

# THE CANOPY, THE MOON, THE TILT OF THE EARTH'S AXIS, AND A PRE-FLOOD ICE AGE

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## KEYWORDS

Water Vapor Canopy, Atmospheric lapse rates, Satellite Orbits, Moon Kept Perfect Month and Year, Earth's Axis of Inclination, Fast Pole Shifts, Ice Caps, Permafrost, Transient Conduction

## ABSTRACT

An initial attempt is made to systematize different areas of study in that the Canopy, the moon, the tilt of the earth's axis, multiple ice ages, and geological history are all related and supported by Scriptures.

It will be argued that a vapor canopy existed around the pre-Flood earth but could not have survived the long winter periods of darkness which the poles experience today. A near zero angle of inclination would insure that the Canopy would receive continuous light over the polar regions. Symmetrical air mass movements would create the atmospheric stability required to maintain the Canopy. This paper briefly summarizes the Canopy but concentrates on the biblical and scientific evidence supporting a near zero axial tilt.

Our moon revolves about the earth at an approximate 5 degree angle of inclination to the solar ecliptic. Most of the planets satellites revolve around their planet's equator suggesting that at one time the earth may have had a 5 degree axial tilt. This reduced tilt from today's 23.5 degrees would mean colder temperatures toward the poles leading to pre-Flood polar ice caps. A possible ice age may have formed as the warm oceans of Creation Day 1 cooled.

A fast pole shift (earth roll over) is a favored mechanism, by this author, for changing the earth's axis and helps explain why the Canopy collapsed, as well as many other geological observations. It could also be responsible for destroying a perfect 360 day year where the moon kept a perfect 30 day month.

It will be argued that multiple inversions could help explain the 4500 feet of permafrost found in Yakutsk, Siberia. Calculations will show that it would take more than 50,000 years for permafrost to penetrate to this depth. It will be shown that a near zero axial tilt would decrease this time, but multiple pole inversions would deposit sediment over already frozen ground explaining the great depth of permafrost.

## THE CANOPY

That the Scriptures teach of a pre-Flood water Canopy has been agreed upon by many creationists for some time. But is a pure water vapor canopy technically feasible? Would it not mix and precipitate out? What about the winter season, especially at the poles? How could the Canopy survive there? To answer these questions, a computer model was developed and first presented at the 1990 ICC Conference in Pittsburgh, see Jorgensen [17]. A number of revisions were made and presented at the 1992 Twin-Cities Creation Conference, see Jorgensen [18].

It was concluded that frozen ice caps could have existed at the poles. Sedimentary data indicates that at one time the entire planet was tropical. If the Day 1 oceans were created uniformly warm around the entire globe, they could have kept the polar regions warm enough for tropical conditions for the first few hundred years after Creation. As the poles slowly cooled could the Precambrian ice age, suggested in the literature, have formed Zumberge & Nelson [36].

The following interpretation of Genesis 1 will help in understanding the nature of the Canopy.

## Day 1

God created the vacuum of space and the earth. There was a universal warm ocean and if there was no air, a pure water vapor atmosphere would be produced. There was no dry land, no light, no universe, no life. God was the "Light of the World" for the first 3 days.(Ps.84:11 and Rev.21:23). God's light was directional and produced evening and morning. The earth was rotating once every 24 hours.

## Day 2

God created an oxygen-nitrogen atmosphere in between the oceans and the water vapor. The water vapor was on top of the atmosphere and produced the Canopy. For the Canopy to have received continuous light at the poles (to keep it warm) the earth could not have had any axial tilt. This is not difficult to visualize as it was the only object in the universe and all dimensions would be symmetrical to the earth's equator.

The Canopy was the water vapor atmosphere resulting from the warm oceans created on Day 1 and separated by the air atmosphere on Day 2. A 90 deg.F. initial ocean temperature would create a 50 mb. water vapor pressure (0.05 atm., 1.8 feet of liquid water, or 550 mm.). This is simply the vapor pressure over the liquid water as can be found in any steam table.

A Canopy study by Rush and Vardiman [25] also favors a relatively thin 50mb. Canopy pressure. Today's atmosphere contains less the 1 inch of water as reported by Miller & Thompson [20].

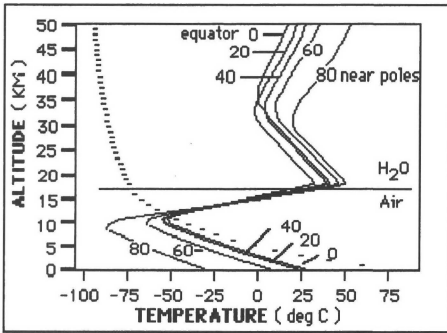
Miller & Thompson [20] define a moderate rainfall as 0.5 mm/hr and a heavy one as > 4mm/hr. For a 50mb. Canopy to rain out in 40 days and nights it would have to rain at a rate of 550 mm/40days/24hr/day= .57 mm/hr, a moderate rainfall. A global average rainfall of 1000 mm. per year falls today so over half that would have fallen in just 40 days and nights during the Flood.

Further studies are required to determine how fast the atmosphere could radiate away the heat of condensation from the Canopy. This calculation would help support the maximum rate of rainfall possible. Perhaps it would show that a thicker Canopy could not dissipate it's latent heat of condensation in 40 days. Fig.1a shows the vertical temperature profile of a 50 mb. atmosphere. Note the warm region at the air-water vapor boundary. This warm region kept the water vapor in a gaseous state and kept it from precipitating.

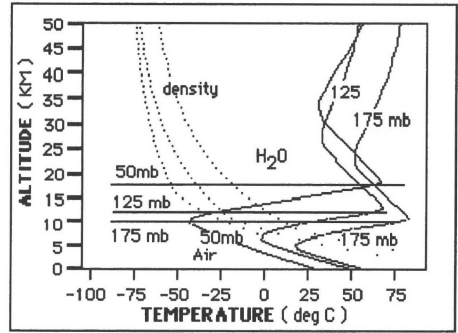
This model does support thicker canopies and the temperature profiles for various Canopy thicknesses are shown in Fig.1b, but note that a thicker Canopy of 175 mb. would produce equatorial temperatures of 50 to 60 deg. C. Could life exist in such climates? Perhaps one could argue that as the "Holy Spirit moved or brooded over the waters" in Genesis 1:1, He increased the natural vapor pressure to create a thicker Canopy, see Strong [30, Hebrew word #7363].

The Canopy could be compared to today's solar absorbing ozone layer at the 40-50 km. level in our atmosphere. Ozone absorbs solar radiation and warms that region of the atmosphere just as water vapor would. Ozone is produced by photochemistry which is a completely different phenomenon, nevertheless, its heat absorbing properties would create a comparable effect on the vertical temperature profile. A study of Fig.2 will show that the ozone layer is warmer because it absorbs solar radiation. A water vapor Canopy would also absorb solar radiation keeping it warm and preventing it's precipitation. Fig.2 also shows that even though the ground temperature decreases toward the poles the ozone, thus the Canopy, is actually warmer toward the poles because an absorbing layer in the atmosphere absorbs equal energy at any latitude (see Fig.3a). In addition, Fig.2 indicates that during the northern hemisphere's summer the ozone layer of the south pole is cooled due to the earth's 23.5 deg. tilt. This would mean sure death to the Canopy as it could not tolerate a 6 month period with no sunlight passing through it; it would condense and rain out.

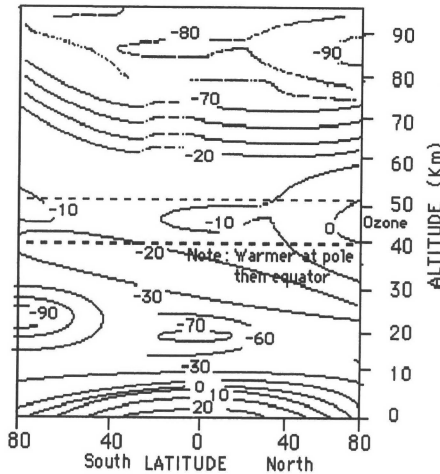
It is important to understand that it is argued that the Canopy was pure water vapor with no air mixed in with it. This is why the tilt of the earth's axis is so critical to the Canopy theory. The Canopy would require a near zero degree of inclination to produce the symmetrical conditions required to insure its survival. It could not tolerate any violent storms which would mix it with the air below. The evidence of a near zero axial tilt is given in the section titled "The Moon" below.



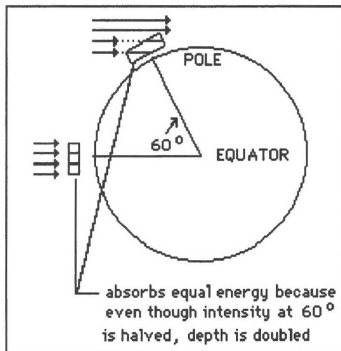
**Fig. 1a** PROFILE AS A FUNCTION OF LATITUDE  
50 mb CANOPY Jorgensen [18]



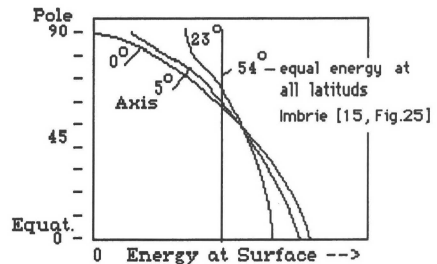
**Fig. 1b** PROFILE AS A FUNCTION OF CANOPY  
VAPOR PRESSURE Jorgensen [18, p.40]



**Fig. 2** Temperature Gradient in Deg C As  
A Function Of Latitude & Altitude.  
( From Nimbus 6 Aug 4, 1975 )  
Houghton [12, Fig. 12.9 p.199]



**Fig. 3a** Energy Absorption as a  
Function of Latitude



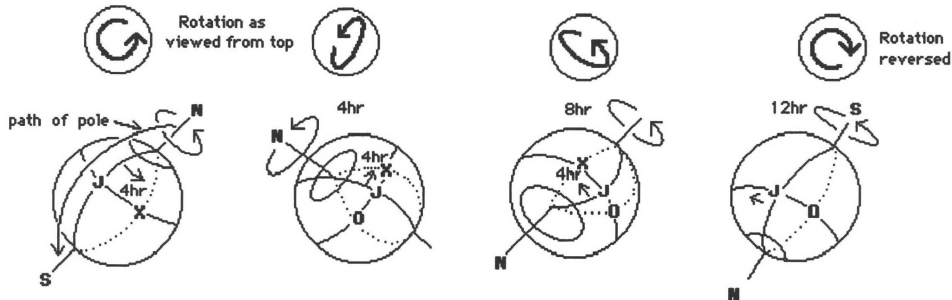
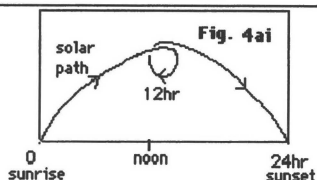
**Fig. 3b** Energy received at the  
Poles is reduced as  
inclination is reduced  
Strahler [27]

## Precipitation Of The Canopy

In the previous papers by Jorgensen [17] [18] it was argued that huge volcanoes from the "fountains of the deep" provided the precipitating nuclei required to condense the Canopy. As explained in Fig.4b, all ocean and atmospheric currents are reversed in a geographical pole shift and this could further help explain the destruction of the Canopy, which was a delicately balanced system requiring worldwide atmospheric stability and symmetry.

### Fig. 4a Astronomical Pole Shift

- Stars will be reversed but no other obvious effects
- Huge tidal waves and sea level changes
- Possible explanation for long day in Joshua 10:12-13 see below:  
**J** = Joshua Looking up at the sun ( you the reader are the sun)  
**X** = Joshua's position in 4 hours.  
**O** = Joshua's position 4 hours ago.



### Fig. 4b Geographical Pole Shift

- Stars Reversed
- Sun now rises in the west and sets in the east.
- Earth's magnetic field is reversed
- Huge tidal waves and sea level changes
- atmospheric and ocean currents reversed
- Possible trigger for Noah's flood and collapse of Canopy

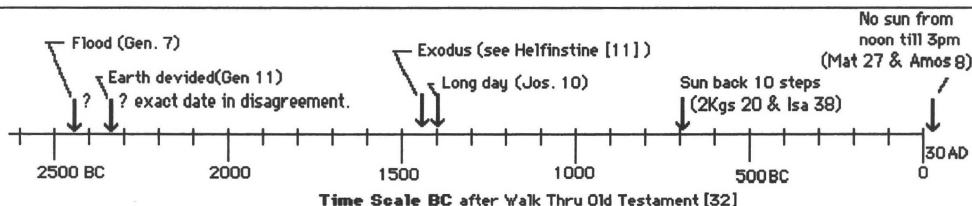
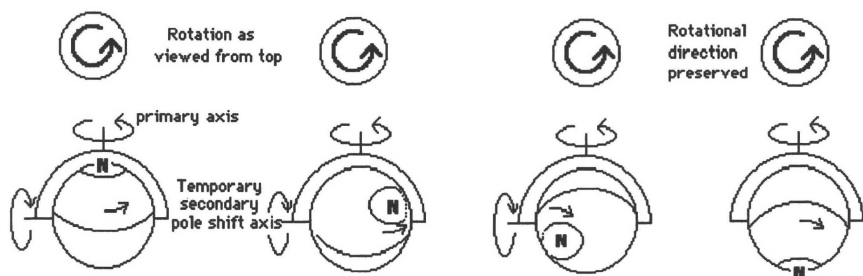


Fig. 4c POSSIBLE BIBLICAL EVENTS ALTERING THE EARTH'S AXIS either by partial or complete astronomical or geographical pole shifts

## PRE-FLOOD ICE AGE

The evidence of a precambrian (pre-Flood rock strata) ice age is clearly indicated in the literature and can not be ignored. Flint [6] has summarized features which indicate glaciation as follows:

- (1) Glacial diamicts or (tillites) in the strata. Electron microscope analysis on surfaces of sand grains can indicate weight of glacier.
- (2) Fossils of low-temperature organisms.
- (3) Glacial-erosional forms, and structures created during the deformation or stratified materials by thrust or drag of a flowing glacier.
- (4) Glacial rhythmites; dropstones.
- (5) Ice-contact stratified drift.
- (6) Outwash sediment.
- (7) Glacial loess.
- (8) Glacial-marine sediment.
- (9) Taluses, frost cracks, ice-wedge casts, patterned ground.

Most of these features have been identified in pre-cambrian rock strata indicating pre-Flood glaciers, see Flint[6] & Hambrey [9]. Molen [21] has argued that these features could also indicate gravity flows not requiring glaciation, nevertheless, they could also indicate pre-Flood glaciation as proposed below. Fig.1 shows the temperature profile with altitude for the Canopy atmosphere. Note that even though the Canopy grows slightly warmer toward the poles, the ground temperature decreases to below freezing. Fig.1 has been corrected for convection and general circulation in the atmosphere [18]. It is a common belief that the Canopy would moderate the temperatures around the globe. But Fig.1 shows that this is not the case. The general circulation of today's earth brings much energy from the equatorial regions to the poles but it is still not enough to bring temperatures above freezing. The Canopy could not tolerate the violent atmospheric storms of today, so the general circulation under the Canopy probably would not transfer as much energy to the poles as today. This would indicate pre-Flood polar ice caps. These ice caps may have formed slowly as the created warm oceans cooled. Today the deep oceans, even at the equator, are at 1 deg.C, the temperature at which sea water is the most dense [28]. This cooling period may have taken several hundred years allowing tropical climates during the early part of this period.

A near zero axial tilt would reduce the energy received at the poles as shown in Fig.3b. If the earth had a near zero tilt today, then the temperatures would be an average between the two equinoxes on March 21 and September 23. Equinoxes are the times when the sun is directly over the equator, a permanent position with a near zero tilt. It is easy to envision a cooler climate in this condition. In Minneapolis for example, there would more than likely be a permanent mild winter. Equatorial regions would be warmer as they would receive direct sunlight year-round. Exactly how warm would depend on how much cloud cover was over this region.

Guinness [7] records Yakutsk, Siberia has having 4500 feet of permafrost and as seen in Fig.5a, even at an extremely cold mean temperature it would take more than 50,000 years to penetrate to 4500 feet. Note in Fig.5b that most of the conditions ignored in the calculations will increase this time.

A large lake (8 sq.km.in area) drained near Tuktoyaktuk, N.W.T., Canada, some 150 years ago and today there is only about 35 meters of permafrost under the lake [22]. As can be seen in Fig.5a, an increase in depth by a factor of 10 increases the time by a factor of 100. With this in mind, it would take 15,000 years to reach a depth of 350 meters. If similar conditions existed at Yakutsk it would take 240,000 years to freeze to a depth of 4500 feet.

The permafrost at Yakutsk must have been frozen in layers of a few hundred meters and then buried with new sediment which would then freeze from the bottom as well as the top. Calculations show that a 500 meter layer could freeze in 1200 years under these conditions. This would indicate that the sediment was not local but was transported from the ocean floor or from some warmer climate and deposited. If this is true, there should be borehole data that shows an increase in temperature with depth and then a decrease in temperature as the relic frozen layer is reached (Fig 5d).

Geothermal gradients through the permafrost from borehole temperature data would help confirm or refute this hypothesis. The permafrost would be in a transient as opposed to a steady state condition as shown in Figs.5c & 5d. Vigdorichik [31] has found several layers of permafrost submerged under the Arctic Ocean out as far as 400 km. These layers are divided by unfrozen "talik" and have highly irregular upper and lower boundaries just as would be expected with several deposits.

Borehole temperature logs should be of great interest to Creationists as they should all be in a transient state. It takes hundreds of thousands of years for the deposits to reach equilibrium. Correlating the temperature data from the borehole should even help pinpoint dates of deposition or climate changes. This area requires further research and will be the subject of a future paper.

**HEAT CONDUCTION EQUATION** Williams [35] or most fundamental heat transfer texts

Rate of Heat Flow In = Rate of Heat Flow out + Rate of Change of Heat Storage

$$\frac{\partial T}{\partial t} = \alpha \frac{\partial^2 T}{\partial x^2} \quad \text{Differential form}$$

This differential equation can be solved for a *semiinfinite solid* to yield the following Incropera & Dewitt [16]

$$\frac{T(x,t) - T_s}{T_i - T_s} = \text{erf} \left( \frac{x}{\sqrt{2\alpha t}} \right) = \text{erf } w \quad t = \frac{1}{\alpha} \left[ \frac{x}{2w} \right]^2$$

Boundary	$T(x,0) = T_i$
Conditions	$T(0,t) = T_s$
	$T_s \neq T_i$

Where:

$T(x,t)$  = Temperature at any depth  $x$  at any time  $t$  (m,sec)  
 $^{\circ}\text{C}$  at desired depth (limit of permafrost)

$T_s$  = Mean Surface Temperature (deg C)

$T_i$  = Mean Initial Temperature of ground before  $T_s$  imposed  
 assumed to be geothermal gradient of  $3\text{C}/100\text{m}$

$x$  = Distance from surface (m)

$\alpha$  = Thermal Diffusivity ( $\text{m}^2/\text{sec}$ ) =  $\frac{\text{conductivity}}{\text{density} \times \text{specific heat}}$

$t$  = Time since  $T_s$  was imposed on  $T_i$  (sec.)

erf = Gaussian Error Function ( see Table )

$w$	erf $w$
0.00	0.00000
0.10	0.11246
0.20	0.22270
0.30	0.32863
0.40	0.42839
0.52	0.53790
0.60	0.60386
0.72	0.69143
0.80	0.74210
0.92	0.80677
1.00	0.84270
2.00	0.99532
3.00	0.99998

**RESULTS** Years to build various depths of permafrost at surface temp. of  $-20$  &  $-40$

depth (m)	Tuktoyaktuk $\alpha = 0.18 \times 10^{-6}$		Limestone Rock $\alpha = 1.14 \times 10^{-6}$	
	-20C	-40C	-20C	-40C
10	16	10	2.6	1.6
Tuktoyaktuk 35	150			
	50	400	260	64
		260	64	41
100	1600	1000	260	160
500	40000	26000	6400	4100
1000	160000	100000	26000	16000
Yakutsk 1400				
	1500	365000	235000	58000
		235000	58000	37000

Thermal Diffusivity  $\alpha$  for various materials

Clay =  $1.01 \times 10^{-6}$  ( $\text{m}^2/\text{sec}$ )

Granite Rock =  $1.37 \times 10^{-6}$

Limestone Rock =  $1.14 \times 10^{-6}$

Sandstone Rock =  $1.81 \times 10^{-6}$

Ice =  $0.1 \times 10^{-6}$

Soil =  $0.138 \times 10^{-6}$

Soil under Frozen Lake By Tuktoyaktuk =  $0.18 \times 10^{-6}$

Iron pure  $23.1 \times 10^{-6}$

Aluminum pure  $97.1 \times 10^{-6}$

[16, Incropera & Dewitt]

**Fig. 5a** Transient Heat Conduction for a *semiinfinite solid*

Items ignored in permafrost calculations	Expected effect on time
latent heat of solidification ( it takes as much energy to freeze 1 lb of water as it does to cool it 144 degF)	doubles or triples the years (Williams 1989)
water movement in the permafrost region	increases the time
chemical reactions within the strata	most are exothermic so would increase the time
radioactive decay	increase the time
Geothermal heat flow from below (world average is 0.04 W/m <sup>2</sup> or enough to melt 1/5 inch of ice per year) see Strahler 1976	increases the time
Increased thermal diffusivity with depth	decreases the time but diffusivity will only change slightly with depths to 1500 m
Initial ground created frozen or near zero	greatly decreases the time . How then did the fossils get into the strata ?

Fig. 5b Conditions Effecting Frost Penetration Rates.

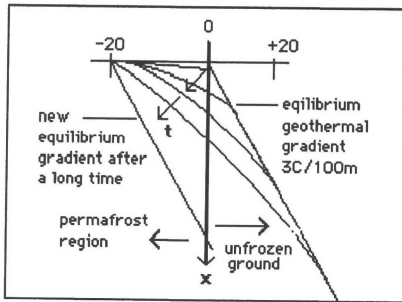


Fig. 5c Temperature isotherm development with time in response to a sudden drop in temp. of -20 toward a new equilibrium gradient.

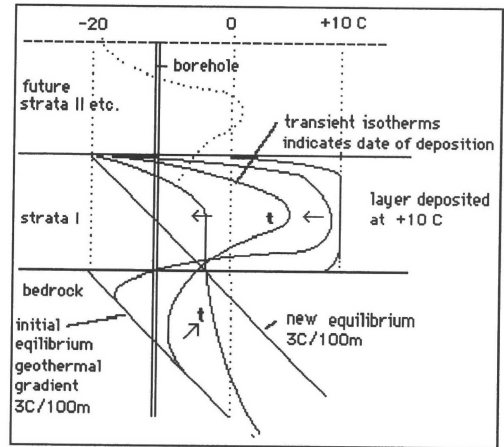


Fig. 5d Transient temperature isotherm development with deposit of unfrozen strata on top of existing permafrost

## Seasons

Genesis 1:14 and 8:22 seem to indicate seasons, thus axial tilt, but in Ps.104:19 the moon is a season (same Hebrew word mo-aw-daw ), Strong [29, Hebrew word #4150].

Perhaps Genesis 1:14 may be read as ... let them be for signs and wonders and for months and days, and years. The moon may have kept a perfect 30 day month. This also is in keeping with the text's important role of the moon.

Gen. 8:22 has also been cited to indicate pre-Flood seasons but here is read in the context of , from now on , ... while the earth remains ... summer and winter... Gen. 9:12 clearly indicates that the author is speaking ...for all successive generations.

It is also important to realize that even Hawaii has seasons though the summer/winter temperature variation is only a few degrees.

If Adam and Eve were to be comfortable naked in the garden there could only have been very mild seasons. Today the Tigris and Euphrates Rivers, if the location of the Garden of Eden, experiences 70 deg.F. temperature swings, see National Geographic [23]. It is doubtful that the Canopy could have moderated such a large temperature differential.

## THE MOON

### Day 4

The sun, the moon and the universe were created. (Note: earth then heavens in Gen. 2:4, Ps. 102:25, and Heb. 1:10) They were created to be a timepiece to early man. The year was made up of 360 days. Gen. 7:11 states that the Flood started on the seventeenth day of the second month. The flood prevailed until the 17 day of the seventh month which was 150 days ( Gen. 8:3-4 ) so the months each had 30 days. A 360 day year is also suggested by Whitelaw [34] and others.

Fig.6 shows the geometry of the early sun-earth-moon system. Today the moon has an orbital period about the earth of 27.32 days. This means that the moon revolves around the earth ( $365.25/27.32=$ ) 13.34 times per year. For the geometry of Fig.6 to work, the moon must revolve around the earth exactly 13 times per year. If the earth is moved closer to the sun to give a 360 day year the moon would revolve around the earth ( $360/27.32=$ ) 13.18 times per year. For the moon to revolve exactly 13 times per year the earth would have to revolve around the sun in ( $13 \times 27.32=$ ) 355.16 days. This would mean that the earth would have to be 91.8 million miles away from the sun instead of the present 93.5 million miles.

Perhaps the forces and energy exchange involved in a close pass of a near earth-sized object slightly slowed the earth's rotation rate from 360 days per year to the 355.16 of our days required to make the moon a perfect calendar. The same or another fly-by could then have caused the earth to move to its present larger 365.25 day/year orbit. It would be interesting to calculate the energy lost in rotation and compare it with the energy gain in the larger orbit. It is also important to realize that for a rotating body there is a torque exerted on it equal to it's moment of inertia ( $I$ ) times the change in rotation rate ( $\omega/\text{time}$ ); that is  $\text{Torque} = I * (\Delta \omega / \Delta \text{time})$ , see Halliday [8]. This may be the source of the torque which toppled the earth over and is left for future research.

Note in Table 1 that the earth's moon has a low orbital eccentricity and is synchronous, suggesting that its orbit has not been altered.

Whitelaw [34] has already suggested that the earth's day has been altered to accommodate a perfect 30 day month.

The original Roman calendar was lunar. The months were based on the moon's synodic period; each month began with a new moon. It was not until 46 B.C. that Julius Caesar instigated a calendar reform, see Abell [1].

If the moon was created to circle the earth exactly 13 times per year, then the full moon marks the end of each month and the early peoples would have a perfect timepiece. One could just look up at the phase of the moon and see what day of the month it was.

Eclipses occur when the moon passes between the earth and sun along the line of nodes as shown in Fig.7. If the moon circled the earth on the solar ecliptic there would be a solar and lunar eclipse every month, but because the inclination of the moon's orbit to the ecliptic is 5 degrees, an eclipse only occurs when the sun is along or nearly along the line of nodes. There exists a geometry, for the early created system, where there would be a total solar eclipse for 7 minutes at exactly the same time every year. Perhaps this was the sign marking the end of the year for the early peoples. The same geometry may also have produce a lunar eclipse marking the middle of the year.

It is interesting to note that the 360 degree circle matches the 360 day year inferring that perhaps early man understood the earth and moon's orbital nature.

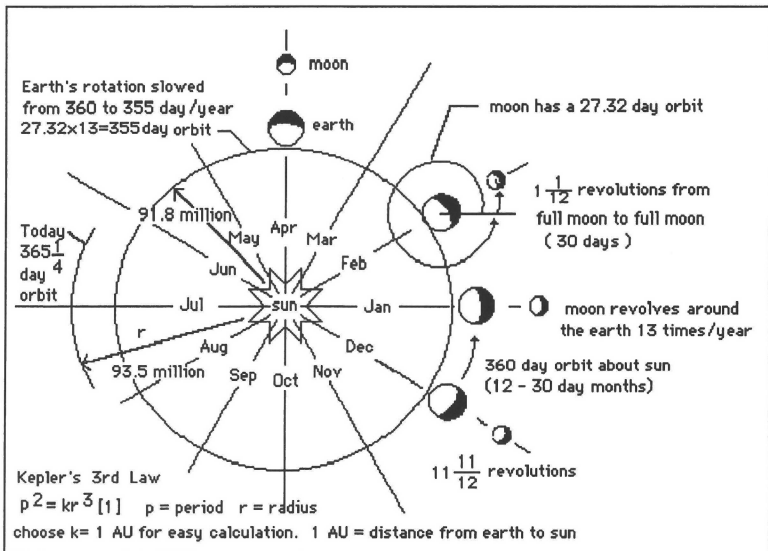


Fig. 6 Geometry for the moon to keep a perfect 30 day 12 month year.

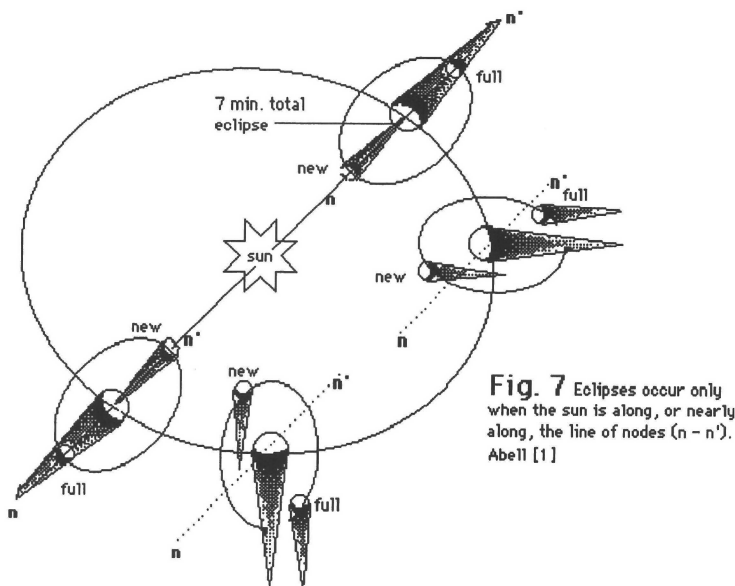


Fig. 7 Eclipses occur only when the sun is along, or nearly along, the line of nodes (n - n').  
Abell [1]

### THE TILT OF THE EARTH'S AXIS

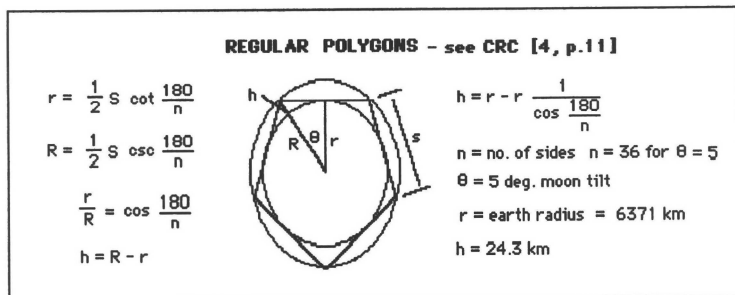
As seen above, the Canopy would need symmetry and a near zero axial tilt. Table 1 shows that all the major moons of the solar system orbit about their planet's equator within a degree or two. Note that the moons that do not orbit about their planet's equator have large orbital eccentricity or have retrograde orbits which could indicate capture or some external influences.

The earth's moon orbits from 18 to 28 degrees about the earth's equator. This is not what would be expected when compared to the orbital data of all the satellites of the solar system. The moon's orbital inclination to the solar

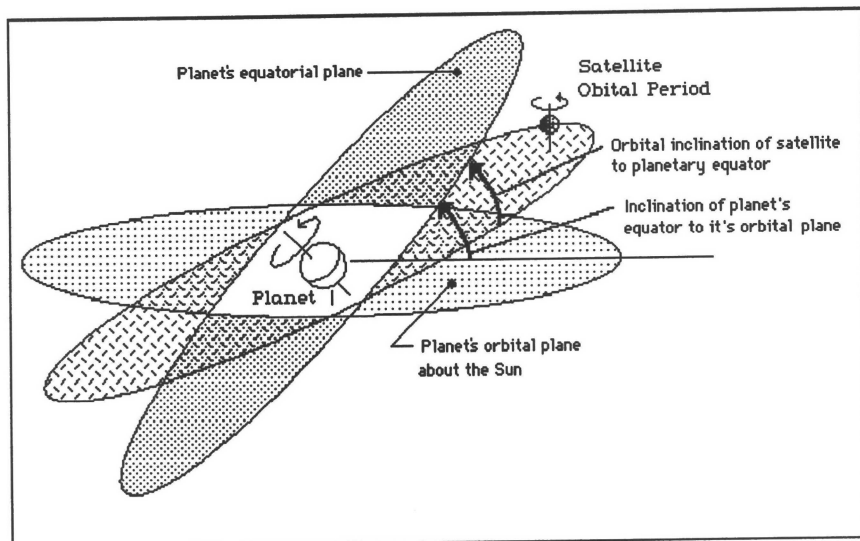
ecliptic is 5 degrees, see Abell & Morrison [1], so one might suspect that the early earth also had its equator (axial tilt) at a maximum of 5 degrees. Perhaps the Canopy could have tolerated a maximum of 5 degree angle of inclination. Figure 8 shows the calculation required to show that at a 5 degree angle of inclination any atmosphere above 24 km (80,000 feet) would receive continuous solar radiation. Note that these calculations assume that the solar rays strike the earth in a parallel fashion. Because the sun has a diameter of 108 earths, the rays will strike the poles at a very slight angle thus reducing the 24 km level of continuous light. This further supports a thin 50 mb. Canopy which would have had an 18 km. vapor to air boundary.

In 1873 J.N. Stockwell calculated the history and future of the earth's axial tilt, taking into account all known forces from the sun and planets. Simon Newcomb fit Stockwell's data into an empirical formula and published it. Newcomb's formula has been accepted for many years as the international standard, see Overn [24].

Setterfield [26] and Overn [24] have observed that earth's tilt in the past does not fit Newcomb's formula when comparing it to data gathered from various historical records. We are forced to look for other external influences to account for the discrepancies.



**Fig. 8** Calculating height of continuous sunlight for a 5 deg. tilt.



**Fig. 9** Geometry of Orbiting Satellites (see Table 1)



## How Did The Earth's Axis Change?

The most intriguing mechanism for changing the earth's axis are fast pole shifts as suggested by Warlow [33]. Warlow maintains that the earth has experienced several fast pole shifts or inversions as shown in Fig.4. Warlow realized that the Earth can, in theory, be turned over in two ways: either by moving the globe with its axis of rotation (astronomical pole shift Fig.4a), or by moving the globe about a fixed axis of rotation (geographical pole shift Fig.4b), see Huggett [13]. Astronomical pole shifts are easy enough to visualize by just turning over a globe. Geographical pole shifts are much more difficult to visualize. In a Geographical pole shift, the earth actually turns over while maintaining its rotation as seen from space. This has the effect of actually reversing the direction of rotation. This can be demonstrated by a toy 'tippe top'.

A geographical pole shift will also produce a magnetic reversal and cause the sun to now rise in the west and set in the east. The following comments can be made regarding such inversions. Statements are quoted directly from the paper by Warlow [33].

**Note:**  
The concept of a geographic inversion is difficult to visualize and it is suggested that a globe be used to help understand what is actually happening.

A perfect rotating sphere takes little to no energy to induce an inversion Gold 1955.

**Note:**  
Brown [3], and later Hapgood [10], and Whitelaw [34] have all suggested that the earth could experience a fast pole shift with rapid growth of polar ice caps. The earth has an equatorial bulge but the energy required for inversion is small relative to the primary spin energy. Warlow uses a magic 'tippe top', available in most toy or science stores, to demonstrate the small external torque required for inversion. The friction between the table and the 'tippe top' is enough to invert it.

Most investigators agree on the rapidity of change. Many workers are forced to conclude that sedimentation, glaciation, climate, water temperature, polar wander, and outbursts of volcanism occurred suddenly, and often such events occurred on a worldwide scale.

An ice age would require similar energy inputs as that required to turn the earth over.

A geographic inversion would also produce a geomagnetic reversal and explains the fact that the field does not pass through a zero state.

**Note:**  
Warlow maintains that because the earth's sense of rotation does not change during an inversion, the earth's magnetic field as observed from space does not change. But because the earth is inverted, the field, as observed by someone on the earth's surface, would appear to be inverted. A little thought and practice with a globe will prove this to be true. If Warlow is correct then we should not observe any magnetic reversals before the Flood as the first geographic inversion would have destroyed the Canopy. Also partial reversals or shifts should be observed for the times when the earth did not roll right over. Humphreys [14] has proposed that rapid up-flows of electrically conducting fluids in the earth's mantle have caused magnetic reversals. If this is correct, large forces would be required to trigger the strong convection currents required in the earth's mantle. A fast pole shift inversion could have been that trigger.

What is likely, is that a series of events occur, each varying in degree of completeness of the reversal and including minor tilts, so that the earth is left rotating about different poles between the events. These intermediate poles would then be recorded in the rock magnetism and they would show an alignment about a particular secondary axis during a limited geological period.

The inversion would take place quickly in as little as one day. The devastation caused would be less than one would at first suspect. At a uniform acceleration and deceleration there would only be 1/1000 of a 'g' force. This is hardly sufficient to spill one drop from a brim-full glass of water, but of course the effects on the oceans and other large bodies of water, and on the air masses would be considerable. The land masses too, resting on their viscous support, would show marked stress.

An earth turnover provides an explanation that accounts for the detailed behavior of the field during a reversal. Such a motion produces massive tidal waves, carrying vast quantities of debris and sediment from the ocean floors and depositing them over the land. The inevitable severe storms as the atmosphere tries to adjust to the new positioning of surface features will be augmented by ash and gas ejected by the equally inevitable volcanic activity. The continental plates themselves would be set in motion.

Note:

Baumgardner [2] requires a trigger for breaking up the oceanic lithosphere in his model. A pole inversion is an ideal mechanism.

Studies of polar wander have associated magnetic polar wander with wander of glaciated regions. Moving the earth's axis provides a better fit with the data than does the concept of plate drift alone. The glaciation in the recent ice age was not uniformly increased about the pole but is best described as a displacement of the polar cap. As the North American ice cap advanced south by 20 deg. the Siberian ice cap actually retreated by 10 degrees.

Note:

As shown by Vigdorichik [31] there is extensive submerged permafrost in the Arctic Ocean indicating ocean level changes.

A simply cooling of the earth would only extend a thin layer of permafrost uniformly around the poles. It would not yield massive glaciers. Displacement of the polar cap requires neither heating nor cooling and this is in keeping with the general evidence that the earth was not cooled overall during ice ages.

The very rapidly frozen mammoth remains would be explained by a rapid pole shift.

Note:

Helfinstine [11] has suggested that mammoth remains can be shown to have been deposited by a large tidal wave flowing northward across Siberia over the north pole into northern Europe and North America. He maintains this event can be traced to the Exodus of the Israelites from Egypt (Fig. 4c).

North American ice sheets are compatible with the concept of rapid shifts of the geographic pole and polar ice cap along the 60 deg. W. 120 deg E preferred magnetic polar wander path.

As the axis tilts the equatorial bulge will be shifted causing drastic sea level alteration. Today's difference in polar and equatorial radii is 21,500 meters (70,000 feet). In practice there is not enough sea to reach that extreme.

Catastrophic overturns observed in lake waters occur at the same periods all over the globe.

### **Cause Of Geographic Inversions**

Warlow concludes that the meeting with another cosmic body of comparable size and in close proximity for a brief period would be required to produce an inversion. This body may have been in orbit around the sun with an earth-crossing orbit which would help explain the repeated occurrences observed (Fig.4c & Fig.10). Future research is required to detect reoccurrences at equal intervals. The most likely candidate would be a now destroyed planet which had its orbit in the asteroid belt between Mars and Jupiter (Fig.10). This would help explain the multiple geographic inversions that seem to have occurred. If the source of inversions collided with the planet Ceres producing the asteroid belt as suggested by Velikovsky then it would have to have an elliptic earth-crossing orbit as suggested by Whitelaw [34]. Today there are numerous asteroids which have an earth-crossing orbit. Huggett [13] has also suggested that geographic imbalances might just be enough to cause a pole shift.

### **Biblical Support For Fast Pole Shifts (Fig. 4c)**

On the long day in Joshua 10:12 note that the moon stopped as well as the sun. This is just how an astronomical 12 hour pole shift would appear from the right spot on earth (Fig.4a). Fig.4ai shows the sun's path as it would appear to Joshua. An astronomical pole shift would cause the sun to appear to stop in the middle of the sky for a period of 12 hours and then set in the west. I could not get a geographical pole shift to make the sun appear to stand still. Joshua 10:13 does specifically state a whole day (inferring a 24-hour day) but this is taken to mean from sunrise to sunset. It is also interesting to note that in Joshua 10:11 great stones from the sky fell on the Amorites. Falling debris could very easily be associated with a rapid pole shift caused by a close fly-by of an extraterrestrial body.

In 2 Kings 20:9-11 and Isaiah 38:8 the sun went back 10 steps. This could indicate a partial geographic pole shift which in some parts would appear to be a west to east shift.

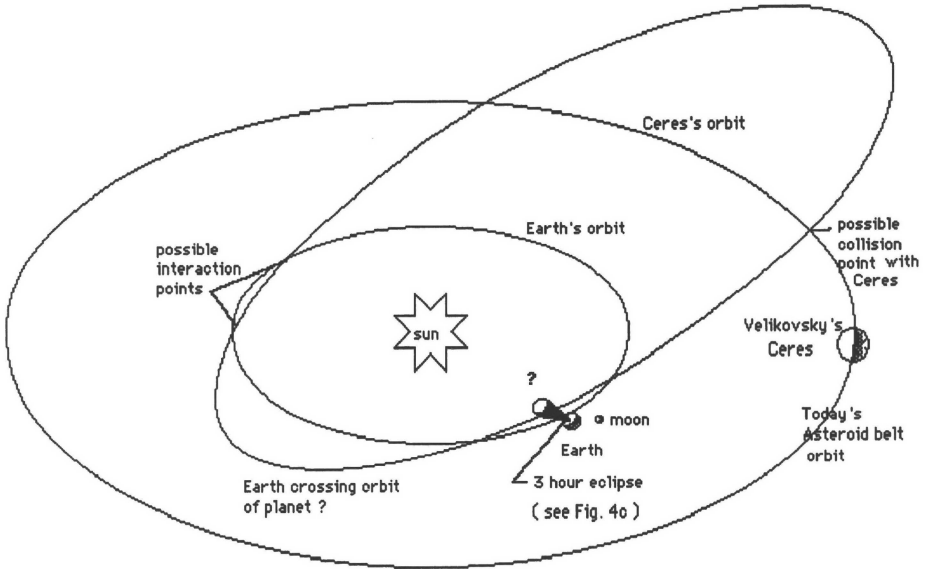
Amos 5:8 states that God darkens day into night and calls for waters of the sea and pours them out on the surface of the earth. This is not unlike what would occur in a fast pole shift.

Amos 8:9-10 talks about the sun going down at noon and there will be a time of mourning as for an only son. The Gospels all record that the sun was darkened from noon till 3p.m. the day Jesus was crucified in 30 AD. (Matthew

27:45, Mark 15:33, Luke 23:44-45). Matthew 27:51 also mentions that the earth shook and rocks were split. One can not argue that this was a solar eclipse as a total solar eclipse only lasts about 7 minutes. If an earth-crossing planet crossed in-between the earth and sun as shown in Fig.10 then perhaps there could have been a 3 hour total solar eclipse.

Isaiah 24:1 (King James Version) literally says the earth is turned upside down which is a polar inversion.

Job 9:6 indicates the earth has been shaken out of its place, further supporting the creation of a 360 day year.



**Fig. 10** Possible explanation of 3 hour eclipse in Luke 23:45 as well as source of fast pole shifts.

#### Other Earth History Supporting Inversions

Items are quoted directly from the Warlow [33] article.

Plato wrote: God himself guides and helps to roll the world ... and there is a time ... when he lets go, and the world turns about and by an inherent necessity revolves in the opposite direction. Hence there occurs a great destruction of animals which extends also to the life of man.

Herodotus the Egyptian claims that the sun had reversed its direction four times within their recorded history. The 18th dynasty tomb of Senmut has an astronomical ceiling which appears to be reversed.

In Chinese records there is a reference to the sun setting and then rising again soon afterwards.

In Mexican annals there is a reference to the night lasting a long time.

Note:

Velikovsky believed that two cataclysmic events occurring 3500 and 2700 years ago were documented in many historical writings, see Huggett [13]. It is interesting to note that 2700 years is in good agreement with the sun going back ten steps in Isa. 38:8 and 3500 years ago is in good agreement with Joshua's long day (Fig.4c).

## **CONCLUSIONS**

An initial attempt has been made to systematize different areas of study in that the Canopy, the moon, the tilt of the earth's axis, multiple ice ages, and geological history are all related and supported by Scriptures.

Fast pole shifts are an intriguing mechanism in correlating the various events involved in altering the earth's axis. It is also hoped that it has been shown that there is ample evidence supporting a near zero angle of inclination for the early earth, crucial to the Canopy. Fast pole shifts provides a method for the perfect symmetry necessary for the Canopy and also provides added insight into the Canopy's destruction as all trade winds and ocean currents are reversed during a geographical pole shift.

In addition, this Canopy hypothesis also supports the Scripture's teaching that the earth was created before the sun, moon, and stars.

The fact that the moon may have been a perfect timepiece to early man is a very intriguing concept and seems to be in keeping with Genesis 1:14-19.

Finally the realization that borehole temperature gradients of the various strata may demonstrate a transient temperature profile, thus young age, is very intriguing and deserves further investigation.

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