

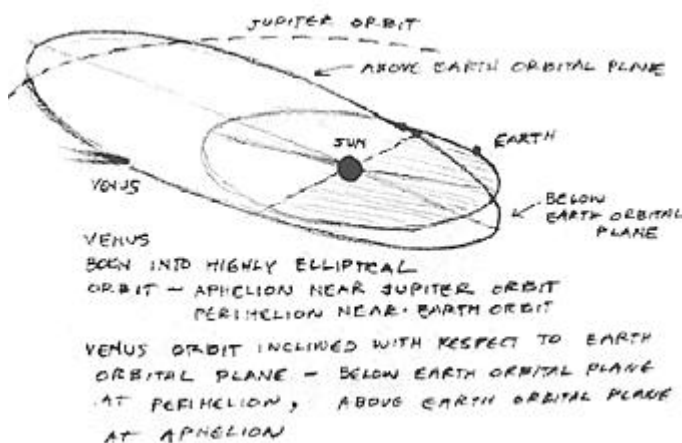
PLANETARY PASSOVER:

A Near-Capture Encounter The Godowski Hypothesis

By Johnny Godowski

INTRODUCTION

The works of Immanuel Velikovsky, in conjunction with new data from the work of Ron Wyatt and computer modeling and analysis, may yield a new vista for investigation of that which Velikovsky sought and wondered at: the location of the enigmatic Sea of Passage, and a detailed orbital mechanism for reconciling the dynamics of the Passover Encounter with all details of the Exodus account, especially the most fantastic and awe-inspiring event, the Division of the Sea of Passage.



Venusian Orbit

A FLYBY is the simplest kind of close pass. A more involved trajectory might cause the respective planets to pass completely one over the other, hence 'PASSOVER' is introduced here as an astronomical term.

In the hypothesis developed herein, Velikovsky's Passover joined Venus and Earth in a prolonged lingering dance that, had it continued, would have resulted in the two planets forming a binary planet system.

Even considering the tidal, tectonic, atmospheric chemical, biological, physical and electromagnetic interactions to be expected in the dynamics of such a near capture encounter, one still needs more information to reconcile the details of the exodus account with these interplanetary dynamics.

One must know - Where on Earth is that mysterious Sinai? What can we learn from what is found there? Where was the Crossing of the Sea of Passage?

VELIKOVSKY'S SEA OF PASSAGE

In his epic work *Worlds In Collision*, Velikovsky carefully refrains from identifying the specific body of water or exact location of what he terms "the Sea of Passage", leaving the reader free to consider the varied hypotheses ranging from the Mediterranean Sea, Lake Manzala, Lake Bardawil, the Wadi Tumilat, the Suez Gulf, the Aqaba or Eilat Gulf, or even the Red Sea itself, commonly interpreted as Reed Sea, or Sea of Reeds.

Velikovsky's chief clue comes from a reference placing the site "somewhere between Memphis and Pi Soped." Such a reference does not strongly imply a crossing of the Nile somewhere between these two cities, as the Nile is clearly mentioned in the Exodus text as Ye:or [Hebrew; flood] while the Yam Xuf [Hebrew; Sea of Xuf] is the Exodus term for the Sea of Passage.



Immanuel Velikovsky

Yam clearly implies a large body of water, as the terms @egel and [:]agam describe lakes and ponds. The reference may indicate only an attempt to bracket the north to south range of the site's possible location, perhaps intending to infer only that the crossing took place somewhere east of a departure point somewhere between these two cities.

YAM XUF: Velikovsky takes up the meaning of the term XUF.

Note: the term rendered here as XUF is variantly written as Suf, Suph, Sof, Soph, Sof, in order to transliterate the Hebrew letters Xame[h], Vav, Peh. The letter Xame[h] is usually written Sameh and has the modern sound of 'S', but is associated by structure in the ancient script with the Phoenician and thence Greek letter Xi, a letter consisting of three horizontal strokes and having the 'kS' sound of the english 'X.'

The Xi comparison may be a strong clue to the ancient pronunciation, and the X will be employed herein to properly distinguish Xame[H] from SiYN/[Sh]iYN, the Hebrew letter that conveys the pure 'S' sound as well as the 'Sh' sound, and also to distinguish it from [ts]aDiY, the Hebrew letter having the 'tS' sound conveyed by the double 'z' in 'pizza'.

This is to clarify the confusion caused by traditional transliteration, which would render the terms Wilderness of Sin, Sinai and the letter Sin with the same initial letter S, when in Hebrew the wilderness is [ts]iYN, the mountain is XiYNAY and the letter is SiYN, respectively.)

Also, the letter AleF is denoted [:] to express the forcefully silent glottal stop of this conspicuously silent letter.

@ is used to represent the sound of the letter 'ayin. This sound has been described as the diphthong [ng] heard in such words as fishing, thing, (and diphthong) though other sources report a different pronunciation approaching a glottal fricative quasi-stop.

The letter [H]et is denoted with a bracketed H to distinguish this guttural letter (pronounced like the 'ch' in Loch Ness) from an ordinary H.

Shin is denoted [Sh] to preclude confusion with an 's' followed by 'h', and similarly throughout.

If a vowel is capitalized it represents the long form; 'e' sounds as the 'e' in 'bet',

while 'E' sounds more like the 'e' in 'hey!'

A small letter 'a' sounds like the 'a' in 'hat', while a capital 'A' sounds like the 'a' in 'tall'.

Capital B is like Bat, lower case 'b' is 'bh' actually a labial 'v' sound.

In general, a capitalized consonant [as opposed to a lower case] should denote a doubled or emphasized [dagesh] letter, if the letter can take the dagesh. If that is not an option for the letter, then the capital is used here by default.

Also, some sounds can be made with vowel points [nikud] or by writing the letter explicitly -

In these cases a capital denotes an explicitly written letter.

Since I have also used capitals for emphasis - to emphasize word roots [shoresh, shorashim] etc., I may not necessarily be consistent with this last rule on capitalization, but even so the pronunciations should be intelligible.

In common usage, the Hebrew words are recognized by more common, though somewhat more variant and phonetically inconsistent transliterations.

These variations can confuse, hence the trouble taken, but I don't wish to trouble the reader further at this time.

Velikovsky comments on the widely accepted interpretation of YAM XUF as Sea of Reeds, considered more correct than the traditional Red Sea rendering.

It is true that XUF means reed, but the grammar is suspect, as XUFiYM is the plural, and the literal 'Sea of a Reed' seems strained. If one considers YAM to be a body of salt water, the strain is increased since reeds do not thrive in salt water.

Velikovsky acknowledges that the term XUF can also be pointed XOF and has the meaning of 'end' or 'terminus' implying perhaps the end of a landform such as a peninsula or the end of something connected with the sea.

An alternate Velikovsky reading is given as XUF, or alternate spelling XUFA[:] indicating a storm or disaster. Unless this is seen as a retronym (a name given to a place in a story only because of what will happen later in the story, not because of some earlier reference), it may give a clue to the location of the Sea of Passage only by indicating a relative storminess.

The traditional rendering of YAM XUF as the Red Sea may be more of a clue than it is credited with being. Velikovsky however, after considering just about every body of water in the region, even as far as the Aqaba Gulf, brings no more texts to bear, and lets the mystery remain.

MOUNT SINAI, A VOLCANO?

To readers of the Exodus account, the mountain of Moses, Mt.Sinai, HaR XiYNAY [Hebrew: Mountain of My Looking Down] also associated with, perhaps adjacent to or synonymous with Mt. Horeb, or HaR [H]OReb, the Burnt, Scorched, or Heated Mountain. Whether the names both refer to one mountain or even if the names denote two adjacent mountains, the exact location of the site referred to by these names provides a decidedly strong clue to the location of the crossing site and the identity of the Sea of Passage.

The Crossing of the Sea took the travelers 'out of Egypt,' and so in some definable way the Sea of Passage itself formed a definite border between greater Egypt proper and the Land of Midian, where the mountain/s in question can be found.

Velikovsky showed some interest in the early work of Charles Beke, who nearly a century earlier [1873] had considered Mt. Sinai to be a volcano because of the smoke and thunderings and lightnings associated with it.

Beke provided an important clue in that he recognized western Saudi Arabia along the shore of the Aqaba/Eilat Gulf as the ancient Land of Midian of the Exodus text. Beke sought a suitably volcanic mountain in this region, but found none.

YAT DESSOUI: PLACE OF THE WHIRLPOOL?

Velikovsky describes in detail a refrigerator-sized granite box-shaped naos, or shrine, inscribed with hieroglyphs, known as the Naos of El Arish, named for the city of its provenance, where it was discovered in use as a lowly cattle trough. The inscription is an Egyptian reference to the Exodus events, mentioning darkness, the death of the firstborn of Pharaoh, and the pursuit of 'renegades' or 'rebels' or 'evildoers' into the desert to a place in the east known as Pekharti.

Velikovsky recognizes this as the only other extant contemporary reference to the Place of Crossing, listed in the Exodus account as PiY Ha[H]iYROT [Hebrew; Place of Idols or perhaps alternately pointed PiY Ha[H]eYRUT - Place of Freedom]. The meaning of the Egyptian is unclear as the occurrence is unique, and the Hebrew may be open to other interpretations.

Also listed as perhaps the same place is a reference to a body of water, or place associated with a body or bodies of water.

The reference has been translated into English by one translator as "Place of the Whirlpool" without any explanation for the translation.

Here Velikovsky stops, associating the term 'whirlpool' with a violent watery convulsion at the sea during Pharaoh's battle with the escaping renegades or sand dwellers.

The apotheosis of pharaoh in this account compares with that of the Jewish legendary Midrashic literature; clearly Pharaoh rests at the sea bottom in each account despite much ancient handwaving eulogy to the contrary.

In stopping here at the 'whirlpool', Velikovsky sees no further clue as to its location other than 'in the east.'

The earlier French translation rendered the place name as 'Yet Dessoui.' Yat (or At, or even Hat, or Het) means 'place,' but the term 'Dessoui' was not a French word at all, much less a French word meaning whirlpool. Perhaps the word is Egyptian.

The form of the hieroglyph proved instructive. The glyph begins with a roof symbol, a word for 'place' easily enough, and it ends with the horizontal zig-zag lines that form the determinative for water, as one would expect, but the heart of the glyph proved most intriguing.

It consisted of two identical symbols representing knives - the older flint knives. Specifically two knives are shown, never one or three. Could this be literal flint knives (tes, or des) being conveyed? Perhaps a determinative for 'to cut' or 'to divide' as in 'part' or 'separate' was intended. I speculate that perhaps the knives are not to be read as tes or des or even tes-tes or des-des [dual plural tessoui or dessoui] but as shat or shat-shat or shattoui; the ancient word shat survives in modern use in Arabic place names such as Shat Al Arab, for example, and signifies a long narrow body of water such as an inlet, strait or gulf.

I still have no clue, and have not yet seen any compelling explanation as to why the translator associated the term 'whirlpool' with this particular hieroglyph.

Unless the name is a retronym, naming the place after the 'parting of the sea' occurrence only after the event, which would be chronologically inconsistent in the timeline of the story, we are left with a rather mundane reading that might be rendered casually as something like 'Twin Gulfs'.

We might look then for a place where two gulfs divide, with a prominence or peninsula separating the two. The land at the end of the Peninsula might be given a name meaning 'end' and the sea beyond named for this ancient Land's End (XOF), if not for storminess associated with the region(XUF, XUFA).

While Velikovsky was unable to complete the task of pinning down the exact location of the Sea of Passage or the specific dynamics of that event, he correctly placed it in context of a sequence of events known as plagues, all of which trace their origin to a single cause - the catastrophic close approach of gigantic comet/protoplanet Venus.

A careful look at the ten plagues as described by Velikovsky will yield important clues to the relative astronomical trajectories involved.

Further insight necessary to recognize the location of the Sea of Passage has come to light recently. This new insight comes from the the work of Ron Wyatt, David Fasold, and the team of Larry Williams and Bob Cornuke.

With this new insight, we come to understand factors involving the interplay of specific features of terrain and undersea topography with the special orbital dynamics of the Venus-Earth encounter.

VELIKOVSKY'S TEN PLAGUES

D[ts]aK @aDa[Sh] B[:]a[H]ab These 'magic words' are a mnemonic device for remembering in sequence each of the ten plagues of Egypt in the Exodus account. It is attributed to Rabbi Judah and is found in every Passover Haggadah [Book of Telling]. The list is as follows:

Sound	Letter	Name	Translation
1. D DaLeT	DAM	BLOOD	Iron Sulfide
2.[ts][ts]aDdl	[ts]FaRDEa@	FROGS	Frogs
3. K KaF	KiYNiYM	VERMIN	Flies, Scavengers
4. @ @aYiN	@aROb	BEASTS	Wild Animals
5. D DaLeT	DebeR	MURRAIN	Cattle Disease
6. [Sh] [Sh]iYN	[Sh][H]iYN	BOILS	Volcanic Ash
7. B BET	BARAD	HAIL	Meteorites
8. [:] [:]aLeF	[:]aRBeH	LOCUSTS	Locusts/Grasshoppers
9. [H] [H]eT	[H]o[Sh]eK	DARKNESS	Venusian Eclipse
10. B BET (MaKaT)	BKOROT	DEATH OF SELECT	Shaog-Earthshock

It will be seen that these plagues, as Velikovsky describes them, are in fact consistent with the near capture encounter scenario, but only if occurring in the reported sequence.

ORBITAL COORDINATES

Rabbinical tradition places the sequence of plagues in a protracted period of about two months in the early spring. The Passover event happens just before the first full moon after the spring equinox. We will plot the timeline of the events according to orbital parameters, and recognize the temporally coded data as distance coordinates describing the relative trajectories of the bodies involved.

The earth travels approximately one degree per day in its orbit around the sun. The earth travels approximately thirty degrees along its path around the sun each month.

To plot the events of the orbital encounter on a meaningful grid, we draw radial lines centered on the sun, emanating outward in the plane of earth orbit, one line for each degree/day of orbital travel. The lines for weeks and months are delineated accordingly.

Two sets of lines are drawn to mark the days - one marks each consecutive sunrise in Egypt [the yellow lines] and the other set marks each consecutive sunset in Egypt [the blue lines].

The yellow lines are numbered corresponding to the day of the month. It must be remembered that the Egyptians numbered the days from sunrise to sunrise, while the Hebrews number the days from sunset to sunset.

As the sun traverses the Egyptian sky, both numbering systems agree. At sunset, the Hebrew numbering system counts the night as belonging numerically to the following day, while the Egyptians wait until morning to increment their calendar date.

The length of one degree of arc at earth orbital radius is a convenient measure of distance in describing this type of encounter. We will draw concentric circles in the earth orbital plane, centered on the sun, and varying in consecutive radii by this amount.

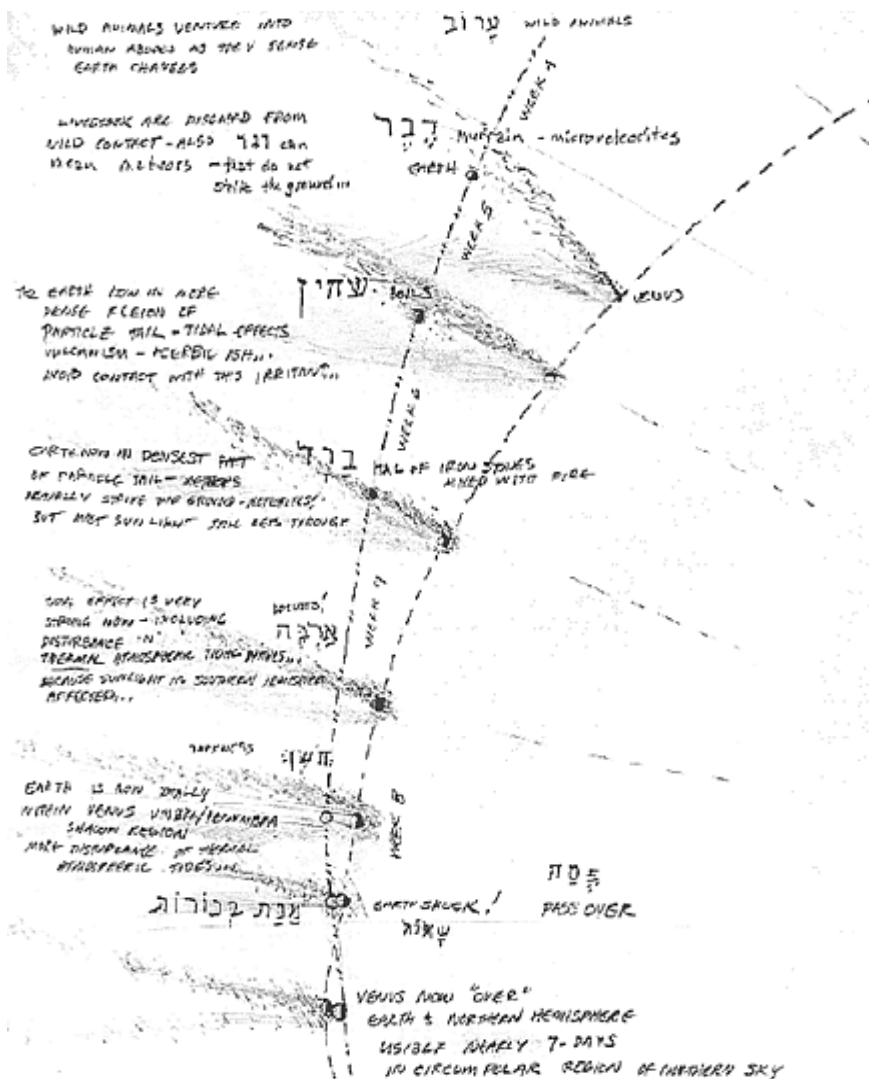
For greater graphic clarity, the earth orbit is emphasized by a brighter blue circle.

The grid of concentric circles is oriented with respect to the earth orbit such that the earth orbit lies midway between two of the concentric grid circles.

This arrangement allows the eye to easily pick out the earth orbit, and describes a distance within which earth size planets may eclipse each other.

The lunar orbital radius is plotted to scale, as are the astronomical bodies involved.

This type of scale plot is now practical as a digital model in a computerized CAD system. This type of modeling enables us to conveniently envision these types of encounters in a way that was not possible before.



With the coordinates established in this digital model, we now proceed to examine the plagues in sequence, noting orbital characteristics alluded to in the accounts of each plague in temporal sequence.

1. D DaLeT DaM BLOOD Iron Sulfide

The first plague is translated as Blood – the waters became Blood. Now the Hebrew DaM is literally blood, and [:]eDOM is the color red and also the country of the same name (note [:]aDaM the name of the first man, Adam, is from the same shoresh [root]).

If we understand DAM to be the word for a red liquid, or the word commonly chosen to technically describe this effect, the text takes on technical aspect we might have missed.

Waters affected were the Ye[:]OR(Nile), the Ye[:]OROT(canals hydraulically connected to the Nile and its branches) and lakes and ponds, uncovered wells and water troughs and buckets of wood and stone. Waters unaffected were water in sealed containers, covered wells and groundwater; ' the Egyptians dugged at the banks of the river for water to drink.'

Notice immediately that the river stank. Notice that the reddening did not restrict itself to the hydraulic flow of the Nile but took place in isolated ponds, lakes, buckets and troughs as well.

Any body of water open to the air was affected. This is highly suggestive of an aerial contaminant. Iron sulfide is the leading candidate in Velikovsky's scenario, and has a characteristic rotten-eggs sulfur smell.

The contaminant is seen as falling to earth from the fringes of the Venusian cometary tail envelope.

It is important to note that no object in the sky could be readily discerned as the source of the contaminant.

This iron based contaminant would be the same iron sulfide or iron sulfide based derivative that colors the Red Spot of Jupiter, that covers the outer surface of the once golden Mars, that reddens and fouls the many lakes and rivers of Florida and the Piedmont, and that accounts for the red coloring in the Corals of the Red Sea.

The same material may be the source of coloration of the marine fauna fed upon by the pink flamingoes of Florida that derive their dietary pink feather coloration therefrom.

The precious four inches of soil that covers the amazon rainforest floor is also an iron derivative.

Lake Okeechobee in southern Florida is a very shallow yet perfectly circular depression , with iron rich soil apparently superimposed on pre-existing strata in a circular configuration, with a band of said iron rich soil proceeding to the southwest all the way to the gulf, and equal in width to the lake itself.

It is reasonable to expect that as earth was dusted on a global basis with this red dust, we would note lasting effects on a global basis.

The astronomical import is that the source (Venus) was not readily visible at all and so was approaching in typical tail-first fashion near a line between Earth and the Sun, from beneath the plane of Earth orbit, or at least south of the plane intersecting Earth's equator at the time. The duration of the plague, traditionally about a week, seems reasonable as a time required for the river to wash clean and for the lakes and ponds to settle the contaminant down to a relatively harmless bottom layer covered with other sediments.

"Blood was throughout the land" says the exodus account, and so we might expect this aerial contaminant would have filled the air, the skies, and might even have deposited an identifiable layer upon the surface of the ground in diverse places, unless subsequent wind storms would have erased or reconfigured these surface deposits.

Moses is reported to have used a special staff, and also a serpent in his dealings with Pharaoh. Crowns from Twelfth Dynasty princesses show both the uraeus and the twin feathers of Shu, though without the disk, so far as I am now aware.

This may be an indication that the comet/planet Venus even then was seen in the sky for quite some time as a celestial curiosity or ensign long before it ever came close enough to cause the series of upheavals and plagues envisioned here.

'The secrets of the serpent are divulged' laments Ipuwer, the Egyptian priest lamenting the disasters that have befallen Middle Kingdom Egypt.

This may refer to the notion that certain snakes can be handled in a manner that locks them into rigid catatonia by adjusting a vertebra at the base of the neck. They can later be unlocked by subsequent adjustment, and were perhaps trained for this very use.

Perhaps Moses was endowed with a superior variety of snake from the desert of Midian, if this notion is the source of the reported snake handling.

The idea of resonant or sympathetic magic may underscore the importance of the use of a staff/snake as an emblem of the strange new star/planet now in ascendance.

It is interesting to note the time interval of a few weeks between the early deposition [of gas/very fine particles of mostly iron sulfide] and further subsequent cometary deposition of heavier particles somewhat later.

This delay, with a deposition-free period of strictly ecological upheaval, is consistent with the divergent nature of cometary trains.

Cometary trains tend to diverge based on the particle size. Very fine particles and gases are subject to the thrust of the solar wind, and so these very fine particles and gases are driven away from the cometary nucleus along a line leading directly away from the sun by the solar pressure that drives them.

More massive particles will not so readily succumb to this pressure, but will tend to follow a distributed family of orbital paths determined more by gravity and the respective relative trajectories in a gravitational N-body environment.

Earth will encounter/collide with this heavier particle train somewhat later.

In the interim, perhaps two or several weeks, the environmental ecosystem reacts to the initial disturbance.

2. [ts] [ts]aDiY t[s]FaRDea@ FROGS Frogs

Sulfur, or iron sulfide, dissolved in water, is toxic to fish. Most if not all of the gill breathing fish die at once, leaving only fish in the egg to repopulate. Now, without natural predation, frog eggs prolifically laid every spring now prolifically hatch in numbers unabated. The dead fish, the lack of algal harvest by adult fish, and associated effects provide a fertile ground for river scavengers, especially hatchling frogs.

It is probably no great exaggeration at all, considering the narrow bands of habitable lands on either side of the Nile, for the Exodus account to report that there was 'no place to set one's foot that wasn't covered with frogs.'

One might even view it as reasonable that the frogs would confine themselves to the narrow regions along the banks of the Nile, the Nile delta and associated lakes and ponds, leaving the high pastureland of Qesem or Goshen relatively free of frogs.

3. K KaF KiNiYM VERMIN Flies, Scavengers

The environmental ecosystem chain reaction to the initial disturbance continues.

In Velikovsky's view, the ecological effects of Venus's approach made propagation of flies and other scavenging vermin very favorable. With young frogs flooding the ecosystem, most insects on the wing within reach of the frogs will be taken as food, leaving an acute shortage.

Starving young frogs by the millions, unable to find further food or make their way back to the river, now die in heaps all at once, creating a sanitation problem.

As these are swept into piles for burning where possible, the remainder decay and are breeding ground for the flies and insects that escaped the inundation of frog predation because they were in pupal or larval stage at the time.

These vermin, now in absence of predation, with a plentiful, though temporary supply of frog carcasses, now experience a wave of population explosion - again confining themselves largely to the river and water bodies, leaving the high pastureland of Qesem/Goshen relatively insect free.

4. @ @aYiN @aROb BEASTS Wild Animals

As Venus approaches more closely, its tidal influence begins to dominate and overpower the lunar influence, modifying and increasing the magnetic and piezoelectric as well as tidal cycles. Such an effect might serve to disturb or even synchronize the breeding and gestation cycles of organisms that breed according to these cycles.

Wild and domestic animals often forego their natural boundaries before an impending earthquake or other disaster, perhaps because they sense these changes, or are affected in other ways.

Wild animals of all kinds might roam in from the desert, even through inhabited towns. These diverse assemblages of snakes in swarms, predators, jackals, crocodiles, and the like roving in search of some new shelter, are recorded as this plague on the towns.

This kind of erratic behavior in animals is noted by earthquake researchers. It is recorded as happening just before major earthquakes.

The astronomic implication is clear - Venus is now significantly closer, although still unseen, and by this time represents a dominating tidal influence.

5. D DeLeT DebeR MURRAIN Cattle Disease

Changes in the ecological balance, superabundance of carcasses, carrion and scavenging vermin and unaccustomed wild contact with domestic herds takes its toll as a murrain, or affliction of the cattle, now especially susceptible after prolonged disturbances.

Again, cattle closest to the river would be most affected.

Further, the Hebrew word DebeR can also refer to a meteor – so we might expect the associated occurrence of meteors that do not strike the ground at this time, but are temporally if not causally associated with the murrain.

The name Deborah is taken from this same root, although the name is usually translated as a honeybee.

The song of Deborah, as Velikovsky points out, contains many catastrophic references to these times of upheaval.

The third book of Moses is called Devarim (DebaRiYM) and means things to be discussed/studied/delved into - even common term "the Ten Commandments" is mistranslated.

These ten 'commandments' are NOT known as @eSeReT HaMi[ts]bOT - 'Ten Commandments' in Hebrew, but rather as @eSeReT HaDiBuRiyM – the Ten Speeches.

Velikovsky might have made much of this association. Velikovsky pointed out that large meteors and meteorites can be heard to make a terrible noise on reentry and impact. Velikovsky hinted that the sounds of these were heard at the Lawgiving, as he considered the onomatopoeia of meteorite impact acoustic signatures to be a great part of the divine 'speaking' that was done at this time.

6. [Sh] [Sh][H]iYN [Sh][H]iYN BOILS Volcanic Ash

Velikovsky takes his cue from Moses, who introduces word of this plague by launching skyward the ashes from the Kib[Sh]AN or oven. As these ashes launched at the hand of Moses draw graphic attention to the volcanic ash now drifting in, the warning is given: stay indoors and avoid skin exposure to this new irritant.

The ashes of Thera in the Mediterranean may have been active at this time, and are even now, when excavated or disturbed, particularly irritating to the skin causing lesions and boils on prolonged contact.

Mixed with the ash may be particles of Venusian volcanic ash, dust, and fine particles now impinging on Earth's atmosphere due to increasing proximity.

The astronomic implication now is that Venus' close approach has become so tidally dominant as to spawn or renew volcanic activity worldwide, and to rain fine particles into Earth's atmosphere.

Observationally, Venus is still unseen and so still remains beneath the plane of earth's orbit or at least south of the equatorial plane.

From an astrodynamic perspective, earth is now impinging upon a more dense region of the particle train, where instead of a mere nuisance of buzzing meteors associated with the murrain, the now more dense clouds of volcanic and/or cometary ash now actually begin to fill the atmosphere.

As the cloud of particles becomes even more dense, we might expect these more massive particles to actually strike the earth as meteorites.

7. B BeIT BaRaD HAIL Meteorites

This plague gives rise to the modern mysterious paradox "Fire and Ice".

Because stones mixed with fire that ran along the ground are reported, and modern investigators could envision only hailstones of ice falling from the sky; no other kinds of stones were envisioned.

This tradition even influences modern translation of the word BaRaD, and the circle of misunderstanding is complete.

Velikovsky breaks through this circle, and shows that stones of BaRaD are iron based meteorites mixed with liquid hydrocarbons. In all of the Egyptian plague literature, no mention of rainclouds or meteorological storms has come to my attention.

The Hebrew word translated as rain is Mu[th]AR – which may, I speculate, be related etymologically to words in related languages –e.g. Mithras, meteorology etc.

The standard word for rain in Hebrew is Ge[sh]eM, so the use of the M[th]R root word is interesting.

BaRaD may be derived or modified from the shoshet LaReDeT, meaning to descend, to go down.

A translation may be 'stones in descent' or some grammatical variant. Perhaps the stones hit with too much impact to be considered as having merely 'fallen', as the shoshet LiPoL, to fall, is not used to describe these stones.

The term may be an intensive to describe their emphatic forceful descent. Or, alternatively, BaRaD may be from another root unfamiliar to me at present.

Dwardu Cardona informs me that in semitic dialects such as even his native Maltese, BARAD means cold, and so is reasonably associated with hail.

I suppose then that the word for hail was used to describe stones falling from the sky – which people had experienced before, but care was taken to add that that these were not ordinary stones of ice that fell as a hail of projectiles – these stones were HOT, not COLD, they were made of IRON, and liquid FIRE ran along the ground in the form of flaming petroleum where these stones fell.

Again, the source in the sky for these stones remains largely unseen.

Astronomically, the protoplanet is now so close that the coarser particles in its cometary train, those closest to Venus itself, are now in sufficient proximity to rain down as meteorites.

We should expect proximity effects to increase in drama and intensity.

It is interesting here to note something one might not expect – the discontinuance of the meteorites. I consider that the meteorite train is flailing along in loose association with Venus according to N-body gravitational dynamics. The train is somewhat cohesive as such. The train may have been diverted into earth by mutual gravity effects but now moves relatively clear of further earth collision.

8. A [ː]aLeF [ː]aRBeH LOCUSTS Locusts

Perhaps the disturbances triggered early maturation, or synchronized the gestation of these creatures that breed according to tidal or multiennial cycles that are not completely understood. A study of their cycles and sensitivity to these effects might provide more clues to the exact timing of the close approach of the planet with respect to growing seasons, egg laying and hatching times and so forth.

An occurrence associated with this plague that yields immediate astrodynamical insight is the strong winds alternating in directions east and west, that bring the locust hordes and remove them. These winds are possibly due to disturbance in the thermal atmospheric tide.

Atmospheric tide has two components; thermal and gravitational. Under ordinary conditions the gravitational pull of the moon drives atmospheric motion analogous to the tidal motion of the ocean waters. This effect is measurable, but the thermal atmospheric tide is ordinarily twenty times more intense as a factor in determining air motion. The thermal tide is due to the earth and atmosphere rotating continually through the sunlit hemisphere on a daily basis.

The atmospheric motions generated by this effect are superimposed on local meteorological patterns. If the train of dust, gasses and particles were to occlude a portion of the southern hemisphere of earth in an east west direction, for example, one might expect this effect to drive the alternating strong winds that brought and removed the locusts.

If this is the case, one might expect the shadow of the Venus/cometary train system to be approaching a point where even the northern hemisphere itself could be eclipsed for some significant amount of time, with thermal atmospheric disturbances driving storm winds in terrifying darkness for perhaps days at a time.

9. [H] [H]eT [H]o[Sh]eK DARKNESS Venusian Eclipse

Venus, long invisible as the source of the plagues while approaching Earth from somewhat beneath the plane of the ecliptic along a roughly Earth-Sun line, now crosses that plane somewhere fairly close to earth along this line, actually eclipsing at least the northern hemisphere of Earth for some days.

Velikovsky notes the total darkness of three days in the Exodus account, and the seven days of darkness, including three days of total darkness, and other days of partial darkness spoken of in Jewish tradition associated with this plague.

Velikovsky compares this scenario with the reported nine days of darkness spoken of or perhaps alluded to in the Naos of El Arish, Ipuwer papyrus, Papyrus Harris and other documents.

If Qesem had (some) light, while in other parts of Egypt the darkness experienced was total, we might have evidence of the umbra/penumbra border intersecting Earth in that region.

In the Seven to nine days of darkness, of which at least three were totality, we have a clue as to the relative trajectories of the two planets, as a comparison of relative orbital velocities and a plot of the Umbra/Penumbra eclipse envelope conceptually yields.

The trajectory took Earth through almost three days of partial darkness, then into the dark core of Venus's shadow cone for three days totality, and nearly three days more of partial darkness as we exited the envelope.

Venus, after the darkness, has now risen above the plane of the ecliptic, and is for the first time visible shortly before sunset. The first glimpse of the object is reminiscent of a disk or lamb, or lamb's head, with the ears hanging down, perhaps. This description may contain more information, as in Hebrew the word for lamb also means 'disk'. It appears very close to the Sun. As the perspective changes, the 'ears' lengthen, and it takes on a new appearance.

Its form is a deep red color because of the dust-laden skies of sunset, and the red dust that remains in the stratosphere. Its shadow-divided tail points down, away from the sun, and gives the appearance of a blood red door in the sky at the horizon.

The MaShQOF, or lintel is a blood-red sphere of splattered fire, and two such prominences separated by the planet shadow form the two MZUZOT or doorposts.

Egyptian shrines from after the thirteenth dynasty gave special attention to the doors of temples and shrines, tombs and the like. The doors were covered with inscriptions, and later became characterized by the appearance of a winged disk over the lintel, sometimes with snakes, feathers and related emblems.

Jewish homes to this day carry a protective/commemorative/dedicatory inscription written on the skin of a lamb and affixed to the doorpost.

In orbital coordinates, we have the exact time of this appearance, if it is understood as coinciding with the tenth day of the spring month [:]abiYb, or NIXxaN. From this day, for four days, Moses ordered the people to tether a lamb to the front of their houses, to be slaughtered and roasted on the evening of the fourteenth.

We can understand this ritual in terms of sympathetic magic, or graphic symbolism.

The red Disk/Door/Lamb in the sky at horizon before has changed its aspect due to relative trajectory and changing perspective.

The 'Doorposts' now incline upward at some angle and a column of smoke and fire seems to ascend from the blazing disk's sun-illuminated lower crescent. The limbs of the crescent are the limbs of the Lamb/Disk now being 'roasted' over the flames of the setting sun.

It may be that the Door configuration was seen just before the Darkness, and now the order to tether a Lamb to the Door of the House is establishing the co-identity of the two phenomena in a ritual that will preserve the identity of the two encoded images for posterity by repeated drama rather than by secret texts and initiations.

Alternatively it may be that the approaching comet/planet was visually transformed in its aspect from the tenth to the fourteenth of Aviv ([:]abiYb) from the door configuration to the roasted lamb configuration. The latitude of Egypt may figure in to the picture here, as the door configuration would have had to appear roughly vertical from the latitude of Egypt at the time.

The blood of the lamb is to be sprayed with hyssop [:]EZOb (a finely branched plant that is a good hand-held dip sprinkler) into a graphic configuration over the doors of each house.

The MaShQOF , or lintel, is to be so sprayed, and also each doorpost, or MZUZaH, to make a graphic image of the approaching planet.

If the Ma[sh]QoF of a typical Asiatic dwelling in middle kingdom Egypt was a horizontal beam, then even this may contain data .

An illuminated hemisphere in the sky flanked by descending streams of red fire like a doorway in the sky at horizon would be represented by a semicircle of Lamb/disk Blood over the lintel with streams of blood sprayed down the doorposts like primitive aerosol graffiti.

In this thought picture, the horizontal lintel marks the terminator separating the illuminated side from from the dark side of the approaching Venus, much as our moon appears at its half moon phase.

Such may have been the appearance of Venus in its aspect as a Door in the sky.

Approaching obliquely from the direction of the sun, Venus was not at its closest approach during the days of darkness, but was to reach that point on the evening of the fourteenth, the night of the Passover, the night of the Earthshock, or Shaog, the night of the tenth plague.

Perhaps the command to eat the Lamb on the evening of the Fourteenth was to ritually associate the Cause with the Effect [earthquake] in a socially enduring form.

10. b BeIT (MaKaT) BKOROT SLAYING OF FIRSTBORN Shaog-Earthshock

As Velikovsky describes it, the point of closest approach happened at midnight in Egypt, and apparently at late midday in the Americas.

It is Day-Side Passage whose worst effects are recorded in the annals of the Maya and Aztec.

These legends, as Velikovsky shows, indicate a massive fiery winged-serpent in the sky (Qeutzal Cohuatl, Kukulkan) raining stones and naphtha on the land at mid-day.

While Egypt and Mexico are not antipodes, they are certainly far enough apart that for six or seven hours every day it is dark in Egypt while it is yet light in the Yukatan.

The event begins with an earthquake whose epicenter is the globe itself, as faults everywhere are overcome by the gravitational gradient, and the earth convulses in spherical harmonic vibrations like water-filled toy balloon struck by a playful child's hand.

Subjective experiences vary according to proximity to coastal areas, pre-existing fault structure, and the location of spherical node and antinodal crustal vibrations. Waves from specific quakes interfere and collide. There is terrible noise, tumult and commotion.

As regions semicontinental in area rise and fall like the center of a trampoline – in some places, where surface waves collide, whole fields of boulders and blocks of soil are levitated like so much gravel on a child's trampoline, and blown away by hurricane winds before they can fall again.

Massive tidal waves inundate the coastal regions of all continents. Anthropologists note with wonder that all coastal civilizations on every continent were decimated three thousand six hundred years ago, and replaced with migrants from further inland.

Western civilization seems to be reborn in the mid east, because it is a region of landlocked seas, with only narrow openings to the greater oceans beyond. Both the Mediterranean and the Red Sea communicate with the greater ocean beyond only through narrow straits.

Sea faring societies could recover and regain communication/commerce more quickly here, where the tidal wave damage was minimal.

Global corroboration comes in Velikovsky's chapter entitled simply "13".

A non-diffusionist corroboration is provided by the calendar date given by the peoples of the world for this event. In many widespread and varied traditions the day is remembered as a Friday, the Thirteenth Day of the Spring Month. Traditions, memories and superstitions abound about the evil to fall on this day, and these superstitions/dissociated recollections persist still. The message is one of unescapable calamity - no matter what one does on this day one cannot escape the devastation.

The Aztec/Maya tell it this way. People were awakened in the morning to the great earthquake, and all buildings were struck down. Only newlyweds, whose custom it was to spend the first year beneath a canopy or outdoor tent, were spared when the houses fell. Only these and field laborers and slaves who lived outdoors or in tents or makeshift dwellings were spared. People ran from the tumbling cities to the fields to escape, but the fields caught fire as flaming stones and oil rained from the sky. People ran to the rivers and streams to escape the flames, but these themselves boiled. People sought refuge in trees along the river banks to spare their feet from the searing ground, only to have the trees come alive swinging back and forth until they were thrown bodily from the branches. The trees' fury continued until the branches themselves came crashing down. In this we see trees responding at resonance to surface seismic waves. People ran to the caves and rocks, but these too collapsed. Survivors were spared only because that awful day finally came to an end.

At differing locations on the globe the story is similar, and the date if given in a compatible calendric system of reference, is the Thirteenth, with one notable exception: The Exodus Account. The people of Israel, notable among the peoples of the world, reckoned their days from evening to evening. Israel for its part has no tale of the dreaded thirteenth, but instead remembers the Passover on the night of the Fourteenth.

When the sun set in Egypt at the twilight of the thirteenth day, the Egyptians reckoned that night the night of the thirteenth, while Israel began their new calendar day, the fourteenth, immediately at sundown.

Velikovsky shows that in Egypt, the cause of the quake was not visible in the sky. He goes on to show that the plague refers to an earthquake, as the destruction of houses is primarily mentioned.

HaMa[Sh][H]iYT TaB[:]O [:]eL BaTeYkeM LINGOF is rendered in the English as 'The Destroying Angel will come into your houses to smite you'

The Hebrew actually says "the Slaughterer will come, your houses to strike" as in with a shattering impact blow, like the gore of an ox.

The same Hebrew root is used in the command to kill the Passover lamb

In Hebrew today a [Sh]O[H]eT is a butcher, and I imagine a Ma[Sh][H]iYT is a slaughterer/destroyer, although Hebrew has changed from its ancient forms and my knowledge is very limited.

In keeping with graphic symbolism we have an interesting message here to decode. The planet is identified as the slaughterer/destroyer.

Its emblem, sacred to the Egyptians, is itself destroyed/slaughtered.

The people destroyed the destroyer in effigy, and consumed it, taking its strength for their journey.

This move may have been calculated to evoke a certain response in the Great House of Pharaoh.

The impending action of the celestial Ma[Sh][H]iYT is clearly an earthshock, as the houses are targeted.

Velikovsky goes on to point out that BQOROT may be an intensive of B[H]OROT.

B[H]OROT, chosen, may be intensified to BQOROT, select or elite.

Etymologically, BQOR then, is related to a choice or selection of pre-eminence, and not to the literal Hebrew term for the first to be born, PeTeR Re[H]eM, or 'Opener of the Womb.'

In the tradition of Israel, the PeTeR Re[H]eM is usually chosen as the BQOR, the one to receive the birthright of pre-eminent inheritance; but Israel's history also hinges on the right of a father on occasion to alter the usual choice and select the BQOR from ones other than the PeTeR Re[H]eM.

The account mentions that 'there was not an [Egyptian] house where there was not one dead.' Rabbis commenting thought it unlikely that each and every house would contain a PeTeR Re[H]eM, and so graciously allowed that in such cases the oldest one present would be affected.

Some speculate that there was an Egyptian garrison of specially trained officials and soldiers, all PeTeR Re[H]eM, as are the Sikhs of India, and that their Barracks were demolished in the upheaval.

Velikovsky pointed the way to another important find in the text of the Naos of El Arish.

In the inscription of the naos, Shou, [known from other sources as the firstborn of Atum] is slain in the commotion during or after the darkness, leaving Atum (Velikovsky's Tauu Thom) to battle the renegades while his younger son, or perhaps grandson Seb, or Geb, remains at home to try to pick up the pieces of a shattered kingdom ripe for foreign invasion.

Astronomically, the significance of the tenth plague, aside from Earthshock and associated effects, is that the trajectory now places Venus above the Northern Hemisphere, visible both day and night as it inhabits the region of the circumpolar stars that never set.

THE SEVEN DAYS MARCH UNDER THE PILLAR OF FIRE

[:]OR NOGA [Sh]eZiBo MeXOF Ha@OLaM @aD XOFO 'The light of Venus that shone from one end of the Universe to the other' is a reference to the immense cometary train or tail of Venus at this stage.

During the day it shone right through the blue glare of the noonday sky as an immense @aMUD @aNaN or Pillar of Cloud, and by night, it shone more brilliantly as a self luminous @aMUD [:]e[Sh] or Pillar of Fire.

It is important that this appearance takes the stage only at this point in the account, where its trajectory demands that it so appear.

Venus having approached earth from beneath the earth orbital plane, was largely unseen in the northern hemisphere, except perhaps just around sunrise/sunset, until the time of darkness, when Venus finally crossed earth orbital plane.

It is important to consider that as Venus approached from beneath, sunward, it was pulled up by earth gravity, even as earth was pulled down by Venus gravity. After the darkness, the two have changed places, and now

Venus hangs above the northern sky, visible for seven days in all its awesome splendor in the region of the north, where the circumpolar stars never set.

The Seven Days March, leaving Qesem or Goshen in Egypt, following some route through the wilderness to the crossing point at the Sea of Passage, during which the Pillar of Fire/Cloud is continually visible, is corroborated in other legendary accounts that accord universal upheavals associated with Venus both on the thirteenth, and, seven days later, on the Nineteenth of the Spring Month.

ROUTE OF THE EXODUS

To pin down the exact route of the Exodus, one can begin from practical considerations, examine the historical references, and, as have previous scholars, be left with a fairly good beginning I would suppose, but nothing even remotely conclusive after 3,600 years.

We will not merely do the same.

The route can be fairly well fixed at its beginning, but the endpoint of destination determines the rest of the route.

Varying opinions as to the location of the endpoint, HaR XINaI, or Sinai, the Mountain of Moses, give rise to as many varying proposed exodus routes, each of which has excellent material to support it and eloquent, eminently qualified scholars to advocate it. Evidence, though, is the final arbiter.

In light of the 'new data' mentioned in the introduction, we will follow the evidence to the correctly located HaR XINaI, from it deduce the route taken and pinpoint the crossing site on the Sea of Passage. With this

location and its features properly taken into account, we will arrive at a detailed mechanism for understanding the dynamics of the Division of the Sea, leading to fruitful areas for further investigation and analysis.

PITHOM RAMSES

The starting point for the journey is just north of the Suez Gulf's northernmost extent, in the wadi Tumilat, bitter lakes region bordering on the high pasture ground suitable then for grazing. This is the site of the garrison frontier cities PiThom and Ramses, on the endangered eastern frontier of the desert buffer of Egypt, where the 'Wall of the Ruler,' a system of walls, canals and fortifications effectively blocked raiding Amalekite/Hyksos warriors invading from the desert peninsula and from their homeland in Midian, east of the Aqaba/Eilat Gulf.

From here, and all agree that Sinai, the ultimate destination by command to Moses, was located far to the east, the travelers would not travel west. This alone should call into question the proposed crossing sites on or near the northern end of the Suez Gulf, as the starting point of the journey is not seven days' travel away, as the site of crossing by all accounts must be. The travelers were granted passage past the Wall of the Ruler, as the Exodus account relates that they were driven out of Egypt with express permission to depart into the desert beyond.

WAY OF THE SEA

Some might have preferred to take the Way of the Sea, or King's Highway running along the Mediterranean from Egypt to Canaan. This route was rejected because it was heavily garrisoned and the Canaanites were well armed and less than receptive. Besides, the first destination was to be XiYNaY, and only later Canaan.

CROSS THE PENINSULA

The next best route is the ancient caravan route down the Eastern shore of the Suez Gulf, turning midway down the peninsula to cross the middle of the peninsula along the trails of intersecting wadiim, to exit on the Aqaba / Eilat Gulf at Neviot, and continue from there to Midian. This route was chosen.

TURN BACK, AND ENCAMP BY THE SEA

At the point of turning on this road, the travelers were commanded to 'turn back' and not continue across the peninsula's mid section but instead to 'encamp by the sea.' This, as the account takes pains to point out, is a wide, easily traveled road that leads to a dead end at the Southern Tip of the Egyptian Peninsula. Moses knew this, and he knew Pharaoh would know as well and be sure to pursue.

Pharaoh might have wavered at the thought of rounding up stragglers in the defensible mountain passes and wadiim of the mid-peninsula, but to round them all up easily at the Southernmost tip of the Egyptian Peninsula where escape is cut off by steep mountains plunging to the sea on the north, and by the sea on the east and south, leaving them at the mercy of His Majesty's forces arriving from the west, was irresistible.

NEW DATA - WYATT, WILLIAMS

For this appraisal of the Exodus route we are indebted to Ronald Eldon Wyatt, and to David Fasold, as well as Larry Williams and Bob Cornuke.

Ron Wyatt was successful in picking up the trail of Charles Beke, of nearly a century ago. No, as Beke finally declared, Sinai was not a volcano, but Wyatt determined that it certainly was in Saudi Arabia, at a mountain called El Lauz, or El Lawz, also known as Jebel Musa, the Mountain of Moses.

Wyatt correctly recognized the region as the ancient land of Midian, not far from Medina [a variant of the ancient place name] and Mecca. At the highest peak in the registry Wyatt found a mountain with an anomalously blackened summit that the locals held in fearful awe.

Wyatt returned with David Fasold, who mapped the features and provided the information for Larry Williams and Bob Cornuke to visit the site.

Williams and Cornuke were at last successful in bringing back pictures of the site. Their experiences and findings are detailed in a historically significant book, 'The Mountain of Moses' by Larry Williams. Now video footage is available in the new video release 'The Search for the Real Mt. Sinai'. Also a new book, 'The Gold of Exodus' by H. Blum gives further details of the Williams and Cornuke clandestine expedition to the site.

All those who visited the site did so at great risk to their lives, and contributed to the world the knowledge of the existence of this place and the evidences it contains.

Photos, video and text are available from Wyatt Archaeological Research, and also from the BASE Institute. The magazine BAR [Biblical Archaeological Review] carries advertisements for Williams book.

This work of locating and making public the features of the mountain of the lawgiving are monumentally important.

From the features discerned at this site and a series of sites leading toward the mountain, it is reasonable to conclude beyond doubt that the site is genuine.

With this mountain location in mind as the destination, Wyatt opted for a crossing site at Neviot, halfway up the Aqaba / Eilat Gulf where the undersea terrain is reminiscent of the Grand Canyon. Wyatt offers no physical mechanism for dividing the sea at this location, and I cannot now envision one.

CROSSING LOCATED AT ENTRANCE TO AQABA / EILAT GULF

Williams makes the case for the crossing site location at the entrance to the Aqaba/Eilat Gulf. The physical layout and submarine topography combine with the region's geology to provide elements crucial to this hypothesis.

GREAT AFRICAN RIFT

The Great African Rift spans nearly a third of the circumference of the globe, from central Africa opening into the Red Sea, entering the Aqaba/Eilat Gulf, continuing northward to Aqaba/Eilat, the twin cities for which the Gulf is named, and still farther north as a land canyon called the Arabah, containing the Dead Sea, the Sea of Galilee, and continuing even farther to the north into the countries beyond. In a planetary encounter, this region will be seismically active.

The Aqaba/Eilat Gulf is an undersea canyon more than a mile deep, similar in dimensions to the American Grand Canyon. Any trip traversing terrain like this would have been described with words like LaReDeT to descend, and some term to describe ascent, difficult in the Grand Canyon for all except pack mules. No mention of elevation change is mentioned in the account.

Instead the word @ObeR is used, meaning to cross, to go over, to traverse, as one might ford a shallow stream or cross an open plain. Undersea canyon walls are not in the account.

Williams points to a special underwater feature at the entrance to the Gulf. It is best described in Williams words - an Underwater Land Bridge.

UNDERWATER LAND BRIDGE

The structure appears to be lithified alluvium, an extension of the same shallow beach formation that lines the eastern shore of the Suez Gulf. The formation seems to have been formed as water moved sediments and lithifacants eastward, and in this process the pre-existing canyon at the gulf entrance was spanned by an alluvial dam extending nearly to the surface.

The structure is flat on top, several miles wide and more than ten miles long, completely spanning the Gulf entrance.

Except for a dredged channel, ships cannot pass. One can walk out for miles along this bridge in water only waist deep.

On the north and south faces, the dropoff is precipitous, plunging to more than 5,000 feet deep on the northern face, and to more than 7,000 at the southern face.

The northern and southern faces are each concave, forming natural funnels where the rift passes beneath the structure.

SEISMIC SEA WAVES

Seismic sea waves travel low, long and fast in mile-deep water: about one or two feet high or so, about 5,000 to 6,000 feet long and about 500 to 600 miles per hour. In shallow water, things change.

These waves now travel high, short, and slow, becoming walls of water as they break ashore: 150 -250 feet high, 1,000 ft long or less, and at about 40 - 60 miles per hour.

If the shore is shallow and gently sloped, the sea will drain away for miles from shore for as much as several hours before returning as a wall of water obliterating all in its path. A funnel shaped coast or undersea feature can amplify this effect.

TWIN TSUNAMIS

Seismic sea waves or tsunamis will be generated simultaneously on both sides of the land bridge during seismic activity. The case is nearly symmetrical: the water will drain off the bridge for some hours, then twin tsunamis, the walls of water of the Exodus account must by the laws of hydrodynamics arise, converge and collide on the bridge, with the effect amplified at the center where the funnel effect factors in most effectively.

MYSTERIOUS PILLAR OF FIRE

Velikovsky's Pillar of Fire, Venus, continually causes and coordinates the seismic and atmospheric activity.

The Pillar of Fire in the Exodus account seems to do some strange things though. It came and 'stood as a wall' between the two camps so that the one came not near the other all night. The Rabbis commented that this was a very special pillar, a very special wall. It gave light to Israel, while bringing darkness to the Egyptians.

How does Velikovsky's Venus come and stand as a wall? The answer is arrived at easily if we consider Midrash, gently correct Cecil B. DeMille, and take into account the gravitational atmospheric tide and the related gravitational tidal wind.

MIDRASH - TWELVE ROADS THROUGH THE SEA

Jewish legend reports the tribes made twelve roads through the sea as they fled the Egyptians. To understand this, we must gently correct Cecil B. DeMille, whose epic film 'The Ten Commandments' envisions the twelve tribes passing nearly single file through a narrow corridor flanked by towering walls of supernaturally restrained water.

Which tribe would want to remain last to face the Egyptians? Which tribe would want to go first on such a dubious watery excursion? Instead, the situation was this: The tribes lined up one beside the other along the shore, with the people in or near the surf and livestock on shore as a last ditch buffer against the Egyptians.

Nachshon Ben Amminadab went in up to his neck - on such a shallow bridge how far did he go?

ATMOSPHERIC TIDE

As Venus wheels around to its place on the western horizon and begins to loom in the sky, slowly rising higher hour by hour, a 'Strong East Wind' kicks up from the opposite direction, as though the Pillar of Fire were drawing the wind unto itself by some mysterious process. That process is gravitational atmospheric tide, or tidal wind.

As a hemispheric dome of Earth's crust and mantle, oceans, and atmospheric envelope rises at differential rates to meet the moon, fluid flow occurs in non solid media.

Water must flow inward from all directions to raise the three foot high average tidal bulge, and the air must do the same.

Tidal wind velocity is normally on the order of half a mile an hour or less.

With Venus approaching closer than the moon, the effect can be multiplied as much as 160 times or more, giving rise to tidal winds of 80 miles per hour or more, as a rough estimation.

Of course, water and crustal tides are multiplied similarly, hence the seismic activity in the trench, but the Red Sea and Mediterranean are essentially landlocked as far as oceanic tides are concerned.

With some imagination, we have all the factors in place to reconstruct the Sea crossing experience, with all above questions answered.

THE CROSSING OF THE SEA

The Pillar of Fire leaves its place in the north, wheeling around to the western horizon, there looming larger and rising by the hour. A strong east wind, the tidal wind, rises to hurricane strength from the East as air is drawn toward the rising pillar. Livestock mill about, and along the shore they form the leading edge of a dust/sandstorm blowing in the face of the Egyptian camp, immobilizing them. Observers at the shore look back at the Egyptians to find them enveloped in a wall of sand/dust rising in the tidal storm to form a wall between the two camps.

Translucent sand/dust Cloud/wall is backlit by the Pillar of Fire, which gives the 'wall' its light and seems to have merged with it. The pillar has become to the observer a wall standing between the two camps, giving light to Israel and darkness, as Rabbis saw, to the Egyptian encampment.

The Pillar rises higher, and the tidal wind subsides. Crustal deformation in this region outpaces oceanic tide in this region of landlocked seas, and the pre-existing underwater land bridge is exposed.

With the tidal wind abated, the sand/dust storm ceases, and the Egyptians advance. The order to flee onto the bridge and maintain strategic distance rather than engage the enemy at the rear is given. Israel marches onto the bridge.

Egypt marches in pursuit. Venus blazes and fills the sky lingering for hours overhead directly over the marchers, holding the bridge aloft by its pull.

Morning watch - approaching pre-dawn. Israel reaches Arabian shore, climbs to high ground and looks back.

Egypt is approaching the middle of the bridge. Venus rapidly sinks in the east. A wind begins to grow, this time from the west.

There is an earthquake in the trench.

Egypt is at the epicenter - chariot axles break, wheels are severed, bones of horses are broken, and the Egyptian advance is halted.

Twin tsunamis are seen to rise in the distance. Have those walls been there all night while we crossed?

The walls of water, some eight to ten miles apart from each other at the time of the quake, are hundreds of feet high (150 - 250 feet perhaps) and traveling at highway speed (30 - 60 mph or thereabouts).

I prefer to envision tall, slow waves to convey the drama - but let's be conservative here - take a 150 foot wall of water traveling at 60 mph for five miles and you've got one gigantic spectacle for about FIVE FULL AGONIZING MINUTES OF HYDRAULIC SEISMIC UNFORGETTABLE TERROR.

Personally I tend to think that the earthquake at this moment was of unusual magnitude, and that the waves were somewhat higher, and slower. Seen from just above sea level, these walls of water, higher than any visible building or landmark of human construction in the region at the time, stretching for miles and converging ominously, inexorably, inexplicably on the combined military forces of the world's leading superpower, made an impression that can never be erased from the collective memory of mankind.

These kinds of water actions can be simulated today in a hydraulic wave tank modeled to reflect the topography of this site - why speculate when we can simulate?

These figures of mine should be used as first iteration estimates in a physical or digital hydraulic and seismic model of the site described here.

Back to the moment... The walls of water finally collide - what were the Egyptians thinking in those final moments? The combined momentum of the twin tsunami launches a great volume of water shooting skyward, as the Egyptian naos of El Arish appears to mention - and, as the undersea funnels on either side of the bridge don't align perfectly, there was perhaps some whirling motion of the waters as the two waves collided. Perhaps some as yet uncited remembrance of this event guided the translator of the naos inscription.

The Pillar of Fire sank rapidly in the east, compared to its slow rise.

This is consistent with the gravitational whip of the last flyby part of the nightside encounter.

The sea would close with catastrophic rapidity as the comet/planet sank rapidly in the southeast.

This means immediately after the closing of the parted sea, the atmospheric tidal wind picked up again, this time from the west.

Josephus, the historian records that the wind reversed as described here, to bring the weapons of the Egyptians to the eastern shore.

The slaves combed the beach on the sea's eastern shore, retrieving the more excellent weapons of the fallen Egyptians.

If the Exodus had occurred hundreds of years later, the Egyptians would have been using mostly metal weapons which might have have sank in the waves - but at the thirteenth dynasty weapons technology level, the shields and spears and other weapons were made primarily of wood and leather - items which float.

So, Jewish legends that say the wind changed its direction to bring the weapons of the Egyptians to the children of Israel on the sea's eastern shore are seen here to be not so much hyperbole and fanciful exaggeration at all, but a natural technical event to be expected according to the dynamics of the Passover encounter.

It would have taken something beyond the laws of physics to PREVENT the weapons from arriving on the eastern shore - given all that we have discussed before.

The overwhelming series of events is seen here to be natural according to the physics of such an astrodynamic encounter, and to be remarkable [Understatements abound here] as evidence of CONTACT with the entity who established communication with us and guided us through all this.

The wonderful on top of astounding, superimposed on terrifying, going beyond awe inspiring, surpassing overwhelming nature of the whole series of events is recited each year in every home that celebrates the Passover memorial as commanded.

The recitation is known as the dayeinu [from day (sufficient) pronounced dye - so dye ay new = dayeinu "it would have been enough for us"]

It would have been enough if we had just escaped Egypt and the army was not destroyed in the sea! It would have been enough if the army was destroyed and we did not get their weapons! And so on... To the great credit of the escaped slaves, they DID realize what had just happened.

THE GOLDEN CALF

The episode of the golden calf is well remembered but not well understood. The night sky in ancient Egypt is portrayed glyphically by a woman, or a cow - both commonly known to produce milk, and have four limbs. The milk is the Galaxy [greek galaxias - milk] now called (appropriately enough) the Milky Way.

The navel of the cow/woman is the pole or pole star, about which the night sky revolves. The four limbs of the cow are lines dividing the sky into quadrants; the lines converge at the pole/navel and intersect the ecliptic at the four points of the orbit - the solstices and equinoxes. These four legs, then, are the pillars of heaven, the legs of the cow, etc.

Almost immediately the people realized that this blazing DISK with divided horns of fire had changed the entire sky. The pole was displaced - and the equinoxes were moved - THE NIGHT SKY just wasn't the same old cow anymore! The play on words DISK=(ng)egel=calf was irresistible. The calf is the NEW SKY brought into being by the DISK - (NG)EGEL[calf].

So, it wasn't some irrational fetish (like the rush to get the latest cute toy fad at gift giving time) that resulted in the golden calf - it was the result of supreme knowledge of ASTRONOMY by the newly escaped astronomer/technicians of Egypt.

The @EGEL ZAHAb (Golden Calf Coalition) perceived a power vacuum, since the Egyptian army was no more. . . and so they wanted to return to Egypt, command the labor forces, and RULE THE WORLD!

Problem was that Amalek(Hyksos) had already beat them to it.

Had the people returned to Egypt they too would have also been annihilated by Amalek.

In fact it was all they could do to fend off an Amalekite raiding party at Rephidim.

The chief problem with the @GEL ZAHAb coalition is that they were going directly against the ONE with whom Moses had been in contact.

These political upheavals and power structure determinations take on a reality in full context that far surpasses the pedagogical "faith" metaphors so often preached by the faithful over the centuries.

This is not a struggle of faith, it is a series of battles for political POWER.

But that is rightfully the subject of another, more advanced study whose implications continue to our day.

Suffice it must, for now, to say that the power structure was established and preserved that would carry word of the events down to our day, as has been done.

The entire Torah then, is seen to have a technical basis that we are only just beginning to have the facilities to perceive.

THE WOUNDED MOON

Jewish legend recalls the old moon as LebANAh- the white, but now the moon is known by other names. YAREa[H], the increasing, and perhaps others.

Midrash relates that at the time of Moses, the Moon became wounded terribly, and that the red glowing scars are now dark, but far from healed.

The Talmud relates that the moon lost some of its brilliance at this time, but that the brilliance will be restored at the time of the Messiah.

Venus, coming close enough to Earth to do what it did, would have also devastated the much smaller, less protected moon, especially since it may have passed much closer to the moon than to us.

We now know that the seas {scars} of the moon are pools of lava. The moon's mass center (core) is displaced severely from its geographic spherical center.

The seas predominantly appear only on this side of the moon, where the core was nearly pulled through the surface.

There are virtually no seas on the far side of the moon, and the heavy side of the moon is always toward earth.

In fact, the Mass concentrations are so erratic and asymmetric that it is impossible for a natural satellite to orbit the moon for more than a few decades before the orbit is thrown into instability and collapses.

NUMERICAL SIMULATIONS

Everything we have described or even hinted at so far should be used as the first iteration data set to begin construction of digital supercomputer models of the events under investigation.

The chief thing we learn is never to completely dismiss purported eyewitness accounts of any great event, even one so fantastic as this.

Our role is to investigate, not to scorn. I welcome any suggestions corrections, additions, and offers of collaboration. All errors herein are mine alone.

I have to thank Velikovsky, Wyatt, Fasold, Williams and Cornuke for their work, and for the information and insight derived therefrom, that has enabled me to get this far conceptually. I would welcome any help in pursuing these lines of investigation.

Any and all may copy and distribute freely paraphrasing, expanding upon and publishing at will anything I've mentioned or hinted at herein - just please have the courtesy to credit me as the source, and distinguish my work from what you may add. But beyond that - take this insight for what it may be worth, add your own and investigate - tell everyone and get them to help - let's all get together and really get to the **TRUTH!**