

Selections from Immanuel Velikovsky's *Worlds in Collision* (1950)

' The astronomers and the geologists whose concern is all this should judge of the causes which could effect the derangement of the day and could cover the earth with tenebrosity, ' wrote a clergyman who spent many years in Mexico and in the libraries of the Old World which store ancient manuscripts of the Mayas and works of early Indian and Spanish authors about them.

[Immanuel Velikovsky, *Worlds in Collision*, 1950]

1. The aborigines of British North Borneo, even today, declare that the sky was originally low, and that six suns perished, and at present the world is illuminated by the seventh sun. [*Worlds in Collision*, p.52]

2. And he said in the sight of Israel. Sun, stand thou still upon Gibeon; and thou, Moon, in the valley of Ajalon. And the sun stood still, and the moon stayed, until the people had avenged themselves upon their enemies. So the sun stood still in the midst of the heaven, and hasted not to go down about a whole day (Joshua 10: 12-13). [*Worlds in Collision*, p.55]

3. The quotation in the Bible from the Book of Jasher is laconic and may give the impression that the phenomenon of the motionless sun and moon was local, seen only in Palestine between the valleys of Ajalon and Gibeon. But the cosmic character of the prodigy is pictured in a thanksgiving prayer ascribed to Joshua: 'Sun and moon stood still in heaven.' [*Worlds in Collision*, p.59]

4. In the Mexican annals it is stated that the world was deprived of light and the sun did not reappear for a fourfold night. [*Worlds in Collision*, p.62]

5. Sahagun, the Spanish savant who came to America a generation after Columbus and gathered the traditions of the aborigines, wrote that at the time of one cosmic catastrophe the sun rose only a little way over the horizon and remained there without moving; the moon also stood still. [*Worlds in Collision*, p.62]

6. In the manuscripts of Avila and Molina, who collected the traditions of the Indians of the New World, it is related that the sun did not appear for five days, a cosmic collision of stars preceded the cataclysm; people and animals tried to escape to mountain caves. 'Scarcely had they reached there, when the sea, breaking out of bounds following a terrifying shock, began the rise of the pacific coast. But as the sea rose, filling the valleys and the plains around, the mountain of Ancasmarca rose too, like a ship on the waves. During the five days that this cataclysm lasted, the sun did not show its face and the earth remained in darkness.' [*Worlds in Collision*, p.76]

7. According to the Lapland cosmogonic story ...the angry God spoke, 'I shall reverse the world, I shall bid the rivers flow upward; I shall cause the sea to gather itself up into a towering wall which I shall hurl upon your wicked earth-children, and thus destroy them and all life. ...(Jubmel) with one strong upheaval, made the earth-lands all turn over.' [*Worlds in Collision*, p.88]

8. The Finns tell in their Kalevala that the support of the sky gave way and a spark of fire kindled a new sun and a new moon. [*Worlds in Collision*, p.103]

9. The tradition of the Cashina, the aborigines of western Brazil, is narrated as follows; 'the lightnings flashed and the thunders roared terribly and all were afraid. Then the heaven burst and the fragments fell down and killed everything and everybody. Heaven and earth changed places. Nothing that had life was left upon the earth.' [*Worlds in Collision*, p.104]

10. According to the legends of the New World, the profile of the land changed in a catastrophe, new valleys were formed, mountain ridges were torn apart, new gulfs were cut out, ancient heights were overturned and new ones sprang up. The few survivors of the ruined world were enveloped in darkness, 'the sun in some way did not exist.' [*Worlds in Collision*, p.106]

11. CHINA: At the time of the miracle is said to have happened that the sun during a span of ten days did not set, the forests were ignited, and a multitude of abominable vermin was brought forth. 'In the lifetime of Yao [Yahou] the sun did not set for full ten days and the entire land was flooded.' [*Worlds in Collision*, p.114]

12. Thereupon Yaou [Yahou] commanded Hi and Ho, in reverent accordance with the wide heavens, to calculate and delineate the movements and the appearances of the sun, the moon, the stars, and the zodiacal spaces; and to deliver respectfully the seasons to the people. [*Worlds in Collision*, p.116]

13. Herodotus: 'No reversal of sunrise and sunset takes place in a Sothis period.' [*Worlds in Collision*, p.118]

14. Pomponius Mela, a Latin author of the first century. wrote: 'The Egyptians pride themselves on being the most ancient people in the world. In their authentic annals...one may read that since they have been in existence, the course of the stars has changed direction four times, and the sun has set twice in the part of the sky where it rises today.' [*Worlds in Collision*, p.119]

15. The Magical Papyrus Harris speaks of a cosmic upheaval of fire and water when 'the south becomes north, and the earth turns over.' [*Worlds in Collision*, p.120]

16. In the Papyrus Ipuwer it is similarly stated that 'the land turns round [over] as does a potter's wheel,' and 'Earth turns upside down.' [*Worlds in Collision*, p.121]

17. In the Ermitage Papyrus [Leningrad, 1116b recto] also, reference is made to a catastrophe that turned the 'land upside down; happens that which never (yet) had happened.' It is assumed at that time-in the second millenium-people were not aware of the daily rotation of the earth, and believed that the firmament with its luminaries turned around earth; therefore the expression, 'the earth turned over,' does not refer to the daily rotation of the globe. Nor do these descriptions in the papyri of Leiden and Leningrad leave room for figurative explanation of the sentence, especially if we consider the text of the Papyrus Harris-the turning over of earth is accompanied by the interchange of the south and north poles. [*Worlds in Collision*, p.121]

18. Harakhte is the Egyptian name for the western sun. As there is but one sun in the sky, it is supposed that Harakhte means the sun at its setting. But why should the sun at its setting be regarded as a deity different from the morning sun? The identity of the rising and the setting sun is seen by everyone. The inscriptions do not leave any room for misunderstanding: 'Harakhte, he riseth in the west.' " [*Worlds in Collision*, p.121]

19. The texts found in the pyramids say that the luminary 'ceased to live in the occident, and shines, a new one, in the orient.' After the reversal of direction, whenever it may have occurred, the words 'west' and 'east' were no longer synonyms, and it is necessary to clarify references by adding: 'the west which is at the sun-setting.' It was not mere tautology, as the translator of this text thought.[*Worlds in Collision*, p.120]

20. In the tomb of Senmut, the architect of Queen Hatshepsut, a panel on the ceiling shows the celestial sphere with 'a reversed orientation' or the southern sky. The end of the Middle Kingdom antedated the time of Queen Hatshepsut by several centuries. The astronomical ceiling presenting a reversed orientation must have been a venerated chart, made obsolete a number of centuries earlier. 'A characteristic feature of the Senmut ceiling is the astronomically objectionable orientation of the southern panel,' The center of this panel is occupied by the Orion-Sirius group, in which Orion appears west of Sirius instead of east. 'The orientating of the southern panel is such that a person in the tomb looking at it has to lift his head and face north, not south.' 'With the reversed orientation of the south panel, Orion, the most conspicuous constellation of the southern sky, appeared to be moving eastward, i.e., in the wrong direction.' [*Worlds in Collision*, p.120]

21. The real meaning of 'the irrational orientation of the southern panel' and the 'reversed position of Orion' appears to be this: the southern panel shows the sky of Egypt as it was before the celestial sphere interchanged north and south, east and west. The northern panel shows the sky of Egypt as it was on some night of the year in the time of Senmut.[*Worlds in Collision*, p.120]

22. Plato wrote in his dialogue, The Statesman (Politicus): 'I mean the change in the rising and the setting of the sun and the other heavenly bodies, how in those times they used to set in the quarter where they now rise, and they used to rise where they now set..' [*Worlds in Collision*, p.122]

23. According to a short fragment of a historical drama by Sophocles (Atreus), the sun rises in the east only since its course was reversed. 'Zeus ... changed the course of the sun, causing it to rise in the east and not in the west.' "[*Worlds in Collision*, p.122]

24. Seneca knew more than his older contemporary Strabo. In his drama Thyestes, he gave a powerful description of what happened when the sun turned backward in the morning sky, which reveals much profound knowledge of natural phenomena. When the sun reversed its course and blotted out the day in mid-Olympus (noon), and the sinking sun beheld Aurora, the people, smitten with fear, asked: 'Have we of all mankind been deemed deserving that heaven, its poles upturned, should overwhelm us' In our time has the last day come?' [*Worlds in Collision*, p.123]

25. Caius Julius Solinus, a Latin author of the third century of the present era, wrote of the people living on the southern borders of Egypt: 'The inhabitants of this country say that they have it from their ancestors that the sun now sets where it formerly rose,' [*Worlds in Collision*, p.124]

26. In the Syrian city Ugarit (Ras Shamra) was found a poem dedicated to the planet-goddess Anat, who 'massacred the population of the Levant,' and who 'exchanged the two dawns and the positions of the stars.' [*Worlds in Collision*, p.125]

27. The reversal of east and west, if combined with the reversal of north and south, would turn the constellations of the north into constellations of the south, and show them in reversed order, as in the chart of the southern sky on the ceiling of Senmut's tomb. The stars of the north would become the stars of the south; this is what seems to be described by the Mexicans as the 'driving away of the four hundred southern stars.' [*Worlds in Collision*, p.120]

28. The Eskimos of Greenland told missionaries that in an ancient time the earth turned over and the people who lived then became antipodes. [*Worlds in Collision*, p.126]

29. In Tractate Sanhedrin of the Talmud it is said: 'Seven days before the deluge, the Holy One changed the primeval order and the sun rose in the west and set in the east. [*Worlds in Collision*, p.126]

30. Hai Gaon, the rabbinical authority who flourished between 939 and 1038, in his Responses refers to cosmic changes in which the sun rose in the west and set in the east. [*Worlds in Collision*, p.126]

31. In Voluspa (Poetic Edda) of the Icelanders we read:

'No knowledge she [the sun] had where
her home should be,
The moon knew not what was his,
The stars knew not where their stations were.'
Then the gods set order among the heavenly bodies
[*Worlds in Collision*, p.130]

32. The Aztecs related: 'There had been no sun in existence for many years ..[The Chiefs] began to peer through the gloom in all directions for the expected sight, and to make bets as to what part of heaven [the sun] should first appear ... but when the sun rose, they were all proved wrong, for not one of them had fixed upon the east.'" [*Worlds in Collision*, p.131]

33. Similarly the Mayan legend tells that 'it was not known from where the new sun would appear.' 'They looked in all directions, but they were unable to say where the sun would rise. Some thought it might take place in the north and their glances were turned in that direction. Others thought it would be in the south. Actually, their guess included all directions because dawn shone all around. Some, however, fixed their attention of the orient, and maintained that the sun would come from there. It was their opinion that proved to be correct. [*Worlds in Collision*, p.131]

34. On the Andaman Islands the natives are afraid that a natural catastrophe will cause the world to turn over. [*Worlds in Collision*, p.132]

35. In Greenland also the Eskimos fear that the earth will turn over. [*Worlds in Collision*, p.132]

36. "In Menin (Flanders) the peasants say, on seeing a comet: 'The sky is going to fall; the earth is turning over!'" [*Worlds in Collision*, p.132]

37. The Egyptian papyrus known as Papyrus Anastasi IV contains a complaint about gloom and the absence of solar light; it also say also: 'The winter is come as (instead of) summer, the months are reversed and the hours disordered. [*Worlds in Collision*, p.132]

38. 'The breath of heaven is out of harmony.... The four seasons do not observe their proper times,' we read in the Texts of Taoism." [*Worlds in Collision*, p.132]

39. In the historical memoirs of Se-Ma Ts'ien, as in the annals of the Shu King (already quoted) it is said that Emperor Yahou sent astronomers to the Valley of Obscurity and to the Sombre Residence to observe the new movements of the sun and the moon and the zyzygies or the orbital points of the conjunctions, also to 'investigate and inform the people of the order of the seasons.'" [*Worlds in Collision*, p.133]

40. It is also said that Yahou introduced a calendar reform: he brought the seasons into accord with the observations; he did the same with the months; and he 'corrected the days.' [*Worlds in Collision*, p.120]

41. 'The astronomers and the geologists whose concern is all this ... should judge of the causes which could effect the derangement of the day and could cover the earth with tenebrosity,' wrote a clergyman who spent many years in Mexico and in the libraries of the Old World which store ancient manuscripts of the Mayas and works of early Indian and Spanish authors about them. [*Worlds in Collision*, p.134]

42. The calendar had to be adjusted anew. The astronomical values of the year and the day could not be the same before and after an upheaval in which, as the quoted Papyrus Anastasi IV says, the months were reversed and the 'hours disordered.'" [*Worlds in Collision*, p.135]

43. The fact I hope to establish is that from the fifteenth century to the eighth century before the present era the astronomical year was equal to 360 days; neither before the fifteenth century, nor after the eighth century was the year of this length." [*Worlds in Collision*, p.136]

44. In the so-called Manuscript Quiche it is also narrated that there was 'little light on the surface of the earth .. the faces of the sun and the moon were covered with clouds.'" [*Worlds in Collision*, p.140]

45. In the Ermitage Papyrus in Leningrad (previously mentioned) there are lamentations about a terrible catastrophe, when heaven and earth turned upside down ("I show thee the land upside down: it happed that which never had happened'). After this catastrophe, darkness covered the earth: 'The is veiled and shines not in the sight of men. None can live when the sun is veiled by clouds. ..None knoweth that midday is there; the shadow is not discerned .. Not dazzled is the sight when he [the sun] is beheld; he is in the sky like the moon.'" [*Worlds in Collision*, p.140]

46. In the Papyrus Anastasi IV the years of misery are described, and it is said " 'The sun, it hath come to pass that it riseth not.' " [*Worlds in Collision*, p.140]

47. In the Kalevala, the Finnish epos which 'dates back to an enormous antiquity,' the time the sun and moon disappeared from the sky, and dreaded shadows covered it, is described in these words:

'Even birds grew sick and perished,
men and maidens, faint and famished,
perished in the cold and darkness,
from the absence of sunshine..
from the absence of moonlight...
But the wise men of the Northland
could not know the dawn of morning,
for the moon shines not in season
nor appears the sun at midday,
from their stations in the sky-vault.'
[*Worlds in Collision*, p.143]

48. The Greeks as well as the Carians and other peoples on the shores of the Aegean Sea told of a time when the sun was driven off its course and disappeared for an entire day,... " [*Worlds in Collision*, p.153]

49. The disturbance in the movement of the sun was followed by a period as long as a day, when the sun did not appear at all. Ovid continues: 'If we are to believe the report, one whole day went without the sun. But the burning world gave light.' " [*Worlds in Collision*, p.155]

50. Plato recorded the story heard two generations before from Solon, the wise ruler of Athens. '..the story, as it is told, has the fashion of a legend, but the truth of it lies in the occurrence of a shifting of the bodies in the heavens which move around the earth, and a destruction of the things on the earth by a fierce fire, which recurs at long intervals.' [*Worlds in Collision*, p.155-6]

51. "Thyestes and his brother Atreus were .. Argive Tyrants. Living in the eighth century, they must have witnessed the cosmic catastrophes of the days of Isaiah. Greek tradition persists that a cosmic catastrophe occurred in the time of these tyrants: the sun changed its course and the night came before its proper time." [*Worlds in Collision*, p.223]

52. Seneca describes the change of position of each constellation—the Ram, the Bull, the Twins, the Lion, the Virgin, the Scales, the Scorpion, the Goat, and the Wain (the Great Bear) 'And the Wain, which was never bathed in the sea, shall be plunged beneath the all-engulfing waves.'

53. A commentator who wondered about this description of the position of the Great Bear wrote: There was no mythological reason why the Wain—otherwise known as the Great Bear—should not be bathed in the Ocean.' But Seneca said precisely this strange thing: the Great Bear—or one of its stars—never set beneath the horizon, and thus the polar star was among its stars during the age that came to an end in the time of the Argive tyrants. Seneca also says explicitly that the poles were torn up in this cataclysm" [*Worlds in Collision*, p.225]

54. In the tale of the southern Ute Indians, the cottontail is the animal that is connected with the disruption of the movement of the sun." ... "There is one instance more in the Indian story of the sun being impeded on its path and the ensuing world conflagration. Before the catastrophe, 'the sun used to go round close to the ground.' the purpose of the attack on the sun was to make 'the sun shine a little longer: the days were too short.' After the catastrophe 'the days became longer.'" [*Worlds in Collision*, p.315]

55. According to Seneca the Great Bear had been the polar constellation. After a cosmic upheaval shifted the sky, a star of the Little Bear became the polar star.

Hindu astronomical tablets composed by the Brahmins in the first half of the millennium before the present era shows a uniform deviation from the expected position of the stars at the time the observations were made (the precession of the equinoxes being taken into consideration). Modern scholars wondered at this, in their opinion inexplicable error. In view of the geometrical methods employed by Hindu astronomy and its detailed method of calculation, a mistake in observation equal to even a fraction of a degree would be difficult to account for. In Jaiminiya-Upanisad-Brahmana it is written that the center of the sky, or the point around which the firmament revolves, is the Great Bear. This is the same statement we found in Thyestes of the Seneca. [*Worlds in Collision*, p.317]

56. The day on which the shortest shadow is cast at noon is the day of the summer solstice; the longest shadow at noon is cast on the day of the winter solstice. The method of determining the seasons by measuring the length of the shadows was applied in ancient china, as well as in other countries." "We possess the Chinese records of the longest and shortest shadows at noontime. These records are attributed to -1100. 'But the shortest and longest shadows recorded do not really represent the true lengths at present.' The old Chinese charts record the longest day with a duration which does not represent the various geographical latitudes of their observatories,' and therefore the figures are supposed to have been those of Babylonia, borrowed by ancient Chinese, a rather unusual conjecture. [*Worlds in Collision*, p.318]

57. {Kugler, SSB,I,226-227}. "The length of the longest day in a year depends on the latitude, or the distance from the pole, and is different at different places. Gnomons or sundials can be built with great precision. The Babylonian astronomical tablets of the eighth century provide exact data, according to which the longest day at Babylon was equal to 14 hours, 24 minutes, whereas the modern determination is 14 hours 10 minutes and 54 seconds." 'the difference between the two figures is too great to be attributable to refraction, which makes the sun still visible over the horizon after it has set. Thus, the greater length of the day corresponds to latitude 34 degrees 57 minutes, and points to a place $2\frac{1}{2}$ degrees further to the north; we stand therefore before a strange riddle [vor einem merkwürdigen Ratsel.]. One tries to decide: either the tablets of System II do not originate from Babylon [though referring to Babylon] or this city actually was situated far [farther] to the north, about 35 away from the equator." [Kugler, *Die babylonische Mondrechnung: Zwei Systeme der Chaldäer über den Lauf des Mondes und der Sonne* (1900), p.80]

58. Claudius Ptolemy, who in his *Almagest*, made computations for contemporaneous and ancient Babylon, arrived at two different estimates of the longest day at that city, and consequently of the latitude at which it was located. One of his estimates being practically of the present-day value, the other

coinciding with the figure of the ancient Babylonian tables, 14 hours, 24 minutes." [*Worlds in Collision*, p.319] The Arabian medieval scholar Arzachel computed from ancient codices that in more ancient times Babylon was situated at a latitude of 35 degrees 0 minutes from the equator, while in later times it was situated more to the south. Johannes Kepler drew attention to this calculation of Arzachel and to the fact that between ancient and modern Babylon there was thus a difference in latitude."

59. "Thus Ptolemy and likewise Arzachel, computed that in historical times Babylon was situated at latitude 35. Modern scholars arrived at identical results on the basis of ancient Babylonian computations. 'This much, therefore, is certain: our tables [System II, and I also], and the astronomers mentioned as well, point to a place about 35 north latitude. Is it possible that they were mistaken by 2 to $2\frac{1}{2}$ degrees ? This is scarcely possible.'" {Kugler, *ibid.*, p.81.}

60. Some of the classic authors knew that the earth had changed its position and had turned towards the south; not all of them, however, were aware of the real cause of this perturbation. Diogenes Laertius repeated the teaching of Leucippus: 'The earth bent or inclined towards the south because the northern regions grew rigid and inflexible by the snowy and cold weather which ensued thereon.' The same idea is found in Plutarch, who quoted the teaching of Democritus: 'The northern regions were ill temperate, but the southern were well; whereby the latter becoming fruitful, waxed greater, and by an overweight preponderated and inclined to the whole that way.' Empedocles, quoted by Plutarch, taught that the north was bent from its former position, whereupon the northern regions were elevated and the southern depressed. Anaxagoras taught that the pole received a turn and that the world became inclined toward the south." [*Worlds in Collision*, p.320]

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