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Original Research Paper

Geophysics

A CRITICAL EVALUATION OF THE OBLIQUITY OF EARTH AND ITS ORBIT AROUND THE SUN. SHUTTLING OF THE SUN OR THE EARTH RESULTING IN SUN'S SOLSTICES. AN EXPERIMENTAL STUDY. PART II.

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ABSTRACT The modern scientific concept is that the earth axis is tilted 23.5 degrees and fixed in one direction in orbiting the sun in a fixed horizontal direction. Tilt is responsible for seasonal changes. Previous research proved that earth shuttles, and the Sun being powerful electromagnetic, gravitational energy and big size, is stationary, based on experiments on Sundial. Day and nights are due to the spinning of earth around its axis, and year on earth is due to earth's orbiting around the sun. Then why only in solstices earth remains fixed? In this part 2 study the shift of shadow on sun dial is studied and analysed over different places on north and south hemispheres of earth. The shift of shadow found moving opposite directions to when the Sun shuttles between lines of Cancer and Capricorn. The direction shift is possible if the earth shuttles north-south. In conclusion the solar solstices are due to the shuttling of the earth and not the Sun.

KEYWORDS : Sundial, Earth tilt, Obliquity, Solstices, Lines of Cancer, Capricorn, Equator

INTRODUCTION:

Science is unfathomable. Established truths change by next generation research. The earth is a free pendulum in space[1,2]. The established understanding endorsed by NASA is that the earth tilt is fixed in one direction and orbits around the sun in a fixed horizontal orbit[3]. Obliquity is due to the big object hit the earth, depletion of ground water etc. The fixed obliquity is questioned by many authors. The prominent being Milankovitch cycle theory. The tilt is responsible for changing seasons on earth[3]. The tilt was present when there was ice age on earth. Then how tilt is causing seasons on earth? It creates doubt. In previous publication the study of angle between two shadows during extreme sojourn of sun solstices found to be constant 60^0 which is not possible due to the Sun's shuttling and casting shadows on the sun dial [3, 4]. Vedic knowledge mentions six seasons in one year. Twenty-seven Nakshatras influence earth, its ecosystem and seasons [4]. Is this possible if the earth shuttles north and south during solstices. The earth spin from the west to east causing sun's east rising and west setting. The influence of absolute energy is utilized by the sun energy for rotation and orbiting the centre of the galaxy. The other energy- electromagnetic, sonic, radiation and gravitational energies in the cosmos influence the living beings too, on earth. Do these have no influence on the earth and the seasons. The shift of shadows on sun dial studied on sundial experiment carried out on various places on earth in north and south hemispheres and analysed. The results of the study of shadow on sundial and shift of the earth towards north and south in a year are discussed. The experiments are carried out from 1946 to 2025.The results analysed and discussed.

MATERIAL AND METHODS.

A sundial is used for study and experiment to prove or disprove the established understanding[3]. The present experiment is for the movement of the shadows. The time for the record of shadow was fixed. The shadow movement recorded throughout the year. The experiment carried out at different places on earth hemispheres on a fixed time.

Observations: The collective effects of the experiment recorded Table 1. The shadow movement observed in a fixed direction in both solstices. It was found opposite to when the sun shuttles. (See fig 'B'. earth centric. Sun in red, moves). The shadow moved anticlockwise during summer solstice and vice versa. (See fig. 'A'. solar centric). Table 1. The study was extended from 1946 to 2025. Depending upon the opportunity to travel for more than six months.

Table. 1. Study of shadow. Shows the earth centric (earth stationary) and solar centric (the sun stationary) situations during solstices and daily.

serial No.	Place on earth	Latitude and Altitude of the Place	Diurnal movement of Shadows.	Shadow movement in summer solstice	Shadow movement in Winter Solstice	Angle measured
	Northern	Hemisphere on	earth			
1.	Morar, Gwalior, M.P. India (1946 to 1952)	Latitude 26.23N, Longitude 78.13E	West to East As sun moves from east to west	Clockwise	Anticlockwise	60.25^0
1B	Lashkar. M.P. Imdia 1952 to 1965	---------do-----	--do--	--do--	--do--	60^0
2.	Delhi, India (1965 to 1973)	Latitude 28.6 N and Longitude 77.2 E,	--do--	--do	--do	60.3^0
3.	Car Nicobar, A & N Islands,India (1973 to 1976)	Latitude 9.15 N and Longitude 92.8E.	---do------	---do---	-----Do-	60.5^0
4.	Port Blair, A & N Islands India(1976 to 1979)	Latitude 11.6N, Longitude 92.7E.	-----do----	----do--	---do---	60^0
5.	Al Mmarj, Libya 1992 - 1993	Latitude 32.29N, Longitude 20^0E	---do---	---do---	---do---	60^0
6.	Hibbing, MNS, Minnesota, USA	Latitude 47.25N Longitude 92.56W ((2002 to 2004)	---do---	---Do---	---do---	60^0

7.	Hopkins MNS, U,S.A. multiple visits	Latitude 44.5N. Longitude93 .24W. (multiple visits)	---do---	---do---	----do--	60^0
South	Hemisphere	Of the Earth				
8.	Sydney, NSW, Australia. Multiple visits 2023-2025	Latitude-33.86S, Longitude-151.20 E. (2023, 2025, multiple visits)	---do---	----do---	---do---	60^0

Showing Shift of shadows at various places and angle measurement at various places on earth hemispheres.

The Sundial study on earth observed that the shadow of staff moved clockwise during summer in North hemisphere and anticlockwise during winter in north hemisphere. This is the same as during the day the sun rise cast shadow on west on sundial and moves to east as the sun sets in west. But the sun is stationery and earth spins from west to east.

DISCUSSION:

The existing knowledge which is taught in school textbooks is that the Earth is tilted 23.5^0 and remains tilted in one direction and earth rotates around the sun in a fixed horizontal orbit. This is endorsed by the NASA, (earth observatory.NASA.gov). The tilt is responsible for change of seasons on earth[1]. The sun shuttles between lines of Cancer and Capricorn twice in one year and recognized as solar solstice. M. Milenkovich theory is about the shift of axis of earth and earth orbit, and it is not steady but no mention of earth shuttling.

Considering the modern scientific and Vedic view, earth is a weaker planet and controlled by the sun. The day and night on earth are due to spinning of earth on its own axis from west to east resulting in rising of sun in east and setting in west. The year on earth is due to rotation of earth around the sun in 365 days. Then why not the earth shuttles and not the sun? Other reasons for the study were as follows:

1. Why is earth not disturbed by Sun's power? This needs confirmation and verification.
2. With axis tilt the imaginary lines of the equator, Capricorn, and Cancer are also tilted. The sun rays will not be perpendicular on equator during equinoxes. Does It need verification?
3. Sun rays falling on earth causing shadows of objects. Can shadow study justify scientific truth or lead to new scientific facts?
4. The gravitational force of North star has no influence on Axis tilted in one direction and steady. The south Star has any influence on the earth's axis. Some scientists have questioned this fact (prominent is M. Milankovitch[1].)
5. The Sun while rotating around the centre of the Galaxy passes through various constellations and stars, have no influence on seasons of Solar system [5]. The ice age and heat age on earth can be due to the sun's rotation in space around the centre of galaxy. If so, can these influence the Axis and earth orbit around the Sun,
6. If a powerful magnet can turn weaker magnet 180^0, so that North pole attracts south pole and vice versa. Then how Earth and its orbit remain fixed? How it is possible?

Milankovitch cycle is on the cyclical rotation of earth around Sun in a fixed orbit. It deals with the obliquity theory. Earth rotates on its axis causing Day and Night on earth. It deals with power of North Star responsible for rotation of poles of earth. Do this rotatory movements of poles of earth influence heat pattern on earth? This polar movement change tilt of earth axis. Then obliquity of earth and orbit around the sun in a steady fixed manner, becomes questionable.

In this part 2 study, the shift of shadow was analysed in the following conditions:

1. **Sun centric** when the Sun is stationery, and earth shifts north and south.
2. **Earth centric** when the earth is stationery and the sun shifts. As is observed from earth (see figure 1. 'B').
3. **The obliquity of earth orbit** around the sun when earth changes its position between the two imaginary lines of cancer and Capricorn.

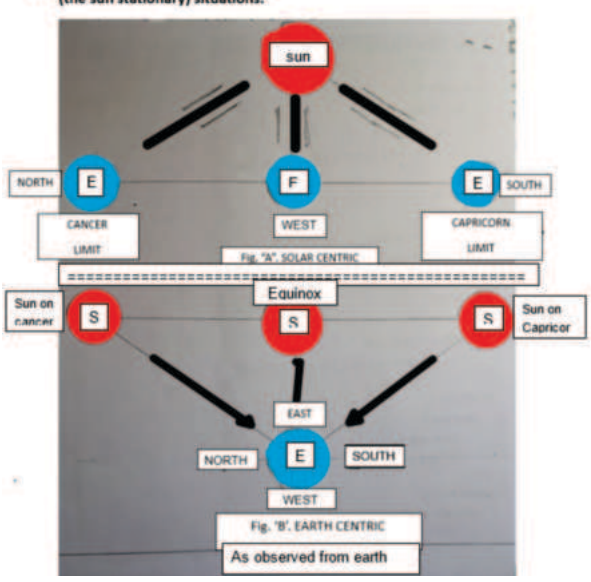
The sun centric the sun is stationery and earth shuttles. When earth shifts from Caner towards Capricorn the shadow shifts anticlockwise and vice versa.

The earth centric, as one observes from earth. The sun shuttles. The shadow moves clockwise when the sun shifts southwards from Cancer to Capricorn and vice versa.

From the observation the sun is stationary and the earth shuttles. The earth shift is akin to the spin of earth causing day and night on earth. This is contrary to the modern belief that the earth moves around the sun in fixed horizontal path and tilt is in one direction. This obviously changes the earth orbit twice in one year.

With shift of earth, the orbit shows obliquity of the orbit. At equator it was horizontal and on north and south the obliquity observed. The plane of the orbit is according to the shift of earth, that is 30^0. From the plane of the orbit a line drawn 90^0 it directs towards the north star at the horizon as one observes from earth.

Figure 1. Shows the earth centric (earth stationary) and solar centric (the sun stationary) situations.



CONCLUSION:

In solar solstices the sun movement is apparent and not real, as is in diurnal sun movement, sun appears moving. The Sun is stationary but appears moving. Earth shuttles 30^0 north and 30^0 south, from celestial equator of the sun. The change of seasons is due to earth shift, but multiple causes are responsible. Earth orbit around the sun is not horizontal and fixed but shifts according to the shift of earth north and south. The plane of the oblique orbit of earth around the sun is subject to the earth position. A line drawn at 90^0 to this orbital plane at the level of the earth directs to north star and its possible visibility at the horizon.

This research is for the acceptance and endorsement by

search from space. Accordingly, the nomenclature needs appropriate change to earth solstice, and the orbit of earth varies with earth position during shuttling.

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