

The Nature of Earth Deluge Catastrophes

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The legends of Earth catastrophes (cataclysm from the stars) often start with the approach of a great comet followed by Fire, Flood, Hot Hail, Wind, Earthquake, Volcanic Eruptions and Erratic Movement of the Sun and stars in various combinations. The deluge events are evidently not like a tsunami but rather an enormous rising up of the sea. When the water recedes a new era starts, often with a changed climate and sometimes the Sun and stars rise in what was the West. The destruction is, of course, enormous and few survive in many areas. The recent understanding that the past planetary arrangement was very different from the present has given the clues to mechanisms by which axis of the Earth can temporarily shift but finally return to one of two stable locations. The mechanisms are surprisingly simple and subject to experimental confirmation and paleogeographic research.

1. Introduction

How the initial idea started. Sometime in 1950, the subject of conversation in the university refectory was a book by Immanuel Velikovsky that suggested that the day of Isaiah when the sun stood still actually happened [1]. If it did there would be a worldwide deluge and legendary memories of the event should be found in many parts of the world.

The Biblical flood. The biblical flood of Noah is widely known, but other floods such as the Deucalion and flood of Ogyges are known in European literature [2]. Legends of floods appear almost universally. At least one of these is linked to movement of the Earth and sky.

Maya eras. The first sun of 5 periods ended with a deluge [3]. By their reckoning we are now in the 5th period or aeon.

Tsunami inundations. Perhaps the severest inundation of recent times occurred in the Tasman Sea area in the early 15th century yet it is little known or researched [4]. Recent events are vivid in the memory at present but will quickly fade because they are destructive only in a limited area of the world [5].

Sea level rises of this interglacial period. Over the last 15-20,000 years the sea level has increased perhaps 130 m in three main episodes with times of very rapid rise at about 14000 yr BP, 11500 yr BP, and 7800 yr BP [6]. Present is taken as the year 2000 CE. Although these episodes may well have started with a cataclysm the rapid rise of water was not a sudden memorable inundation as some suggest.

2. What the Earth Does

Viewing Earth from afar. Neglecting other bodies in the Solar system the body of the Earth would start to roll slowly about another axis in addition to its normal diurnal rotation. After a few days the polar points about which the Earth continued to rotate would have changed, perhaps 10 to 15 degrees. The oceans will have been seen to inundate many of the low areas of land, but in other parts of the earth the ocean floor would be revealed. Over a matter of months the sea level would be seen to return roughly to the previous position. Depending on the location of the anomalous axis of rotation some parts of the world would largely escape the flood but others would be utterly devastated.

3. The Cause of the Inundation

Sea level determined by rotation. If the Earth were a solid sphere of polar radius the shape of the oceans (and Earth) would be defined by the equation

$$R = 6.3562 \times 10^6 + (21.7 \times 10^3) \times \cos^2 L \quad (1)$$

The second term of the equation gives the extra height of the water above the basic radius in meters. This is plotted in Fig. 1. One can see at a glance that a change of latitude will result in a change of equipotential (sea level). When the location of the poles change the water level will rapidly rise or fall everywhere on the Earth. The crust and the body of the Earth will take longer to respond but when it finally settles down the shoreline will return closely to what it was before.

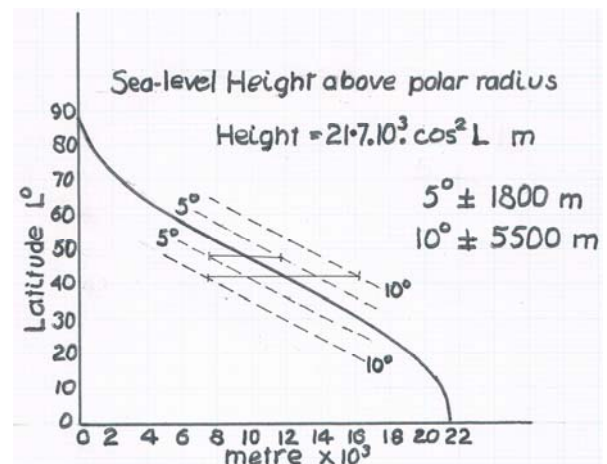


Fig 1. Sea level over polar radius solid sphere Earth.

As can be seen from the dotted lines that represent a pole change away from the pole along a meridian the rise or fall of sea level along that meridian is quite large for mid latitudes. For 5° shift the rise and fall is of the order of 1000m and for 10° it is about 1800m. It is sufficient indeed to cover mountains.

However at the 90° meridians away from the chosen meridian there would be little change so that the inundations, although covering large areas of the Earth would still leave locations where life would not be overwhelmed.

It is possible that the crust is flexible enough to significantly reduce the rise and fall of the ocean waters.

Sea level varies during total polar reversal. In the case of the more radical Earth movement when the Northern hemisphere actually becomes the Southern hemisphere, the inundation may actually not be as radical as in the case of the small pole shifts detailed above. The motion is really a fast precession.

4. Historical Evidence

The pole movements are of two varieties. The initial thought was that there was a mechanism that caused the poles to change from time to time; shifting from one stable location to another stable location. However it seemed obvious that the indications of latitude changes in the period from 4000 yr BP to 2500 yr BP was preceded and followed by periods when the location of the poles was where it is now. The thought that maybe the explanation of the Ice Ages could be the location of the North-pole in the lower part of Greenland and the thaw being due to the change to the present location was shown untenable when the cave art on the banks of the Merveilles River in France proved decisively that the north pole was then in its normal position [7].

The idea of a complete north/south reversal is a simple one, the axis stays in the same place. However for a temporary pole shift to give varying latitudes it seemed impossible unless there were some mechanism in the body of the Earth that could shift the balance. The idea of stable and unstable pole positions was then conceived about 2 years ago. The answer soon came.

A stable north over time evidence. The great pyramid at Giza (Cheops) dated about 4550yr BP is famously oriented north south.

Stonehenge on England's Salisbury plain is also oriented to the sun and moon directions that could only be correct if the North Pole were then where it is now.

The location of the cave entrances along the banks of the Merveilles River has already been mentioned.

Anomalous pole positions evidence. This evidence is without doubt more contentious because just to admit it suggests you are a crank. Others such as Prof. Arysio Santos, who believes that he has found Atlantis, cannot help but produce his proofs that a terrestrial pole change is impossible [8]; perhaps because he is convinced that volcanism caused the end of the Ice Age.

Peter James sets out his evidence of structures oriented to other than the north in his book *Earth in Chaos* [9]. Table 2 of page 17 gives a list of structures.

Immanuel Velikovsky has many references to changed latitude. E.g. 2800 yr BP according to Babylonian astronomical tables had a latitude of 34°57' (N or S?) whereas my information says it now has a latitude of 32°15' N. v. W IC p. 303. References exist to sundials that might be moveable, but the water clock at Karnak could not be shifted so that its calibration for about 12°N is very different from its present location at 25°47'N. v. WIC p. 310.

5. Paleogeological Evidence

Evidence preserved by coral. Study of the sea-level rise over the last 7000yr James Cook University, Townsville, Australia has revealed puzzling anomalies in the growth of corals that

has been the primary source of information. In the paper produced by Stephen E. Lewis et al. "episodes coral growth hiatus" clearly show in the records of relative sea level. [10] The hiatus periods are between 4800-4500yr BP and 3000-2700yr BP. It is in those periods when the reports of changes of latitude from the present seem to fall. If the latitude of the coral reefs was different during those periods, the hiatus in growth would be understandable and to be expected.

6. Paleomagnetic Evidence

Fossilized magnetism. In I. Velikovskiy's book *Earth in Upheaval*, there is a report of a study by G. Folgheraiter in *Journal de physique*, 1899 of fired pots [11]. He found reversed magnetic fields in pots fired about 2800yr BP but not before or later. This appears to be the same event Russian researchers have found and named the "Sterno-Etrussia geomagnetic excursion." [12]

Magnetized lava flows. In a recent South Chinese Institute of Oceanology research of sediments a very interesting correlation has been found between the short magnetic excursions known as Gothenburg, Mono Lake and Mungo (or Maelifell) and the Younger Dryas (YD) and Heinrich H, H1, H2, and H3 cold events.

The dates of the magnetic events fall in the range of 12.1-11.3 yr BP, 25.0t-24.0 yr BP, and 31.0t-28.0 yr BP. The cold events fall in the range of YD 11.5t-10.6 yr BP, H1 15.1t-13.0 yr BP, H2 25.2t-22.1 yr BP, H3 30.6t-28.2 yr BP, respectively. The implication is that major climatic events seem to correlate with magnetic events [13]. The short-term magnetic excursions are in keeping with the theory of pole shifting and terrestrial pole reversals being presented here.

7. The Cosmological Mover of the Earth

Petroglyph evidence. Anthony L. Peratt's book *Physics of the Plasma Universe* of 1991 details his experimental and theoretical work on plasma and electric current phenomena in the laboratory and as Birkeland currents in the solar system and the visible universe.

No doubt he was later surprised to find that men in all parts of the world several thousand years ago observed and quailed before the sight of massive plasma events visible in the sky. In 2003 [14]. Peratt reported that in every country of the world, except Antarctica, millions of petroglyphs exist to attest that massive aurora displays were visible from all parts of the world. From his laboratory studies Peratt was able to explain what they were seeing and detail how he knew that the scribes knew how dangerous were the X-rays from those electrical discharges.

Peratt advises that the Birkeland currents generating the mild aurorae of our time measure millions of amperes. The currents of the past aurorae must have been thousands of times stronger. They must have been surely strong enough to move the Earth.

Evidence taken from history and myth. Wallace Thornhill and David Talbott in their book *Thunderbolts of the Gods* of 2005 sets out well researched evidence to show that the thunderbolts of Thor were real. Some few thousand years ago the world experienced massive lightning strokes from approaching planets Mars and Venus. Those planets are no longer very close to earth but have moved to sedate orbits around the Sun. The electro-

magnetic activity must have moved them to where they are now and equally Earth must also have moved bodily from its previous orbit. This must have been so to achieve the change of year from 360 days to the present circa 365.25 days as reported by I. Velikovsky in *Worlds in Collision* [1].

8. Earth's Structure and Pole Change

How the poles move. The bodily movement of the Earth in a non-gravitational way is crucial to an understanding of how the poles of the Earth change location from time to time. When the electromagnetic forces move the Earth the solid core is left behind until it finally comes in contact with the inner face of the mantle. If the core moved along the axis nothing much would change except that the waters of the oceans would rise up on the hemisphere nearest to the core and retreat on the opposite hemisphere. The amount of rise depends on the difference in specific gravity between the liquid and solid core. That is on how much the center of gravity of the earth changes. It might be only 100meters or so, but a sizeable flood; yet by no means utterly catastrophic.

However if the core tried to lodge a few degrees away from the pole the unbalance of the situation would cause torques turning the body of the earth around an equatorial axis that would finally bring the core central to the axis of rotation. The pressure of the liquid core would hold the core out of central and the Earth would settle down with the poles shifted some degrees from the former position. A suggested detailed process and calculation is set out in the Appendix 1.

In the changed pole position there would be the catastrophic flooding detailed in Section 3. If the core moved more than a few degrees from the pole area the torques generated would cause rapid precession about an equatorial axis until the north and south hemispheres change place. The solid core would end up central. During the pole reversal there would be flooding but it would rapidly subside and is probably not the worst case.

However for the survivors the Sun and stars would now rise in the West. Peter Warlow in his "The Reversing Earth" gives a very good set of photographs between pages 86 and 87 showing how this reversal works.

How the Earth's magnetic field is affected. In the early 1990's computer type experiments were devised to mimic the proposed geodynamo in the center of the earth that generates and maintains the earth's magnetic field. I refer to the Glatzmaier and Roberts experiment [15]. The theory says that electric currents in the liquid core surrounding the solid core together generate and sustains the magnetic field of the Earth.

Every few hundred thousand years the strength of the field gradually weakens and reverses and builds up again. This reversal has been recorded in the rocks and takes several hundred years to make the changeover [16]. The experimenters had the luck for a changeover to spontaneously occur.

When the Earth undergoes a "pole change" event the liquid and the solid core do not turn over but carry on revolving about the axis that continues to point to the pole star. Consequently after a reversal event the survivors not only witness the Sun rising in the West but also experience a change of magnetic field. This "magnetic excursion" is of course recorded in any lava flows

etc. that occur during that time. Upon a reversal back to the previous state the magnetic field returns to the long term "normal".

This is one explanation to the magnetic excursions detailed in section 6.2. Possibly each event is also a reversal.

9. Conclusion

Deluge catastrophes. Approaching large comets and/or planets to the earth in the past have caused massive electromagnetic events that have resulted in pole changes and reversals. These changes have in their turn caused universal catastrophic floods. It is possible that large electromagnetic events have also been caused by unusually active excitation of the Sun from outside the Solar System.

Other catastrophes. The flood catastrophes are only one type of the cataclysms that have occurred to the Earth in the past. The event about 12700 yr BP that wiped out many species of animals appears to have been something like a mega Tunguska occurrence. Possibly there was a major comet involved that precipitated a polar reversal event using the mechanism treated in this paper. The following period was the Younger Dryas.

Future events. With the knowledge of the past it will be possible to make some preparation to avert a complete breakdown of civilization. For those who imagine setting up an alternative home on Mars may be a good approach I suggest that establishments at a high altitude in stable locations on a less hostile earth would be a better way to go. Particularly now we have the insights of the Electric Universe group of dissident scientists who suggest that Mars has been subject to major cosmic arc machining in the near past.

Concept proofs. Several experiments are required to definitely prove that the concepts set out above are well founded. The first is an experiment of the type carried out by Kristian Birkeland more than a century ago in a "Terrella" with the aim to demonstrate how electromagnetic forces can move bodies like the earth.

The other type of experiment could only be carried out in a zero gravity location such as the Space Station. This would entail a model earth with a moveable core to mimic the rolling of the body of the test sphere about an equatorial axis to take up a new pole position. I have tried this out with a model and it performs reasonably well but fails to satisfy.

10. Appendix 1

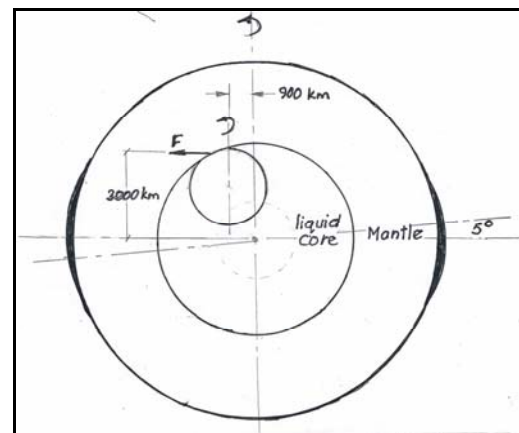


Fig 2. Mechanism for temporary pole change

To calculate torque T available from displaced solid core, first calculate the core volume V , based on radius $r_e = 1.275 \times 10^6$ m .

$$V = \frac{4\pi}{3} (1.275 \times 10^6)^3 = 8.68 \times 10^{18} \text{ m}^3$$

Next estimate that the mass density of the solid core exceeds that of the liquid core by $\rho = 2000 \text{ kg/m}^3$. Then M is the mass that generates a mantle turning torque.

$$M = \rho V = 17.4 \times 10^{21} \text{ kg}$$

Take the center of displaced core to be $r_d = 900$ km from the axis. Then calculate the centrifugal force F by the excess core mass.

$$F = Mr_d \omega^2 = (17.4 \times 10^{21}) (9 \times 10^5) (7.28 \times 10^5)^2 = 8.28 \times 10^{19} \text{ N}$$

Taking the arm about the earth center as $r_p = 3000$ km , then the moving torque T is

$$T = Fr_p = 24.8 \times 10^{25} \text{ N-m} .$$

For comparison, estimate the restoring torque of the equatorial bulge for 5° displacement of the equator from the axis. From an estimate of the excess mass for the 5000 km band around the equator with a S.G. of 2.7 gives a mass of 540×10^{19} kg. Taking $\frac{1}{4}$ of this mass at 550 km either side of the equator, I calculate a restoring torque of the bulge to be 5×10^{25} N-m.

Conclusion: The torque from the displaced core is far in excess of the restoring torque of the equatorial bulge. The body of the earth will indeed roll to change the pole location.

11. Appendix 2

This paper would be incomplete without acknowledging the work of Charles H. Hapgood with his book **The Path of the Pole** [17] and its 456 classified references. Hapgood uses climate changes, as indicated by paleoecology, to determine where the poles were situated at the time the flora and fauna lived.

He suggested that the poles migrated from one location to another in three episodes starting from 80,000 yr BP. I suggest that the changes were never gradual but always sudden and for much of the time the axis would have been in a temporary unstable position.

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