.

[16] I Jesus have sent mine angel to testify unto you these things in the churches. I am the root and the offspring of David, and the bright and morning star.

[17] And the Spirit and the bride say, Come. And let him that heareth say, Come. And let him that is athirst come. And whosoever will, let him take the water of life freely.

[18] For I testify unto every man that heareth the words of the prophecy of this book, If any man shall add unto these things, God shall add unto him the plagues that are written in this book:

[19] And if any man shall take away from the words of the book of this prophecy, God shall take away his part out of the book of life, and out of the holy city, and from the things which are written in this book.

[20] He which testifieth these things saith, Surely I come quickly. Amen. Even so, come, Lord Jesus.

Appendix B – Plato's Account of Atlantis

Critias: Then listen, Socrates, to a tale which, though strange, is certainly true, having been attested by Solon, who was the wisest of the seven sages. He was a relative and a dear friend of my great-grandfather, Dropides, as he himself says in many passages of his poems; and he told the story to Critias, my grandfather, who remembered and repeated it to us. There were of old, he said, great and marvellous actions of the Athenian city, which have passed into oblivion through lapse of time and the destruction of mankind, and one in particular, greater than all the rest. This we will now rehearse. It will be a fitting monument of our gratitude to you, and a hymn of praise true and worthy of the goddess, on this her day of festival.

Socrates: Very good. And what is this ancient famous action of the Athenians, which Critias declared, on the authority of Solon, to be not a mere legend, but an actual fact?

Critias: I will tell an old-world story which I heard from an aged man; for Critias, at the time of telling it, was as he said, nearly ninety years of age, and I was about ten. Now the day was that day of the Apaturia which is called the Registration of Youth, at which, according to custom, our parents gave prizes for recitations, and the poems of several poets were recited by us boys, and many of us sang the poems of Solon, which at that time had not gone out of fashion.

One of our tribe, either because he thought so or to please Critias, said that in his judgment Solon was not only the wisest of men, but also the noblest of poets. The old man, as I very well remember, brightened up at hearing this and said, smiling: Yes, Amynander, if Solon had only, like other poets, made poetry the business of his life, and had completed the tale which he brought with him from Egypt, and had not been compelled, by reason of the factions and troubles which he found stirring in his own country when he came home, to attend to other matters, in my opinion he would have been as famous as Homer or Hesiod, or any poet.

And what was the tale about, Critias? said Amynander.

About the greatest action which the Athenians ever did, and which ought to have been the most famous, but, through the lapse of time and the destruction of the actors, it has not come down to us.

Tell us, said the other, the whole story, and how and from whom Solon heard this veritable tradition. He replied:

In the Egyptian Delta, at the head of which the river Nile divides, there is a certain district which is called the district of Sais, and the great city of the district is also called Sais, and is the city from which King Amasis came.

The citizens have a deity for their foundress; she is called in the Egyptian tongue Neith, and is asserted by them to be the same whom the Hellenes call Athene; they are great lovers of the Athenians, and say that they are in some way related to them.

To this city came Solon, and was received there with great honour; he asked the priests who were most skilful in such matters, about antiquity, and made the discovery that neither he nor any other Hellene knew anything worth mentioning about the times of old. On one occasion, wishing to draw them on to speak of antiquity, he began to tell about the most ancient things in our part of the world-about Phoroneus, who is called "the first man," and about Niobe; and after the Deluge, of the survival of Deucalion and Pyrrha; and he traced the genealogy of their descendants, and reckoning up the dates, tried to compute how many years ago the events of which he was speaking happened.

Thereupon one of the priests, who was of a very great age, said: O Solon, Solon, you Hellenes are never anything but children, and there is not an old man among you. Solon in return asked him what he meant. I mean to say, he replied, that in mind you are all young; there is no old opinion handed down among you by ancient tradition, nor any science which is hoary with age. And I will tell you why.

There have been, and will be again, many destructions of mankind arising out of many causes; the greatest have been brought about by the agencies of fire and water, and other lesser ones by innumerable other causes. There is a story, which even you have preserved, that once upon a time Paethon, the son of Helios, having yoked the steeds in his father's chariot, because he was not able to drive them in the path of his father, burnt up all that was upon the earth, and was himself destroyed by a thunderbolt. Now this has the form of a myth, but really signifies a declination of the bodies moving in the heavens around the earth, and a great conflagration of things upon the earth, which recurs after long intervals; at such times those who live upon the mountains and in dry and lofty places are more liable to destruction than those who dwell by rivers or on the seashore. And from this calamity the Nile, who is our never-failing saviour, delivers and preserves us.

When, on the other hand, the gods purge the earth with a deluge of water, the survivors in your country are herdsmen and shepherds who dwell on the mountains, but those who, like you, live in cities are carried by the rivers into the sea. Whereas in this land, neither then nor at any other time, does the water come down from above on the fields, having always a tendency to come up from below; for which reason the traditions preserved here are the most ancient. The fact is, that wherever the extremity of winter frost or of summer does not prevent, mankind exist, sometimes in greater, sometimes in lesser numbers. And whatever

happened either in your country or in ours, or in any other region of which we are informed-if there were any actions noble or great or in any other way remarkable, they have all been written down by us of old, and are preserved in our temples.

Whereas just when you and other nations are beginning to be provided with letters and the other requisites of civilized life, after the usual interval, the stream from heaven, like a pestilence, comes pouring down, and leaves only those of you who are destitute of letters and education; and so you have to begin all over again like children, and know nothing of what happened in ancient times, either among us or among yourselves. As for those genealogies of yours which you just now recounted to us, Solon, they are no better than the tales of children.

In the first place you remember a single deluge only, but there were many previous ones; in the next place, you do not know that there formerly dwelt in your land the fairest and noblest race of men which ever lived, and that you and your whole city are descended from a small seed or remnant of them which survived. And this was unknown to you, because, for many generations, the survivors of that destruction died, leaving no written word. For there was a time, Solon, before the great deluge of all, when the city which now is Athens was first in war and in every way the best governed of all cities, is said to have performed the noblest deeds and to have had the fairest constitution of any of which tradition tells, under the face of heaven.

Solon marvelled at his words, and earnestly requested the priests to inform him exactly and in order about these former citizens. You are welcome to hear about them, Solon, said the priest, both for your own sake and for that of your city, and above all, for the sake of the goddess who is the common patron and parent and educator of both our cities. She founded your city a thousand years before ours, receiving from the Earth and Hephaestus the seed of your race, and afterwards she founded ours, of which the constitution is recorded in our sacred registers to be eight thousand years old.

As touching your citizens of nine thousand years ago, I will briefly inform you of their laws and of their most famous action; the exact particulars of the whole we will hereafter go through at our leisure in the sacred registers themselves. If you compare these very laws with ours you will find that many of ours are the counterpart of yours as they were in the olden time.

In the first place, there is the caste of priests, which is separated from all the others; next, there are the artificers, who ply their several crafts by themselves and do not intermix; and also there is the class of shepherds and of hunters, as well as that of husbandmen; and you will observe, too, that the warriors in Egypt are distinct from all the other classes, and are

commanded by the law to devote themselves solely to military pursuits; moreover, the weapons which they carry are shields and spears, a style of equipment which the goddess taught of Asiatics first to us, as in your part of the world first to you.

Then as to wisdom, do you observe how our law from the very first made a study of the whole order of things, extending even to prophecy and medicine which gives health, out of these divine elements deriving what was needful for human life, and adding every sort of knowledge which was akin to them. All this order and arrangement the goddess first imparted to you when establishing your city; and she chose the spot of earth in which you were born, because she saw that the happy temperament of the seasons in that land would produce the wisest of men. Wherefore the goddess, who was a lover both of war and of wisdom, selected and first of all settled that spot which was the most likely to produce men likest herself. And there you dwelt, having such laws as these and still better ones, and excelled all mankind in all virtue, as became the children and disciples of the gods.

Many great and wonderful deeds are recorded of your state in our histories. But one of them exceeds all the rest in greatness and valour. For these histories tell of a mighty power which unprovoked made an expedition against the whole of Europe and Asia, and to which your city put an end. This power came forth out of the Atlantic Ocean, for in those days the Atlantic was navigable; and there was an island situated in front of the straits which are by you called the Pillars of Heracles; the island was larger than Libya and Asia put together, and was the way to other islands, and from these you might pass to the whole of the opposite continent which surrounded the true ocean; for this sea which is within the Straits of Heracles is only a harbour, having a narrow entrance, but that other is a real sea, and the surrounding land may be most truly called a boundless continent.

Now in this island of Atlantis there was a great and wonderful empire which had rule over the whole island and several others, and over parts of the continent, and, furthermore, the men of Atlantis had subjected the parts of Libya within the columns of Heracles as far as Egypt, and of Europe as far as Tyrrhenia. This vast power, gathered into one, endeavoured to subdue at a blow our country and yours and the whole of the region within the straits; and then, Solon, your country shone forth, in the excellence of her virtue and strength, among all mankind. She was pre-eminent in courage and military skill, and was the leader of the Hellenes. And when the rest fell off from her, being compelled to stand alone, after having undergone the very extremity of danger, she defeated and triumphed over the invaders, and preserved from slavery those who

were not yet subjugated, and generously liberated all the rest of us who dwell within the pillars.

But afterwards there occurred violent earthquakes and floods; and in a single day and night of misfortune all your warlike men in a body sank into the earth, and the island of Atlantis in like manner disappeared in the depths of the sea. For which reason the sea in those parts is impassable and impenetrable, because there is a shoal of mud in the way; and this was caused by the subsidence of the island.

Here, *Timaeus* ceases to recount the tale of Atlantis. But we can pick up the story again in *Critias*:

Critias: *Friend Hermocrates, you, who are stationed last and have another in front of you, have not lost heart as yet; the gravity of the situation will soon be revealed to you; meanwhile I accept your exhortations and encouragements. But besides the gods and goddesses whom you have mentioned, I would specially invoke Mnemosyne; for all the important part of my discourse is dependent on her favour, and if I can recollect and recite enough of what was said by the priests and brought hither by Solon, I doubt not that I shall satisfy the requirements of this theatre.*

And now, making no more excuses, I will proceed.

Let me begin by observing first of all, that nine thousand was the sum of years which had elapsed since the war which was said to have taken place between those who dwelt outside the Pillars of Heracles and all who dwelt within them; this war I am going to describe. Of the combatants on the one side, the city of Athens was reported to have been the leader and to have fought out the war; the combatants on the other side were commanded by the kings of Atlantis, which, as was saying, was an island greater in extent than Libya and Asia, and when afterwards sunk by an earthquake, became an impassable barrier of mud to voyagers sailing from hence to any part of the ocean.

The progress of the history will unfold the various nations of barbarians and families of Hellenes which then existed, as they successively appear on the scene; but I must describe first of all Athenians of that day, and their enemies who fought with them, and then the respective powers and governments of the two kingdoms. Let us give the precedence to Athens.

In the days of old the gods had the whole earth distributed among them by allotment. There was no quarrelling; for you cannot rightly suppose that the gods did not know what was proper for each of them to have, or, knowing this, that they would seek to procure for themselves by contention

that which more properly belonged to others. They all of them by just apportionment obtained what they wanted, and peopled their own districts; and when they had peopled them they tended us, their nurselings and possessions, as shepherds tend their flocks, excepting only that they did not use blows or bodily force, as shepherds do, but governed us like pilots from the stern of the vessel, which is an easy way of guiding animals, holding our souls by the rudder of persuasion according to their own pleasure;-thus did they guide all mortal creatures.

Now different gods had their allotments in different places which they set in order. Hephaestus and Athene, who were brother and sister, and sprang from the same father, having a common nature, and being united also in the love of philosophy and art, both obtained as their common portion this land, which was naturally adapted for wisdom and virtue; and there they implanted brave children of the soil, and put into their minds the order of government; their names are preserved, but their actions have disappeared by reason of the destruction of those who received the tradition, and the lapse of ages.

For when there were any survivors, as I have already said, they were men who dwelt in the mountains; and they were ignorant of the art of writing, and had heard only the names of the chiefs of the land, but very little about their actions. The names they were willing enough to give to their children; but the virtues and the laws of their predecessors, they knew only by obscure traditions; and as they themselves and their children lacked for many generations the necessities of life, they directed their attention to the supply of their wants, and of them they conversed, to the neglect of events that had happened in times long past; for mythology and the enquiry into antiquity are first introduced into cities when they begin to have leisure, and when they see that the necessities of life have already been provided, but not before. And this is reason why the names of the ancients have been preserved to us and not their actions.

This I infer because Solon said that the priests in their narrative of that war mentioned most of the names which are recorded prior to the time of Theseus, such as Cecrops, and Erechtheus, and Erichthonius, and Erysichthon, and the names of the women in like manner. Moreover, since military pursuits were then common to men and women, the men of those days in accordance with the custom of the time set up a figure and image of the goddess in full armour, to be a testimony that all animals which associate together, male as well as female, may, if they please, practise in common the virtue which belongs to them without distinction of sex.

Now the country was inhabited in those days by various classes of citizens;-there were artisans, and there were husbandmen, and there was also a warrior class originally set apart by divine men. The latter dwelt by themselves, and had all things suitable for nurture and education; neither

had any of them anything of their own, but they regarded all that they had as common property; nor did they claim to receive of the other citizens anything more than their necessary food. And they practised all the pursuits which we yesterday described as those of our imaginary guardians.

Concerning the country the Egyptian priests said what is not only probable but manifestly true, that the boundaries were in those days fixed by the Isthmus, and that in the direction of the continent they extended as far as the heights of Cithaeron and Parnes; the boundary line came down in the direction of the sea, having the district of Oropus on the right, and with the river Asopus as the limit on the left. The land was the best in the world, and was therefore able in those days to support a vast army, raised from the surrounding people. Even the remnant of Attica which now exists may compare with any region in the world for the variety and excellence of its fruits and the suitableness of its pastures to every sort of animal, which proves what I am saying; but in those days the country was fair as now and yielded far more abundant produce.

How shall I establish my words? and what part of it can be truly called a remnant of the land that then was? The whole country is only a long promontory extending far into the sea away from the rest of the continent, while the surrounding basin of the sea is everywhere deep in the neighbourhood of the shore. Many great deluges have taken place during the nine thousand years, for that is the number of years which have elapsed since the time of which I am speaking; and during all this time and through so many changes, there has never been any considerable accumulation of the soil coming down from the mountains, as in other places, but the earth has fallen away all round and sunk out of sight.

The consequence is, that in comparison of what then was, there are remaining only the bones of the wasted body, as they may be called, as in the case of small islands, all the richer and softer parts of the soil having fallen away, and the mere skeleton of the land being left. But in the primitive state of the country, its mountains were high hills covered with soil, and the plains, as they are termed by us, of Phelleus were full of rich earth, and there was abundance of wood in the mountains. Of this last the traces still remain, for although some of the mountains now only afford sustenance to bees, not so very long ago there were still to be seen roofs of timber cut from trees growing there, which were of a size sufficient to cover the largest houses; and there were many other high trees, cultivated by man and bearing abundance of food for cattle. Moreover, the land reaped the benefit of the annual rainfall, not as now losing the water which flows off the bare earth into the sea, but, having an abundant supply in all places, and receiving it into herself and treasuring it up in the close clay soil, it let off into the hollows the streams which it absorbed from the

heights, providing everywhere abundant fountains and rivers, of which there may still be observed sacred memorials in places where fountains once existed; and this proves the truth of what I am saying.

Such was the natural state of the country, which was cultivated, as we may well believe, by true husbandmen, who made husbandry their business, and were lovers of honour, and of a noble nature, and had a soil the best in the world, and abundance of water, and in the heaven above an excellently tempered climate.

Now the city in those days was arranged on this wise. In the first place the Acropolis was not as now. For the fact is that a single night of excessive rain washed away the earth and laid bare the rock; at the same time there were earthquakes, and then occurred the extraordinary inundation, which was the third before the great destruction of Deucalion. But in primitive times the hill of the Acropolis extended to the Eridanus and Ilissus, and included the Pnyx on one side, and the Lycabettus as a boundary on the opposite side to the Pnyx, and was all well covered with soil, and level at the top, except in one or two places.

Outside the Acropolis and under the sides of the hill there dwelt artisans, and such of the husbandmen as were tilling the ground near; the warrior class dwelt by themselves around the temples of Athene and Hephaestus at the summit, which moreover they had enclosed with a single fence like the garden of a single house. On the north side they had dwellings in common and had erected halls for dining in winter, and had all the buildings which they needed for their common life, besides temples, but there was no adorning of them with gold and silver, for they made no use of these for any purpose; they took a middle course between meanness and ostentation, and built modest houses in which they and their children's children grew old, and they handed them down to others who were like themselves, always the same. But in summer-time they left their gardens and gymnasia and dining halls, and then the southern side of the hill was made use of by them for the same purpose.

Where the Acropolis now is there was a fountain, which was choked by the earthquake, and has left only the few small streams which still exist in the vicinity, but in those days the fountain gave an abundant supply of water for all and of suitable temperature in summer and in winter. This is how they dwelt, being the guardians of their own citizens and the leaders of the Hellenes, who were their willing followers. And they took care to preserve the same number of men and women through all time, being so many as were required for warlike purposes, then as now-that is to say, about twenty thousand.

Such were the ancient Athenians, and after this manner they righteously administered their own land and the rest of Hellas; they were renowned all over Europe and Asia for the beauty of their persons and for the many

virtues of their souls, and of all men who lived in those days they were the most illustrious. And next, if I have not forgotten what I heard when I was a child, I will impart to you the character and origin of their adversaries. For friends should not keep their stories to themselves, but have them in common.

Yet, before proceeding further in the narrative, I ought to warn you, that you must not be surprised if you should perhaps hear Hellenic names given to foreigners. I will tell you the reason of this: Solon, who was intending to use the tale for his poem, enquired into the meaning of the names, and found that the early Egyptians in writing them down had translated them into their own language, and he recovered the meaning of the several names and when copying them out again translated them into our language. My great-grandfather, Dropides, had the original writing, which is still in my possession, and was carefully studied by me when I was a child. Therefore if you hear names such as are used in this country, you must not be surprised, for I have told how they came to be introduced. The tale, which was of great length, began as follows:

I have before remarked in speaking of the allotments of the gods, that they distributed the whole earth into portions differing in extent, and made for themselves temples and instituted sacrifices. And Poseidon, receiving for his lot the island of Atlantis, begat children by a mortal woman, and settled them in a part of the island, which I will describe.

Looking towards the sea, but in the centre of the whole island, there was a plain which is said to have been the fairest of all plains and very fertile. Near the plain again, and also in the centre of the island at a distance of about fifty stadia, there was a mountain not very high on any side. In this mountain there dwelt one of the earth born primeval men of that country, whose name was Evenor, and he had a wife named Leucippe, and they had an only daughter who was called Cleito.

The maiden had already reached womanhood, when her father and mother died; Poseidon fell in love with her and had intercourse with her, and breaking the ground, enclosed the hill in which she dwelt all round, making alternate zones of sea and land larger and smaller, encircling one another; there were two of land and three of water, which he turned as with a lathe, each having its circumference equidistant every way from the centre, so that no man could get to the island, for ships and voyages were not as yet.

He himself, being a god, found no difficulty in making special arrangements for the centre island, bringing up two springs of water from beneath the earth, one of warm water and the other of cold, and making every variety of food to spring up abundantly from the soil. He also begat and brought up five pairs of twin male children; and dividing the island of Atlantis into ten portions, he gave to the first-born of the eldest pair his

mother's dwelling and the surrounding allotment, which was the largest and best, and made him king over the rest; the others he made princes, and gave them rule over many men, and a large territory.

And he named them all; the eldest, who was the first king, he named Atlas, and after him the whole island and the ocean were called Atlantic. To his twin brother, who was born after him, and obtained as his lot the extremity of the island towards the Pillars of Heracles, facing the country which is now called the region of Gades in that part of the world, he gave the name which in the Hellenic language is Eumelus, in the language of the country which is named after him, Gadeirus. Of the second pair of twins he called one Ampheres, and the other Evaemon. To the elder of the third pair of twins he gave the name Mneseus, and Autochthon to the one who followed him. Of the fourth pair of twins he called the elder Elasippus, and the younger Mestor. And of the fifth pair he gave to the elder the name of Azaes, and to the younger that of Diaprepes.

All these and their descendants for many generations were the inhabitants and rulers of divers islands in the open sea; and also, as has been already said, they held sway in our direction over the country within the Pillars as far as Egypt and Tyrrhenia.

Now Atlas had a numerous and honourable family, and they retained the kingdom, the eldest son handing it on to his eldest for many generations; and they had such an amount of wealth as was never before possessed by kings and potentates, and is not likely ever to be again, and they were furnished with everything which they needed, both in the city and country. For because of the greatness of their empire many things were brought to them from foreign countries, and the island itself provided most of what was required by them for the uses of life.

In the first place, they dug out of the earth whatever was to be found there, solid as well as fusile, and that which is now only a name and was then something more than a name, orichalcum, was dug out of the earth in many parts of the island, being more precious in those days than anything except gold.

There was an abundance of wood for carpenter's work, and sufficient maintenance for tame and wild animals.

Moreover, there were a great number of elephants in the island; for as there was provision for all other sorts of animals, both for those which live in lakes and marshes and rivers, and also for those which live in mountains and on plains, so there was for the animal which is the largest and most voracious of all.

Also whatever fragrant things there now are in the earth, whether roots, or herbage, or woods, or essences which distil from fruit and flower, grew and thrived in that land; also the fruit which admits of cultivation, both the

dry sort, which is given us for nourishment and any other which we use for food-we call them all by the common name pulse, and the fruits having a hard rind, affording drinks and meats and ointments, and good store of chestnuts and the like, which furnish pleasure and amusement, and are fruits which spoil with keeping, and the pleasant kinds of dessert, with which we console ourselves after dinner, when we are tired of eating-all these that sacred island which then beheld the light of the sun, brought forth fair and wondrous and in infinite abundance.

With such blessings the earth freely furnished them; meanwhile they went on constructing their temples and palaces and harbours and docks. And they arranged the whole country in the following manner:

First of all they bridged over the zones of sea which surrounded the ancient metropolis, making a road to and from the royal palace. And at the very beginning they built the palace in the habitation of the god and of their ancestors, which they continued to ornament in successive generations, every king surpassing the one who went before him to the utmost of his power, until they made the building a marvel to behold for size and for beauty.

And beginning from the sea they bored a canal of three hundred feet in width and one hundred feet in depth and fifty stadia in length, which they carried through to the outermost zone, making a passage from the sea up to this, which became a harbour, and leaving an opening sufficient to enable the largest vessels to find ingress.

Moreover, they divided at the bridges the zones of land which parted the zones of sea, leaving room for a single trireme to pass out of one zone into another, and they covered over the channels so as to leave a way underneath for the ships; for the banks were raised considerably above the water.

Now the largest of the zones into which a passage was cut from the sea was three stadia in breadth, and the zone of land which came next of equal breadth; but the next two zones, the one of water, the other of land, were two stadia, and the one which surrounded the central island was a stadium only in width. The island in which the palace was situated had a diameter of five stadia.

All this including the zones and the bridge, which was the sixth part of a stadium in width, they surrounded by a stone wall on every side, placing towers and gates on the bridges where the sea passed in.

The stone which was used in the work they quarried from underneath the centre island, and from underneath the zones, on the outer as well as the inner side. One kind was white, another black, and a third red, and as they quarried, they at the same time hollowed out double docks, having roofs formed out of the native rock. Some of their buildings were simple, but in

others they put together different stones, varying the colour to please the eye, and to be a natural source of delight.

The entire circuit of the wall, which went round the outermost zone, they covered with a coating of brass, and the circuit of the next wall they coated with tin, and the third, which encompassed the citadel, flashed with the red light of orichalcum.

The palaces in the interior of the citadel were constructed on this wise:-in the centre was a holy temple dedicated to Cleito and Poseidon, which remained inaccessible, and was surrounded by an enclosure of gold; this was the spot where the family of the ten princes first saw the light, and thither the people annually brought the fruits of the earth in their season from all the ten portions, to be an offering to each of the ten.

Here was Poseidon's own temple which was a stadium in length, and half a stadium in width, and of a proportionate height, having a strange barbaric appearance. All the outside of the temple, with the exception of the pinnacles, they covered with silver, and the pinnacles with gold. In the interior of the temple the roof was of ivory, curiously wrought everywhere with gold and silver and orichalcum; and all the other parts, the walls and pillars and floor, they coated with orichalcum.

In the temple they placed statues of gold: there was the god himself standing in a chariot-the charioteer of six winged horses-and of such a size that he touched the roof of the building with his head; around him there were a hundred Nereids riding on dolphins, for such was thought to be the number of them by the men of those days. There were also in the interior of the temple other images which had been dedicated by private persons.

And around the temple on the outside were placed statues of gold of all the descendants of the ten kings and of their wives, and there were many other great offerings of kings and of private persons, coming both from the city itself and from the foreign cities over which they held sway. There was an altar too, which in size and workmanship corresponded to this magnificence, and the palaces, in like manner, answered to the greatness of the kingdom and the glory of the temple.

In the next place, they had fountains, one of cold and another of hot water, in gracious plenty flowing; and they were wonderfully adapted for use by reason of the pleasantness and excellence of their waters. They constructed buildings about them and planted suitable trees, also they made cisterns, some open to the heavens, others roofed over, to be used in winter as warm baths; there were the kings' baths, and the baths of private persons, which were kept apart; and there were separate baths for women, and for horses and cattle, and to each of them they gave as much adornment as was suitable.

Of the water which ran off they carried some to the grove of Poseidon, where were growing all manner of trees of wonderful height and beauty, owing to the excellence of the soil, while the remainder was conveyed by aqueducts along the bridges to the outer circles; and there were many temples built and dedicated to many gods; also gardens and places of exercise, some for men, and others for horses in both of the two islands formed by the zones; and in the centre of the larger of the two there was set apart a race-course of a stadium in width, and in length allowed to extend all round the island, for horses to race in.

Also there were guardhouses at intervals for the guards, the more trusted of whom were appointed to keep watch in the lesser zone, which was nearer the Acropolis while the most trusted of all had houses given them within the citadel, near the persons of the kings. The docks were full of triremes and naval stores, and all things were quite ready for use.

Enough of the plan of the royal palace. Leaving the palace and passing out across the three you came to a wall which began at the sea and went all round: this was everywhere distant fifty stadia from the largest zone or harbour, and enclosed the whole, the ends meeting at the mouth of the channel which led to the sea.

The entire area was densely crowded with habitations; and the canal and the largest of the harbours were full of vessels and merchants coming from all parts, who, from their numbers, kept up a multitudinous sound of human voices, and din and clatter of all sorts night and day.

I have described the city and the environs of the ancient palace nearly in the words of Solon, and now I must endeavour to represent the nature and arrangement of the rest of the land.

The whole country was said by him to be very lofty and precipitous on the side of the sea, but the country immediately about and surrounding the city was a level plain, itself surrounded by mountains which descended towards the sea; it was smooth and even, and of an oblong shape, extending in one direction three thousand stadia, but across the centre inland it was two thousand stadia. This part of the island looked towards the south, and was sheltered from the north.

The surrounding mountains were celebrated for their number and size and beauty, far beyond any which still exist, having in them also many wealthy villages of country folk, and rivers, and lakes, and meadows supplying food enough for every animal, wild or tame, and much wood of various sorts, abundant for each and every kind of work.

I will now describe the plain, as it was fashioned by nature and by the labours of many generations of kings through long ages. It was for the most part rectangular and oblong, and where falling out of the straight line followed the circular ditch. The depth, and width, and length of this ditch

were incredible, and gave the impression that a work of such extent, in addition to so many others, could never have been artificial. Nevertheless I must say what I was told.

It was excavated to the depth of a hundred feet, and its breadth was a stadium everywhere; it was carried round the whole of the plain, and was ten thousand stadia in length. It received the streams which came down from the mountains, and winding round the plain and meeting at the city, was there let off into the sea.

Further inland, likewise, straight canals of a hundred feet in width were cut from it through the plain, and again let off into the ditch leading to the sea: these canals were at intervals of a hundred stadia, and by them they brought down the wood from the mountains to the city, and conveyed the fruits of the earth in ships, cutting transverse passages from one canal into another, and to the city.

Twice in the year they gathered the fruits of the earth-in winter having the benefit of the rains of heaven, and in summer the water which the land supplied by introducing streams from the canals.

As to the population, each of the lots in the plain had to find a leader for the men who were fit for military service, and the size of a lot was a square of ten stadia each way, and the total number of all the lots was sixty thousand. And of the inhabitants of the mountains and of the rest of the country there was also a vast multitude, which was distributed among the lots and had leaders assigned to them according to their districts and villages. The leader was required to furnish for the war the sixth portion of a war-chariot, so as to make up a total of ten thousand chariots; also two horses and riders for them, and a pair of chariot-horses without a seat, accompanied by a horseman who could fight on foot carrying a small shield, and having a charioteer who stood behind the man-at-arms to guide the two horses; also, he was bound to furnish two heavy armed soldiers, two slingers, three stone-shooters and three javelin-men, who were light-armed, and four sailors to make up the complement of twelve hundred ships.

Such was the military order of the royal city-the order of the other nine governments varied, and it would be wearisome to recount their several differences.

As to offices and honours, the following was the arrangement from the first. Each of the ten kings in his own division and in his own city had the absolute control of the citizens, and, in most cases, of the laws, punishing and slaying whomsoever he would. Now the order of precedence among them and their mutual relations were regulated by the commands of Poseidon which the law had handed down. These were inscribed by the first kings on a pillar of orichalcum, which was situated in the middle of the

island, at the temple of Poseidon, whither the kings were gathered together every fifth and every sixth year alternately, thus giving equal honour to the odd and to the even number.

And when they were gathered together they consulted about their common interests, and enquired if any one had transgressed in anything and passed judgment and before they passed judgment they gave their pledges to one another on this wise:- There were bulls who had the range of the temple of Poseidon; and the ten kings, being left alone in the temple, after they had offered prayers to the god that they might capture the victim which was acceptable to him, hunted the bulls, without weapons but with staves and nooses; and the bull which they caught they led up to the pillar and cut its throat over the top of it so that the blood fell upon the sacred inscription.

Now on the pillar, besides the laws, there was inscribed an oath invoking mighty curses on the disobedient. When therefore, after slaying the bull in the accustomed manner, they had burnt its limbs, they filled a bowl of wine and cast in a clot of blood for each of them; the rest of the victim they put in the fire, after having purified the column all round. Then they drew from the bowl in golden cups and pouring a libation on the fire, they swore that they would judge according to the laws on the pillar, and would punish him who in any point had already transgressed them, and that for the future they would not, if they could help, offend against the writing on the pillar, and would neither command others, nor obey any ruler who commanded them, to act otherwise than according to the laws of their father Poseidon.

This was the prayer which each of them-offered up for himself and for his descendants, at the same time drinking and dedicating the cup out of which he drank in the temple of the god; and after they had supped and satisfied their needs, when darkness came on, and the fire about the sacrifice was cool, all of them put on most beautiful azure robes, and, sitting on the ground, at night, over the embers of the sacrifices by which they had sworn, and extinguishing all the fire about the temple, they received and gave judgment, if any of them had an accusation to bring against any one; and when they given judgment, at daybreak they wrote down their sentences on a golden tablet, and dedicated it together with their robes to be a memorial.

There were many special laws affecting the several kings inscribed about the temples, but the most important was the following: They were not to take up arms against one another, and they were all to come to the rescue if any one in any of their cities attempted to overthrow the royal house; like their ancestors, they were to deliberate in common about war and other matters, giving the supremacy to the descendants of Atlas.

And the king was not to have the power of life and death over any of his kinsmen unless he had the assent of the majority of the ten. Such was the

vast power which the god settled in the lost island of Atlantis; and this he afterwards directed against our land for the following reasons, as tradition tells:

For many generations, as long as the divine nature lasted in them, they were obedient to the laws, and well-affectioned towards the god, whose seed they were; for they possessed true and in every way great spirits, uniting gentleness with wisdom in the various chances of life, and in their intercourse with one another. They despised everything but virtue, caring little for their present state of life, and thinking lightly of the possession of gold and other property, which seemed only a burden to them; neither were they intoxicated by luxury; nor did wealth deprive them of their self-control; but they were sober, and saw clearly that all these goods are increased by virtue and friendship with one another, whereas by too great regard and respect for them, they are lost and friendship with them.

By such reflections and by the continuance in them of a divine nature, the qualities which we have described grew and increased among them; but when the divine portion began to fade away, and became diluted too often and too much with the mortal admixture, and the human nature got the upper hand, they then, being unable to bear their fortune, behaved unseemly, and to him who had an eye to see grew visibly debased, for they were losing the fairest of their precious gifts; but to those who had no eye to see the true happiness, they appeared glorious and blessed at the very time when they were full of avarice and unrighteous power.

Zeus, the god of gods, who rules according to law, and is able to see into such things, perceiving that an honourable race was in a woeful plight, and wanting to inflict punishment on them, that they might be chastened and improve, collected all the gods into their most holy habitation, which, being placed in the centre of the world, beholds all created things. And when he had called them together, he spake as follows-

Then it stops. Nobody is quite sure why Plato never finished the story.