

CHAPTER 3

The Hurricane

THE SWIFT shifting of the atmosphere under the impact of the gaseous parts of the comet, the drift of air attracted by the body of the comet, and the rush of the atmosphere resulting from inertia when the earth stopped rotating or shifted its poles, all contributed to produce hurricanes of enormous velocity and force and of world-wide dimensions.

Manuscript Troano and other documents of the Mayas describe a cosmic catastrophe during which the ocean fell on the continent, and a terrible hurricane swept the earth.¹ The hurricane broke up and carried away all towns and all forests.² Exploding volcanoes, tides sweeping over mountains, and impetuous winds threatened to annihilate humankind, and actually did annihilate many species of animals. The face of the earth changed, mountains collapsed, other mountains grew and rose over the onrushing cataract of water driven from oceanic spaces, numberless rivers lost their beds, and a wild tornado moved through the debris descending from the sky. The end of the world age was caused by Hurakan, the physical agent that brought darkness and swept away houses and trees and even rocks and mounds of earth. From this name is derived "hurricane," the word we use for a strong wind. Hurakan destroyed the major part of the human race. In the darkness swept by wind, resinous stuff fell

¹ Brasseur, *Manuscrit Troano* (1869), p. 141.

² In the documents of the collection of Kingsborough, the writings of Gómara, Mitolinia, Sahagun, Landa, Cogolludo, and other authors of the early postconquest time, the cataclysm of deluge, hurricane, and volcanoes is referred to in numerous passages. See, e.g., Gómara, *Conquista de México*, II, pp. 261 ff.

from the sky and participated with fire and water in the destruction of the world.³ For five days, save for the burning naphtha and burning volcanoes, the world was dark, since the sun did not appear.

The theme of a cosmic hurricane is reiterated time and again in the Hindu *Vedas* and in the Persian *Avesta*,⁴ and *diluvium venti*, the deluge of wind, is a term known from many ancient authors.⁵ In the Section, "The Darkness," I quoted rabbinical sources on the "exceedingly strong west wind" that endured for seven days when the land was enveloped in darkness, and the hieroglyphic inscription from el-Arish about "nine days of upheaval" when "there was such a tempest" that nobody could leave the palace or see the faces of those beside him, and the eleventh tablet of the *Epic of Gilgamesh* which says that "six days and a night . . . the hurricane, deluge, and tempest continued sweeping the land," and mankind perished almost altogether. In the battle of the planet-god Marduk with Tiamat, "he [Marduk] created the evil wind, and the tempest, and the hurricane, and the fourfold wind, and the sevenfold wind, and the whirlwind, and the wind which had no equal."⁶

The Maoris narrate⁷ that amid a stupendous catastrophe "the mighty winds, the fierce squalls, the clouds, dense, dark, fiery, wildly drifting, wildly bursting," rushed on creation, in their midst Tawhiri-ma-tea, father of winds and storms, and swept away giant forests and lashed the waters into billows whose crests rose high like mountains. The earth groaned terribly, and the ocean fled.

"The earth was submerged in the ocean but was drawn by Tefaafanau," relate the aborigines of Paumotu in Polynesia. The new isles "were bated by a star." In the month of March the Polynesians celebrate a god, Taaafanua.⁸ "In Arabic, Typhoon is a whirlwind and Tufan is the Deluge; and the same word occurs in Chinese as

³ *Popol-Vuh*, Chap. III. ⁴ Cf. A. J. Carnoy, *Iranian Mythology* (1917).

⁵ Cf. Eisler, *Weltmantel und Himmelszelt*, II, 453. The Talmud also occasionally uses the notion of "cosmic wind." The Babylonian Talmud, Tractate Berakhot, 13.

⁶ *Seven Tablets of Creation*, the fourth tablet.

⁷ E. B. Tylor, *Primitive Culture* (1929), I, 322 ff.

⁸ Williamson, *Religious and Cosmic Beliefs of Central Polynesia*, I, 36, 154, 237.

Ty-fong.”⁹ It appears as though the noise of the hurricane was over-toned by a sound not unlike the name Typhon, as if the storm were calling him by name.

The cosmic upheaval proceeded with a “mighty strong west wind,”¹⁰ but before the climax, in the simple words of the Scriptures, “the Lord caused the sea to go back by a strong east wind all that night, and made the sea dry land, and the waters were divided.”¹¹

The Israelites were on the shore of the Sea of Passage at the climax of the cataclysm. The name Jam Suf is generally rendered as Red Sea; the Passage is supposed to have taken place either at the Gulf of Suez or at Akaba Gulf of the Red Sea, but sometimes the site of the Passage is identified as one of the inner lakes on the route from Suez to the Mediterranean. It is argued that *suf* means “reed” (papyrus reed), and since papyrus reed does not grow in salt water, Jam Suf must have been a lagoon of fresh water.¹² We will not enter here into a discussion where the Sea of the Passage was. The inscription on the shrine found in el-Arish may provide some indication where the Pharaoh was engulfed by the whirlpool;¹³ in any event, the topographical distribution of sea and land did not remain the same as before the cataclysm of the days of the Exodus. But the name of the Sea of the Passage—Jam Suf—is derived not from “reed,” but from “hurricane,” *suf, sufa*, in Hebrew. In Egyptian the Red Sea is called *shari*, which signifies the sea of percussion (*mare percussiois*) or the sea of the stroke or of the disaster.¹⁴

The Haggadah of Passover says: “Thou didst sweep the land of Moph and Noph . . . on the Passover.”¹⁵

The hurricane that brought to an end the Middle Kingdom in Egypt—“the blast of heavenly displeasure” in the language of Manetho—swept through every corner of the world. In order to distinguish, in the traditions of the peoples, this *dilucium venti* of cosmic dimensions from local disastrous storms, other cosmic disturbances like

⁹ G. Rawlinson, *The History of Herodotus* (1858-1862), II, 225 note.

¹⁰ Exodus 10 : 19. ¹¹ Exodus 14 : 21. ¹² Cf. Isaiah 19 : 6. ¹³ See p. 60.

¹⁴ Akerblad, *Journal asiatique*, XIII (1834), 349; F. Fresnel, *ibid.*, 4^e Série, XI (1848); cf. Peyron, *Lexicon linguae copticae* (1835), p. 304.

¹⁵ Moph and Noph refer to Memphis.

disappearance of the sun or change of the sky must be found accompanying the hurricane.

In the Japanese cosmogonical myth, the sun goddess hid herself for a long time in a heavenly cave in fear of the storm god. "The source of light disappeared, the whole world became dark," and the storm god caused monstrous destruction. Gods made terrible noise so that the sun should reappear, and from their tumult the earth quaked.¹⁶ In Japan and in the vast extent of the ocean hurricanes and earthquakes are not rare occurrences; but they do not disturb the day-night succession, nor is there any resulting permanent change in the sky and its luminaries. "The sky was low," relate the Polynesians of Takafo Island, and "then the winds and waterspouts and the hurricanes came, and carried up the sky to its present height."¹⁷

"When a world cycle is destroyed by wind," says the Buddhist text on the "World Cycles," the wind also turns "the ground upside down, and throws it into the sky," and "areas of one hundred leagues in extent, two hundred, three hundred, five hundred leagues in extent, crack and are thrown upward by the force of the wind" and do not fall again but are "blown to powder in the sky and annihilated." "And the wind throws up also into the sky the mountains which encircle the earth . . . [they] are ground to powder and destroyed." The cosmic wind blows and destroys "a hundred thousand times ten million worlds."¹⁸

The Tide

The ocean tides are produced by the action of the sun and to a larger extent by that of the moon. A body larger than the moon or one nearer to the earth would act with greater effect. A comet with a head as large as the earth, passing sufficiently close, would raise

¹⁶ Nihongi, "Chronicles of Japan from the Earliest Times" (transl. W. G. Aston), *Transactions and Proceedings of the Japanese Society*, I (1896), 37 f., 47.

¹⁷ Williamson, *Religious and Cosmic Beliefs of Central Polynesia*, I, 44.

¹⁸ Warren, "World Cycles," *Buddhism*, p. 328.

the waters of the oceans miles high.¹ The slowing down or stasis of the earth in its rotation would cause a tidal recession of water toward the poles,² but the celestial body near by would disturb this poleward recession, drawing the water toward itself.

The traditions of many peoples persist that seas were torn apart and their water heaped high and thrown upon the continents. In order to establish that these traditions refer to one and the same event, or at least to an event of the same order, we must keep to this guiding sequence: the great tide followed a disturbance in the motion of the earth.

The Chinese annals, which I have mentioned and which I intend to quote more extensively in a subsequent section, say that in the time of Emperor Yehou the sun did not go down for ten days. The world was in flames, and "in their vast extent" the waters "over-topped the great heights, threatening the heavens with their floods." The water of the ocean was heaped up and cast upon the continent of Asia; a great tidal wave swept over the mountains and broke in the middle of the Chinese Empire. The water was caught in the valleys between the mountains, and the land was flooded for decades.

The traditions of the people of Peru tell that for a period of time equal to five days and five nights the sun was not in the sky, and then the ocean left the shore and with a terrible din broke over the continent; the entire surface of the earth was changed in this catastrophe.³

The Choctaw Indians of Oklahoma relate: "The earth was plunged in darkness for a long time." Finally a bright light appeared in the north, "but it was mountain-high waves, rapidly coming nearer."⁴

In these traditions there are two concurrent elements: a complete darkness that endured a number of days (in Asia, prolonged day)

¹ Cf. J. Lalande, *Abrégé d'astronomie* (1795), p. 340, who computed that a comet with a head as large as the earth, at a distance of 13,290 *lieues*, or about four diameters of the earth, would raise ocean tides 2,000 *toises* or about four kilometers high.

² P. Kirchenberg, *La Théorie de la relativité* (1922), pp. 131-132.

³ Andree, *Die Flutsagen*, p. 115.

⁴ H. S. Bellamy, *Moons, Myths and Man* (1938), p. 277.

and, when the light broke through, a mountain-high wave that brought destruction.

The Hebrew story of the passage of the sea contains the same elements. There was a prolonged and complete darkness (Exodus 10 : 21). The last day of the darkness was at the Red Sea.⁵ When the world plunged out of darkness, the bottom of the sea was uncovered, the waters were driven apart and heaped up like walls in a double tide.⁶ The Septuagint translation of the Bible says that the water stood "as a wall," and the Koran, referring to this event, says "like mountains." In the old rabbinical literature it is said that the water was suspended as if it were "glass, solid and massive."⁷

The commentator Rashi, guided by the grammatical structure of the sentence in the Book of Exodus, explained in accordance with Mechilta: "The water of all oceans and seas was divided."⁸

The Midrashim contain the following description: "The waters were piled up to the height of sixteen hundred miles, and they could be seen by all the nations of the earth."⁹ The figure in this sentence intends to say that the heap of water was tremendous. According to the Scriptures, the waters climbed the mountains and stood above them, and they mounted to the heavens.¹⁰

A sea rent apart was a marvelous spectacle and could not have been forgotten. It is mentioned in numerous passages in the Scriptures. "The pillars of heaven tremble. . . . He divideth the sea with his power."¹¹ "Marvelous things did he in the sight of their fathers. . . . He divided the sea, and caused them to pass through; and he made the waters to stand as a heap."¹² "He gathereth the waters of

⁵ Exodus 14 : 20; Ginzberg, *Legends*, II, 359.

⁶ "The waters were a wall unto them on their right hand, and on their left." Exodus 14 : 22.

⁷ A. Calmet, *Commentaire, l'Exode* (1708), p. 159: "Les eaux demeurent suspendues, comme une glace solide et massive."

⁸ *Rashi's Commentary to Pentateuch* (English transl. by M. Rosenbaum and A. M. Silberman, 1930).

⁹ Ginzberg, *Legends*, III, 22; Targum Yerushalmi, Exodus 14 : 22.

¹⁰ Psalms 104 : 6-8; 107 : 25-26. ¹¹ Job 26 : 11-12. ¹² Psalms 78 : 12-13.

the sea together as a heap . . . let all the inhabitants of the world stand in awe of him." ¹³

Then the Great Sea (the Mediterranean) broke into the Red Sea in an enormous tidal wave.¹⁴

It was an unusual event, and because it was unusual, it became the most impressive recollection in the very long history of this people. All peoples and nations were blasted by the same fire and shattered in the same fury. The tribes of Israel on the shore of a sea found in this annihilation their salvation from bondage. They escaped destruction but their oppressors perished before their eyes. They extolled the Creator, took upon themselves the burden of moral rules, and considered themselves chosen for a great destiny.

When the Spaniards conquered Yucatan, Indians versed in their ancient literature related to the conquerors the tradition handed down to them by their ancestors: their forefathers were delivered from pursuit by some other people when the Lord opened for them a way in the midst of the sea.¹⁵

This tradition is so similar to the Jewish tradition of the Passage that some of the friars who came to America believed that the Indians of America were of Jewish origin. Friar Diego de Landa wrote: "Some old men of Yucatan say that they have heard from their ancestors that this country was peopled by a certain race who came from the east, whom God delivered by opening for them twelve roads through the sea. If this is true, all the inhabitants of the Indies must be of Jewish descent." ¹⁶

It may have been an echo of what happened at the Sea of Passage, or a description of a similar occurrence at the same time but in another place.

According to the Lapland cosmogonic story,¹⁷ "when the wickedness increased among the human beings," the midmost of the earth

¹³ Psalms 33 : 7-8.

¹⁴ Mekhilta Beshalla 6, 33a; other sources in Ginzberg, *Legends*, VI, 10.

¹⁵ Antonio de Herrera, *Historia general de las Indias Occidentales*, Vol. IV, Bk. 10, Chap. 2; Brasseur, *Histoire des nations civilisées du Mexique*, I, 66.

¹⁶ De Landa, *Yucatan*, p. 8.

¹⁷ Leonne de Cambrey, *Lapland Legends* (1926).

"trembled with terror so that the upper layers of the earth fell away and many of the people were hurled down into those caved-in places to perish." "And Jubmel, the heaven-lord himself, came down. . . . His terrible anger flashed like red, blue, and green fire-serpents, and people hid their faces, and the children screamed with fear. . . . The angry god spoke: 'I shall reverse the world. I shall bid the rivers flow upward; I shall cause the sea to gather together itself up into a huge towering wall which I shall hurl upon your wicked earth-children, and thus destroy them and all life.'"

Jubmel set a storm-wind blowing,
and the wild air-spirits raging. . . .
Foaming, dashing, rising sky-high
came the sea-wall, crushing all things.
Jubmel, with one strong upheaval,
made the earth-lands all turn over;
then, the world again he righted.
Now the mountains and the highlands
could no more be seen by Beijke [sun].
Filled with groans of dying people,
was the fair earth, home of mankind.
No more Beijke shone in heaven.

According to the Lapland epic, the world was overwhelmed by the hurricane and the sea, and almost all human beings perished. After the sea-wall fell on the continent, gigantic waves continued to roll and dead bodies were dashed about in dark waters.

The great earthquake and the chasms that opened in the ground, the appearance of a celestial body with serpentlike flashes, rivers flowing upward, a sea-wall that crushed everything, mountains that became leveled or covered with water, the world that was turned over and then righted, the sun that no more shone in the sky—all these are motifs which we found in the description of the calamities of the time of the Exodus.

In many places of the world, and especially in the north, large boulders are found in a position which proves that a great force must have lifted them up and carried them long distances before depositing them where they are found today. Sometimes these large loose

rocks are of entirely different mineral composition than the local rocks, but are akin to formations many miles away. Thus, occasionally an erratic boulder of granite perches on top of a high ridge of dolerite, whereas the nearest outcrops of granite lie far away. These erratic boulders may weigh as much as ten thousand tons, about as much as one hundred thirty thousand people.¹⁸

To explain these facts, the scholars of the first half of the nineteenth century assumed that enormous tides had swept over the continents and carried with them masses of stone. The transfer of the rocks was explained by the tides, but what could have caused those billows to rise high over the continents?

"It was conceived that somehow and somewhere in the far north a series of gigantic waves was mysteriously propagated. These waves were supposed to have precipitated themselves upon the land, and then swept madly on over mountain and valley alike, carrying along with them a mighty burden of rocks and stones and rubbish. Such deluges were styled 'waves of translation'; and the till was believed to represent the materials which they hurried along with them in their wild course across the country."¹⁹ The stones and boulders on the hilltops and the mounds of sand and gravel in the lowlands were explained by this theory. Critics, however, maintained that "it was unfortunate for this view that it violated at the very outset the first principles of science, by assuming the former existence of a cause which there was little in nature to warrant . . . spasmodic rushes of the sea across a whole country had fortunately never been experienced within the memory of man."²⁰ That the correctness of the last sentence is questionable is shown by references to the traditions of a number of peoples.

Wherever possible, the movement of stones was attributed to the progress of the ice sheet in the glacial ages and to glaciers on the mountain slopes.

¹⁸ The Madison boulder near Conway, New Hampshire, measures 90 by 40 by 38 feet, and weighs almost 10,000 tons. "It is composed of granite, quite unlike the bedrock beneath it; hence the boulder is typically 'erratic.'" Daly, *The Changing World of the Ice Age*, p. 16.

¹⁹ J. Geikie, *The Great Ice Age and Its Relation to the Antiquity of Man* (1894), pp. 25-26. ²⁰ *Ibid.*

Agassiz, in 1840, assumed that just as the Alpine moraines were left behind by the retreating glaciers, so the moraines in the flatlands of northern Europe and America could have been caused by the movement of great continental ice sheets (and thus introduced the theory of ice ages). Although this is correct to some extent, the analogy is not exact, as the glaciers of the Alps push the stones down, not up the slope. Meeting an upward motion of the ice, large boulders would probably sink into the ice.

The problem of the migration of the stones must be regarded as only partially connected with the progress and retreat of the ice sheet, if at all. Billows miles high traveled over the land, originating in causes described in this book.

It can be established by the extent of denudation of the rocks under the erratic boulders that the latter were deposited at their places during human history. So, for instance, in Wales and Yorkshire, where this effect was evaluated in terms of time, the "amount of denudation of limestone rocks on which boulders lie" is a "proof that a period of no more than six thousand years has elapsed since the boulders were left in their positions."²¹

The fact that accumulations of stones were transferred from the equator toward the higher latitudes, an enigmatic problem in the ice theory, can be explained by the poleward recession of the equatorial waters at the moment the velocity of rotation of the earth was reduced or its poles were shifted. In the Northern Hemisphere, in India, the moraines were carried from the equator not only toward higher latitudes, but also toward the Himalaya Mountains, and in the Southern Hemisphere from the equatorial regions of Africa toward the higher latitudes, across the prairies and deserts and forests of the black continent.

The Battle in the Sky

At the same time that the seas were heaped up in immense tides, a pageant went on in the sky which presented itself to the horrified onlookers on earth as a gigantic battle. Because this battle was seen

²¹ Upham, *The Glacial Lake Agassiz* (1895), p. 239.

from almost all parts of the world, and because it impressed itself very strongly upon the imagination of the peoples, it can be reconstructed in some detail.

When the earth passed through the gases, dust, and meteorites of the tail of the comet, disturbed in rotation, it proceeded on a distorted orbit. Emerging from the darkness, the Eastern Hemisphere faced the head of the comet. This head only shortly before had passed close to the sun and was in a state of candescence. The night the great earthquake shook the globe was, according to rabbinical literature, as bright as the day of the summer solstice. Because of the proximity of the earth, the comet left its own orbit and for a while followed the orbit of the earth. The great ball of the comet retreated, then again approached the earth, shrouded in a dark column of gases which looked like a pillar of smoke during the day and of fire at night, and the earth once more passed through the atmosphere of the comet, this time at its neck. This stage was accompanied by violent and incessant electrical discharges between the atmosphere of the tail and the terrestrial atmosphere. There was an interval of about six days between these two close approaches. Emerging from the gases of the comet, the earth seems to have changed the direction of its rotation, and the pillar of smoke moved to the opposite horizon.¹ The column looked like a gigantic moving serpent.

When the tidal waves rose to their highest point, and the seas were torn apart, a tremendous spark flew between the earth and the globe of the comet, which instantly pushed down the miles-high billows. Meanwhile, the tail of the comet and its head, having become entangled with each other by their close contact with the earth, exchanged violent discharges of electricity. It looked like a battle between the brilliant globe and the dark column of smoke. In the exchange of electrical potentials, the tail and the head were attracted one to the other and repelled one from the other. From the serpentlike tail extensions grew, and it lost the form of a column. It looked now like a furious animal with legs and with many heads. The discharges tore the column to pieces, a process that was accompanied by a rain of

¹ Cf. Exodus 14 : 19.

meteorites upon the earth. It appeared as though the monster were defeated by the brilliant globe and buried in the sea, or wherever the meteorites fell. The gases of the tail subsequently enveloped the earth.

The globe of the comet, which lost a large portion of its atmosphere as well as much of its electrical potential, withdrew from the earth but did not break away from its attraction. Apparently, after a six-week interval, the distance between the earth and the globe of the comet again diminished. This new approach of the globe could not be readily observed because the earth was shrouded in the clouds of dust left by the comet on its former approach as well as by dust ejected by the volcanoes. After renewed discharges, the comet and the earth parted.

This behavior of the comet is of great importance in problems of celestial mechanics. That a comet, encountering a planet, can become entangled and drawn away from its own path, forced into a new course, and finally liberated from the influence of the planet is proved by the case of Lexell's comet, which in 1767 was captured by Jupiter and its moons. Not until 1779 did it free itself from this entanglement. A phenomenon that has not been observed in modern times is an electrical discharge between a planet and a comet and also between the head of a comet and its trailing part.

The events in the sky were viewed by the peoples of the world as a fight between an evil monster in the form of a serpent and the light-god who engaged the monster in battle and thus saved the world. The tail of the comet, leaping back and forth under the discharges of the flaming globe, was regarded as a separate body, inimical to the globe of the comet.

A full survey of the religious and folklore motifs which mirror this event would require more space than is at my disposal here; it is difficult to find a people or tribe on the earth that does not have the same motif at the very focus of its religious beliefs.²

Since the descriptions of the battle between Marduk and Tiamat, the dragon, or Isis and Seth, or Vishnu and the serpent, or Krishna

² I intend to handle a portion of this material in an essay on The Dragon.

and serpent, or Ormuzd and Ahriman follow an almost identical pattern and have many details in common with the battle of Zeus and Typhon, I shall give here Apollodorus' description of this battle.³

Typhon "out-topped all the mountains, and his head often brushed the stars. One of his hands reached out to the west and the other to the east, and from them projected a hundred dragons' heads. From the thighs downward he had huge coils of vipers which . . . emitted a long hissing. . . . His body was all winged . . . and fire flashed from his eyes. Such and so great was Typhon when, hurling kindled rocks, he made for the very heaven with hissing and shouts, spouting a great jet of fire from his mouth." To the sky of Egypt Zeus pursued Typhon "rushing at heaven." "Zeus pelted Typhon at a distance with thunderbolts, and at close quarters struck him down with an adamantine sickle, and as he fled pursued him closely as far as Mount Casius, which overhangs Syria. There, seeing the monster sore wounded, he grappled with him. But Typhon twined about him and gripped him in his coils. . . ." "Having recovered his strength Zeus suddenly from heaven riding in a chariot of winged horses, pelted Typhon with thunderbolts. . . . So being again pursued he [Typhon] came to Thrace and in fighting at Mount Haemus he heaved whole mountains . . . a stream of blood gushed out on the mountain, and they say that from that circumstance the mountain was called Haemus [bloody]. And when he started to flee through the Sicilian sea, Zeus cast Mount Etna in Sicily upon him. That is a huge mountain, from which down to this day they say that blasts of fire issue from the thunderbolts that were thrown."

The struggle left deep marks on the entire ancient world. Some districts were especially associated with the events of this cosmic fight. The Egyptian shore of the Red Sea was called Typhonia.⁴ Strabo narrates also that the Arimi (Aramaeans or Syrians) were terrified witnesses of the battle of Zeus with Typhon. And Typhon, "who, they add, was a dragon, when struck by the bolts of lightning, fled in search of a descent underground,"⁵ and not only did he cut

³ Apollodorus, *The Library*, Epitome II (transl. Frazer).

⁴ Strabo, *The Geography* (transl. H. L. Jones, 1924), vii, 3, 8. ⁵ *Ibid.*

furrows into the earth and form the beds of the rivers, but descending underground, he made fountains break forth.

Similar descriptions come from various places of the ancient world, in which the nations relate the experience of their ancestors who witnessed the great catastrophe of the middle of the second millennium.

At that time the Israelites had not yet arrived at a clear monotheistic concept and, like other peoples, they saw in the great struggle a conflict between good and evil. The author of the Book of Exodus, suppressing this conception of the ancient Israelites, presented the portent of fire and smoke moving in a column as an angel or messenger of the Lord. However, many passages in other books of the Scriptures preserved the picture as it impressed itself upon eyewitnesses. *Rahab* is the Hebrew name for the contest with the Most High. "O Lord God of hosts, who is a strong Lord like unto thee? . . . Thou hast broken Rahab in pieces. . . . The heavens are thine, the earth also is thine: as for the world and the fulness thereof, thou hast founded them. The north and the south thou hast created them."⁶ Deutero-Isaiah prayed: "Awake, awake, put on strength, O arm of the Lord; awake as in the ancient days, in the generations of old. Art thou not it that hath cut Rahab, and wounded the dragon? Art thou not it which hath dried the sea, the waters of the great deep; that hath made the depths of the sea a way for the ransomed to pass over?"⁷ From these passages it is clear that the battle of the Lord with Rahab was not a primeval battle before Creation, as some scholars think.⁸

Isaiah prophesied for the future: "In that day the Lord with his sore and great and strong sword shall punish leviathan the piercing serpent, even leviathan that crooked serpent; and he shall slay the dragon that is in the sea."⁹

The "crooked serpent" is shown in many ancient pictures from

⁶ Psalms 89 : 10-12. ⁷ Isaiah 51 : 9-10.

⁸ See S. Reinach, *Cults, Myths and Religion* (1912), pp. 42 ff; H. Gunkel, *Schöpfung und Chaos in Urzeit und Endzeit* (1895); J. Pedersen, *Israel, Its Life and Culture* (1926), pp. 472 ff.

⁹ Isaiah 27 : 1.

China to India, to Persia, to Assyria, to Egypt, to Mexico. With the rise of the monotheistic concept, the Israelites regarded this crooked serpent, the contester with the Most High, as the Lord's own creation.

"He stretcheth out the north over the empty place, and hangeth the earth upon nothing. . . . The pillars of heaven tremble. . . . He divideth the sea with his power . . . his hand hath formed the crooked serpent."¹⁰ The Psalmist also says:¹¹ "God is my King of old. . . . Thou didst divide the sea by thy strength. . . . Thou brakest the heads of leviathan in pieces. . . . Thou didst cleave the fountain and the flood: Thou driedst up mighty rivers."

The sea was cleft, the earth was cut with furrows, great rivers disappeared, others appeared. The earth rumbled for many years, and the peoples thought that the fiery dragon that had been struck down had descended underground and was groaning there.

The Comet of Typhon

Of all the mysterious phenomena which accompanied the Exodus, this mysterious Pillar seems the first to demand explanation.

—W. PHYTHIAN-ADAMS
The Call of Israel

One of the places of the heavenly combat between elementary forces of nature—as narrated by Apollodorus and Strabo—was on the way from Egypt to Syria.¹ According to Herodotus, the final act of the fight between Zeus and Typhon took place at Lake Serbon on the coastal route from Egypt to Palestine.² On the way from Egypt to Palestine the Israelites, after a night of terror and strong east wind, witnessed the upheaval of the day of the Passage. These parallel circumstances lead to a conclusion that will sound somewhat strange. Typhon (Typhus) lies on the bottom of the sea where the spell-

¹⁰ Job 26 : 7-13. ¹¹ Psalms 74 : 12-15.

¹ Mount Casius, mentioned by Apollodorus, is the name of Mount Lebanon as well as of Mount Sinai. Cf. Pomponius Mela *De situ orbis*.

² Herodotus iii, 5. Also Apollonius Rhodius in the *Argonautica*, Bk. ii, says that Typhon "smitten by the bolt of Zeus . . . lies whelmed beneath the waters of the Serbonian lake."

bound Israelites saw the upheaval of nature: darkness, hurricane, mountains of water, fire and smoke, recorded in the Greek legend as the circumstances in which the battle of Zeus with the dragon Typhon was fought. In the same pit of the sea lie the pharaoh and his hosts.³

Up to now I have identified Rahab-Typhon as a comet. But if Typhon lies on the bottom of the sea, is he not the pharaoh? This would mean that in the legend of Typhon two elements were welded together: the pharaoh, who perished in the catastrophe, and the outrageous rebel against Zeus, the lord of the sky.⁴

In Pliny's *Natural History*, the ninety-first section of the second book reads: ⁵ "A terrible comet was seen by the people of Ethiopia and Egypt, to which Typhon, the king of that period, gave his name; it had a fiery appearance and was twisted like a coil, and it was very grim to behold: it was not really a star so much as what might be called a ball of fire."

The visit of a disastrous comet, so many times referred to in this book, is told in plain words, not in disguise. However, I must find support for my assumption that the comet of the days of King Typhon was the comet of the days of the Exodus.

I investigated the writings of the old chronographers, and in *Cometographia* of Hevelius (1688) I found references to the works of Calvisius, Helvicus, Herlicius, and Rockenbach, all of whom used manuscripts for the most part and not printed sources, as they lived only a little over one century after the invention of movable characters and the printing press.

Hevelius wrote (in Latin): "In the year of the world 2453 (1495 B.C.), according to certain authorities, a comet was seen in Syria,

³ In *Ages in Chaos*, evidence will be presented to identify the pharaoh of the Exodus as Tau I Thom, the last king of the Middle Kingdom. He is Tau Timaeus (Tutimaeus) of Manetho, in whose days "a blast of God's displeasure" fell upon Egypt and terminated the period at present known as the Middle Kingdom. The name of his queen is given in the naos of el-Arish as Tephnut.

Ra-uah-ab is a name met among the Egyptian kings of that period (W.M.F. Petrie, *A History of Egypt*, I, 227); it could have served as origin for the Hebrew word for dragon, *Rahab*. See note 4.

⁴ Actually, "dragon" became the appellation of Egyptian pharaohs in the prophetic literature. Cf. Ezekiel 32 : 2.

⁵ Pliny, *Natural History*, ii, 91 (transl. Rackham, 1938).

Babylonia, India, in the sign Jo, in the form of a disc, at the very time when the Israelites were on their march from Egypt to the Promised Land. So Rockenbach. The Exodus of the Israelites is placed by Calvisius in the year of the world 2453, or 1495 B.C.”⁶

I was fortunate enough to locate one copy of Rockenbach's *De cometis tractatus novus methodicus* in the United States.⁷ This book was published in Wittenberg in 1602. Its author was professor of Greek, mathematics, and law, and dean of philosophy at Frankfort. He wrote his book using old sources which he did not name: “*ex probatissimis & antiquissimis veterum scriptoribus*” (from the most trustworthy and the most ancient of the early writers). As a result of his diligent gathering of ancient material, he made the following entry:

“In the year of the world two thousand four hundred and fifty-three—as many trustworthy authors, on the basis of many conjectures, have determined—a comet appeared which Pliny also mentioned in his second book. It was fiery, of irregular circular form, with a wrapped head; it was in the shape of a globe and was of terrible aspect. It is said that King Typhon ruled at that time in Egypt. . . . Certain [authorities] assert that the comet was seen in Syria, Babylonia, India, in the sign of Capricorn, in the form of a disc, at the time when the children of Israel advanced from Egypt toward the Promised Land, led on their way by the pillar of cloud during the day and by the pillar of fire at night.”⁸

Rockenbach did not draw any conclusion on the relation of the comet of the days of Exodus to the natural phenomena of that time; his intent was only to fix the date of the comet of Typhon.

Among the early authors, Lydus, Servius (who quotes Avienus),

⁶ J. Hevelius, *Cometographia* (1688), pp. 794 f.

⁷ In the library of the American Antiquarian Society, Worcester, Mass.

⁸ “Anno mundi, bis millesimo, quadringentesimo quinquagesimo tertio, Cometa (ut multi probati autores, de tempore hoc statuunt, ex conjecturis multis) cuius Plinius quoque lib. 2 cap. 25 mentionem facit, igneus, formam imperfecti circuli, & in se convoluti caputq; globi repraesentans, aspectu terribilis apparuit, Typhonq; a rege, tunc temporis ex Aegypto imperium tenente, dictus est, qui rex, ut homines fide digni asserunt, auxilio gigantum, reges Aegyptoru devicit. Visus quoq; est, ut aliqui volut, in Siria, Babylonia, India, in signo capricorni, sub forma rotae, eo tempore, quando filii Israel ex Aegypto in terram promissam, duce ac viae monstatore, per diem columna nubis, noctu vero columna ignis, ut cap. 7.8.9.10 legitur profecti sunt.”

Hephaestion, and Junctinus, in addition to Pliny, mention the Typhon comet.⁹ It is depicted as an immense globe (*globus immodicus*) of fire, also as a sickle, which is a description of a globe illuminated by the sun, and close enough to be observed thus. Its movement was slow, its path was close to the sun. Its color was bloody: "It was not of fiery, but of bloody redness." It caused destruction "in rising and setting." Servius writes that this comet caused many plagues, evils, and hunger.

To discover what were the manuscript sources of Abraham Rockenbach that led him to the same conclusion at which we have arrived, namely, that the Typhon comet appeared in the time of the Exodus, is a task not yet accomplished. Servius says that more information about the calamities caused by this comet is to be found in the writings of the Roman astrologer Campester and in the works of the Egyptian astrologer Petosiris.¹⁰ It is possible that copies of works of some authors containing citations from the writings of these ancient astrologers, preserved in the libraries of Europe, were Rockenbach's manuscript sources.

Campester, as quoted by Lydus, was certain that should the comet Typhon again meet the earth, a four-day encounter would suffice to destroy the world.¹¹ This implies also that the first encounter with the comet Typhon brought the earth to the brink of destruction.

But even without this somber prognostication of Campester, we have a very imposing and quite inexhaustible array of references to Typhon and its destructive action against the world: almost every Greek author referred to it. The real nature of Typhon being that of a comet, as explained by Pliny and others, all references to the disas-

⁹ *Johannis Laurentii Lydi Liber de ostentis et calendaria Graeca omnia* (ed. by C. Wachsmuth, 1897), p. 171. In this work Wachsmuth also printed excerpts from Hephaestion, Avienus apud Servium, and Junctinus.

¹⁰ The time when Campester flourished is not known, but it is assumed to have been in the third or fourth century of the present era. See Pauly-Wissowa, *Real-Encyclopädie der classischen Altertumswissenschaft*, s.v. The time of Petosiris is tentatively dated in the second pre-Christian era (Pauly-Wissowa, s.v.). But he is mentioned in *The Danaïdes* of Aristophanes (-448 to -388). See also E. Riess, *Necheponis et Petosiridis fragmenta magica* (1890).

¹¹ Campester in Lydus *Liber de ostentis*; cf. *Handwörterbuch des deutschen Aberglaubens* (1932-1933), Vol. V, s.v. "Komet."

ters caused by Typhon must be understood as descriptions of natural catastrophes in which the earth and the comet were involved. As is known, Pallas of the Greeks was another name for Typhon; also Seth of the Egyptians was an equivalent of Typhon.¹² Thus the number of references to the comet Typhon can be enlarged by references to Pallas and Seth.

It was not only Abraham Rockenbach who synchronized the appearance of the comet Typhon with the Exodus of the Israelites from Egypt. Looking for authors who might have done likewise, I found that Samuel Bochart, a scholarly writer of the seventeenth century, in his book *Hierozoicon*,¹³ has a passage in which he maintains that the plagues of the days of the Exodus resemble the calamities that Typhon brought in his train, and that therefore "the flight of Typhon is the Exodus of Moses from Egypt."¹⁴ In this he actually follows the passage transmitted by Plutarch.¹⁵ But since Typhon, according to Pliny and others, was a comet, Samuel Bochart was close to the conclusions at which we arrive, traveling along another route.

The Spark

A phenomenon of great significance took place. The head of the comet did not crash into the earth, but exchanged major electrical discharges with it. A tremendous spark sprang forth at the moment of the nearest approach of the comet, when the waters were heaped at their highest above the surface of the earth and before they fell down, followed by a rain of debris torn from the very body and tail of the comet.

"And the Angel of God, which went before the camp of Israel,

¹² "The Egyptians regularly call Typhon 'Seth'; it means 'overmastering' and 'overpowering,' and in very many instances 'turning back,' and again 'overpassing.'" Plutarch, *Isis and Osiris* (transl. F. C. Babbitt, 1936), 41 and 49.

¹³ Bochart, *Hierozoicon*, I, 343.

¹⁴ "Fuga Typhonis est Mosis ex Egypto excessus." *Ibid.*, p. 341.

¹⁵ "Those who relate that Typhon's flight from the battle [with Horus] was made on the back of an ass and lasted seven days, and that after he had made his escape, he became the father of sons, Hierosolymus [Jerusalem] and Judaeus, are manifestly, as the very names show, attempting to drag the Jewish traditions into the legend." Plutarch, *Isis and Osiris*, 32.

removed and went behind them; and the pillar of the cloud went from before their face, and stood behind them . . . and it was a cloud and darkness but it gave light by night." An exceedingly strong wind and lightnings rent the cloud. In the morning the waters rose as a wall and moved away. "And the children of Israel went into the midst of the sea upon the dry ground: and the waters were a wall unto them on their right hand, and on their left. And the Egyptians pursued. . . . And it came to pass, that in the morning watch the Lord looked unto the host of the Egyptians through the pillar of fire and of the cloud, and troubled the host of the Egyptians, and took off their chariot wheels . . . and the waters returned, and covered the chariots, and the horsemen, and all the host of Pharaoh that came into the sea after them; there remained not so much as one of them." ¹

The immense tides were caused by the presence of a celestial body close by; they fell when a discharge occurred between the earth and the other body.

Artapanus, the author of the no longer extant *De Judaeis*, apparently knew that the words, "The Lord looked unto the host of the Egyptians through the pillar of fire and of the cloud," refer to a great lightning. Eusebius quotes Artapanus: "But when the Egyptians . . . were pursuing them, a fire, it is said, shone out upon them from the front, and the sea overflowed the path again, and the Egyptians were all destroyed by the fire and the flood." ²

The great discharges of interplanetary force are commemorated in the traditions, legends, and mythology of all the peoples of the world. The god—Zeus of the Greeks, Odin of the Icelanders, Ukko of the Finns, Perun of the Russian pagans, Wotan (Woden) of the Germans, Mazda of the Persians, Marduk of the Babylonians, Shiva of the Hindus—is pictured with lightning in his hand and described as the god who threw his thunderbolt at the world overwhelmed with water and fire.

¹ Exodus 14 : 19 ff.

² Eusebius, *Preparation for the Gospel* (transl. Gifford), Bk. ix, Chap. xxvii. Calmet, *Commentaire, l'Exode*, p. 154, correctly understood the passage in Artapanus because he paraphrases it as follows: "Artapanus dans Eusèbe dit que les Egyptiens furent frappés de la foudre, et abatus par le feu du ciel dans le même temps que l'eau de la mer vint tomber sur eux."

Similarly, many psalms of the Scriptures commemorate the great discharges. "Then the earth shook and trembled; the foundations also of the hills moved and were shaken. . . . He bowed the heavens also, and came down . . . he did fly upon the wings of the wind. . . . At the brightness that was before him his thick clouds passed, hail stones and coals of fire. The Lord also thundered in the heavens, and the Highest gave his voice; hail stones and coals of fire . . . and he shot out lightnings. . . . Then the channels of waters were seen, and the foundations of the world were discovered." ³ "The voice of the Lord is powerful. . . . The voice of the Lord breaketh the cedars. . . . The voice of the Lord divideth the flames of fire. The voice of the Lord shaketh the wilderness; the Lord shaketh the wilderness of Kadesh." ⁴ "The kingdoms were moved; he uttered his voice, the earth melted." ⁵ "The waters saw thee; they were afraid: the depths also were troubled . . . the skies sent out a sound: thine arrows also went abroad. The voice of thy thunder was in the heaven; the lightnings lightened the universe: the earth trembled and shook." ⁶ "Clouds and darkness are round about him . . . a fire goeth before him and burneth up his enemies round about. . . . His lightnings enlightened the world: the earth saw, and trembled." ⁷

Nothing is easier than to add to the number of such quotations from other parts of the Scriptures—Job, the Song of Deborah, the Prophets.

With the fall of the double wall of water, the Egyptian host was swept away. The force of the impact threw the pharaoh's army into the air. "Come and see the works of God: he is terrible in his doing toward the children of men. He turned the sea into dry land: they went through the flood on foot. . . . Thou hast caused men to ride over our heads; we went through fire and through water." ⁸

This tossing of the Egyptian host into the air by an avalanche of

³ Psalms 18 : 7-15. ⁴ Psalms 29 : 4-8. ⁵ Psalms 46 : 6.

⁶ Psalms 77 : 16-19. *Tevel* is the universe, but the King James Version translates "world"; world is *olam*.

⁷ Psalms 97 : 2-4.

⁸ Psalms 66 : 5-12. On cosmic discharges see *infra* the Sections, "Ignis e Coelo" and "Synodos."

water is referred to also in the Egyptian source I quoted before: on the shrine found in el-Arish the story is told of a hurricane and of a prolonged darkness when nobody could leave the palace, and of the pursuit by the pharaoh Taoui-Thom of the fleeing slaves whom he followed to Pi-khiroti, which is the biblical Pi-ha-khiroth. "His Majesty leapt into the place of the whirlpool." Then it is said that he was "lifted by a great force."⁹

Although the larger part of the Israelite fugitives were already out of the reach of the falling tidal waves, a great number of them perished in this disaster, as in the previous ones of fire and hurricane of cinders. That Israelites perished at the Sea of Passage is implied in Psalm 68 where mention is made of "my people" that remained in "the depths of the sea."

These tidal waves also overwhelmed entire tribes who inhabited Tehama, the thousand-mile-long coastal region of the Red Sea.

"God sent against the Djorhomites swift clouds, ants, and other signs of his rage, and many of them perished. . . . In the land of Djohainah an impetuous torrent carried off all of them in a night. The scene of this catastrophe is known by the name of Idam (fury)." The author of this passage, Masudi, an Arab author of the tenth century, quotes an earlier author, Omeyah, son of Abu-Salt: "In days of yore the Djorhomites settled in Tehama, and a violent flood carried all of them away."¹⁰

Likewise the tradition related in Kitab Alaghani¹¹ is familiar with the plague of insects (ants of the smallest variety) that forced the tribe to migrate from Hedjaz to their native land, where they were destroyed by "Toufan"—a deluge. In my reconstruction of ancient history, I endeavor to establish the synchronism of these events and the Exodus.

⁹ Griffith, *The Antiquities of Tel-el-Yahudiyeh*; Goyon, "Les travaux de Chou et les tribulations de Geb," *Kemi* (1936).

¹⁰ El-Maçoudi, *Les Prairies d'or* (transl. C. Barbier and P. de Courteille, 1861), III, Chap. 39. An English translation is by A. Sprenger (1841): *El-Mas'udi, Meadows of Gold and Mines of Gems*.

¹¹ F. Fresnel, "Sur l'Histoire des Arabes avant l'Islamisme (Kitab alaghaniyy)," *Journal asiatique* (1838).

The Collapsed Sky

The rain of meteorites and fire from the sky, the clouds of dust of exogenous origin that drifted low, and the displacement of the world quarters created the impression that the sky had collapsed.

The ancient peoples of Mexico referred to a world age that came to its end when the sky collapsed and darkness enshrouded the world.¹

Strabo relates, in the name of Ptolemaeus, the son of Lagus, a general of Alexander and founder of the Egyptian dynasty called by his name, that the Celti who lived on the shores of the Adriatic were asked by Alexander what it was they most feared, to which they replied that they feared no one, but only that the sky might collapse.²

The Chinese refer to the collapse of the sky which took place when the mountains fell.³ Because mountains fell or were leveled at the same time when the sky was displaced, ancient peoples, not only the Chinese, thought that mountains support the sky.

"The earth trembled, and the heavens dropped . . . the mountains melted," says the Song of Deborah.⁴ "The earth shook, the heavens also dropped at the presence of God: even Sinai itself was moved," says the psalmist.⁵

The tribes of Samoa in their legends refer to a catastrophe when "in days of old the heavens fell down." The heavens or the clouds were so low that the people could not stand erect without touching them.⁶

The Finns tell in their *Kalevala* that the support of the sky gave way and then a spark of fire kindled a new sun and a new moon.⁷ The Lapps make offerings accompanied by the prayer that the sky

¹ Seler, *Gesammelte Abhandlungen*, II, 79S.

² Strabo, *The Geography*, vii, 3, 8.

³ A. Forke, *The World Conception of the Chinese* (1925), p. 43.

⁴ Judges 5 : 4-5.

⁵ Psalms 68 : 8. On periodic collapses of the firmament see also Rashi's commentary on Genesis 11 : 1, referred to in the Section, "World Ages."

⁶ Williamson, *Religious and Cosmic Beliefs of Central Polynesia*, I, 41.

⁷ See Section, "The Darkness," note 8.

should not lose its support and fall down.⁸ The Eskimos of Greenland are afraid that the support of the sky may fail and the sky fall down and kill all human beings; a darkening of the sun and the moon will precede such a catastrophe.⁹

The primitives of Africa, in eastern as well as western provinces of the continent, tell about the collapse of the sky in the past. The Ovaherero tribesmen say that many years ago "the Greats of the sky" (Eyuru) let the sky fall on the earth; almost all the people were killed, only a few remained alive. The tribes of Kanga and Loanga also have a tradition of the collapse of the sky which annihilated the human race. The Wanyoro in Unyoro likewise relate that the sky fell on the earth and killed everybody: the god Kagra threw the firmament upon the earth to destroy mankind.¹⁰

The tradition of the Cashinawa, 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."¹¹

In this tradition are included the same elements: the lightnings and thunderings, "the bursting of heaven," the fall of meteorites. About the change of places between heaven and earth there is more to say, and I shall not postpone the subject for long.

⁸ Olrik, *Ragnarok* (German ed.), p. 446.

⁹ *Ibid.*, p. 406. The tradition was told by the Eskimos to P. Egede (1734-1740).

¹⁰ L. Frobenius, *Die Weltanschauung der Naturvölker* (1898), pp. 355-357.

¹¹ Bellamy, *Moons, Myths and Man*, p. 80.