

CHAPTER FIFTEEN

ICE FIELDS OF THE EARTH

The earliest humans had to contend with growing ice caps and glacial fields, or at least some force that created their effects. Did the Great Ice Ages really happen? For a century the confident answer of science has been "yes." The idea is fetching; so much ice surrounds the north and south poles now that it seems reasonable that once there was even more, and probably once there was less, or none at all. At peak time, an estimated 30% of the Earth's land surface was covered by ice, three times the area occupied by ice today; this was as late as 11,000 years ago, or so it is believed.

When Emiliani discovered evidence that the Gulf of Mexico was for a time freshwater, he posited a rapid end to the Ice Ages and a flooding which may have drowned the mythical Atlantis culture, since the time (ca. 11,600 B. P.) conforms to Plato's date of the disaster. The surmise engendered sharp criticisms, allowing even historians to get into the act.¹

It seems that everyone believes that the ice came and each has an individual scenario, which is not complete unless it contains quotas of confusion and contradictions. If one wishes to spend a lifetime solving a puzzle while wrapped in an enigma, a career in paleoglaciology is recommended. One can scarcely blame an amateur from enjoying and even tolerating Donnelly's old idea that the ice ages never existed. Next best, one can call down the ice (or most of it) from outer space, as we do here. And so does Patten. Third best would be the Milankovich theory which depends upon cosmic perturbations in Earth-Sun transactions, but lets Earth manufacture the ice. John and K. P. Imbrie have updated and defended the theory, which, highly complicated in itself, is also confounded by the uncertainties of paleoclimatic studies.²

Hard evidence that a set of ice ages occurred falls into several categories, as follows:

Certain northern lands near the present ice are rising, as if a large load had been lifted from them. They seem to form arcs with Baffin Bay as an old geographical pole and center of an ice cap. (The western rising arc is separated from the eastern arc, as if they had been pulled apart.) An issue occurs if one asserts that the rising would ensue from a shifting of the Earth's axis and North Pole, regardless of the presence of ice.

Far to the South of the present Arctic ice, and far to the north of the present Antarctic ice, the rocks and soils show peculiar qualities. Huge areas of rock are scoured and scratched as if some gigantic force has scraped over them, now advancing and then again retreating. Immense fields of stones (or drift) have been pushed and shoved into place, as if by moving ice. An issue occurs if one asserts that tides and exoterrestrial stone fall-outs had produced the fields.

¹ 189 *Science* (1975) 1083; 193 *Science* (1976), 1268-71.

² *Ice Ages* (Short Hills, N. J.: Enslow, 1979); cf. Ian Cornwall, *Ice Ages* (NY: Humanities Press, 1970); Björn Kurtén, *The Ice Age* (NY: Putnam, 1972); Clifford Embleton, *Glacial Geomorphology* (NY: Wiley, 1975); Salop, op. cit. introduces cosmic disturbance as causes of glaciation, too, as does Pattern, op. cit.

Glaciers, formed on mountaintops around the world, take their origin usually in a U-shaped nook of a mountain. Their ice forms and slowly slides downwards through valleys, carrying drift and ending in melting waters. They abrade and pluck the drift as they go along. They are broad, and they terminate in broad curls, from which streams form and run off. Many "extinct" glacier forms exist, indicating that once there may have been much more cold and ice. That is, unless these "fossil" glaciers were pointed towards the sun in a global Earth tilt, and melted, or once were a part of a large crustal lateral avalanche that thrust whole areas away from the polar regions. Or unless exoterrestrial ice were dumped upon higher places and melted away from lower places.

Heat is required in large amounts to raise water for the snow falls over glaciers as well as polar regions. Some say the heat required would be too great for the biosphere to tolerate unless the snow gathered by very slow increments; there is evidence that "glacial ages" came and went rapidly. Further flora and fauna of the glacial age seas are arctic types; then where were the sufficient warm seas whose waters would evaporate and stream polewards as clouds? If cold water and snow fell from high cloud canopies, it could persist at higher altitudes and latitudes and accumulate and flow.

In many settings, such as Cape Cod, Massachusetts, large plains end on the downslope with a number of ponds and layer upon layer of sands, gravel, and clay. In it are scratched stones and finely ground glacial flour. It seems that an ice sheet had once moved downwards on all sides from a northerly direction, acting like a glacier on a grand scale.

Humps, low ridges, occasional erratics (rocks foreign to where they are found), and kettle pools (some dry) are scattered along the hypothetical front of the glacial sheet and might well have been produced by the forward march and retreat of the flood of ice.

Furthermore, an ice sheet that moved down into North America all across the continent blocked all northward flowing rivers; it created many lakes, some extinct like Lake Agassiz, others extant like the Great Lakes. The ice sheet forced a southward fanning out of many rivers, away from the ice front, to carry the melt waters. Once again, much, if not all, of the work assigned to ice could have been performed by winds, tides, exoterrestrial fall-outs of pebbles, dust and ice, extreme precipitation, and axial tilts of the globe.

I have not mentioned climatic changes: a very cold climate, as evidenced by the kinds of fossil flora and fauna discovered in old beds, indicates that a great deal of ice might have been nearby. Nor have I ventured to say when the ice ages happened and how many of them there might have been.

Full justice cannot be done here to the case for the ice ages. The conventional literature does so. But because some of the ice age reasoning falls victim readily to catastrophic claims, it may be time to advance the cause of quantavolution. Here three different positions are held: one is that the Ice Ages did not occur. The second says that they did exist but were sudden events, beginning and ending in disaster. A third admits their slow development but claims that they ended in catastrophe.

Ignatius Donnelly is the best older critic of the very idea of ice ages. (Douglas Cox has recently presented strong persistent objections to the reality of the ice ages.)³ In *Ragnarok*:

³ 13 *Creation Res. Soc. Q.* (June 1976), 25-34.

The Age of Fire and Gravel, Donnelly asserts first of all that there is no evidence of the ice ages in the cold Siberian wastelands and parts of Alaska that stretch up to the present Arctic ice. This is true enough. But, most catastrophists believe that a sudden tilt of the Earth occurred in the last ice age and hence these areas had *not* been so cold before then.

However, Donnelly proceeds. He argues that the debris of the called ice age -the pebble fields, erratic stones, and vast clay and till deposits -are not caused by the movements of ice at all. Rather they are the stuff of which the long tail of a comet is in part composed and it was a comet that devastated the earth in the early memory of mankind.

Little was known of comets and comet tails in his days. Until the past few years, scientists generally doubted that such substantial material was being transported around the heavens. Indeed, Velikovsky came in for much ridicule when he wrote in the nineteen fifties, in much greater detail and with stronger evidence, of the substantiality of comets. (He did not adopt Donnelly's anti-theory of the ice ages, however.)

Today the immense material potentiality of comets is scarcely doubted. Ice and gases, and otherwise terrestrial minerals found in meteoroids, are now accorded comets. Yet Donnelly's theory has not been seriously criticized; we forget that geology once got along without the ice ages, and that the inventor of the ice age theory, Louis Agassiz, was a catastrophist. The immense drift and till deposits could have come from exoterrestrial sources.

Although the analogies between glacial behavior and ice sheet behavior are numerous and strong, it is possible that the ice did not exist and that the dead glacial moraines are merely evidences of a cold climatic episode or episodes, not direct proof that they were related to a larger ice age sheet that blanketed millions of square miles to a depth of a kilometer and more.

Moreover, since the poles are flattened a bit from the spin of the Earth, would not the old polar areas of a perhaps faster spinning Earth be still relaxing into a spherical form? This would give a false impression of heavy ice caps having been removed. Further the weight of the Wisconsin ice cap would have been 3.10^{23} grams and 10^{33} ergs of heat would have been required to melt it. The melting would have taken at least 30,000 years, yet there is near to a consensus even among uniformitarian geologists that the ice cap disappeared rapidly, catastrophically. And the arctic land rising, mentioned earlier, appears to have begun only 10,000 years ago.

Why I do not accept Donnelly's theory despite its brilliance has to do with the correlative evidence going far off the straightforward discussion of ice ages. Some of the reasoning emerges when the theory of Melvin Cook is explained. Cook writing in the nineteen sixties, accepts the evidence for huge ice caps at both poles. Further he seeks no exoterrestrial power. His theory is nonetheless the most perfect of catastrophic models yet advanced. Ignoring the beginnings of the ice ages, but pursuing their end, his story commences with the great ice caps.

These, he says, by their enormous and accumulating weight, bore down upon the crust so heavily as finally to cause a rupture of the rim of the crater. The ice caps avalanched. They scraped the earth as they moved. They acted as gigantic bulldozers that caused mountain

ranges to be thrust forward and buckled and folded upwards. Giant floods from the rapid melts swept the earth.

The globe fractured and caused the continents to spread apart rapidly. The Atlantic Ocean and the Arctic Ocean were opened up. In the end the surface of the earth was greatly changed. A great many land and life forms, together with cultural centers, were destroyed in the process. As the huge ice blocks descended, they turned over the biosphere and folded it to create coal and oil deposits in a geological "instant." Waters that were buried deeply are still rising under pressure. Yet the end came quickly, occupying a few years, not millions of years.

The legends are definite but seemingly too rich. The northern peoples talk of terrible ice falls and winters, far beyond historical experience, and perhaps long before history as we gauge it. In Old Norse, the language of the Edda epics, snow is called *eit-ornir*, "white pus of the dragon." Martin Sieff writes: "Saturn is the solar system's 'treasury of snow'... The Greeks associated the planet Saturn (Kronos) with snow and hail, which were thought to be the planet-god's weapons; Nonnos told of the "shining victory of Zeus at war and the hailstorm-snowstorm conflict of Kronos..."⁴

Could the ice have fallen from the skies? Examination of glaciers shows that there is a gradation of consistency, from fresh fallen snow to dense ice, the dense ice being older. No question but that, if snows fell heavily they would promptly turn into ice. Further, the greater the falls, the swifter the glaciers would move and the longer and greater their moraines.

Moreover, why should the ice ages occur in extremely distant as well as recent ages; how do they come and go in stages, and concentrate most recently in a million years of the recent Pleistocene epoch (which is the typical allotted time)? The Sun is invoked. Whereas, on the one hand, the Sun is credited with great stability, on the other hand it is presumed to have stoked its furnaces from time to time, causing the ice to form. But back again. If the Sun cools, the equator cools; if the equator cools, waters evaporate more slowly; there is less to be carried north and to drop in the form of snow.

Continental drift has been argued as the cause of ice ages: "The ultimate cause of glaciation is thus seen to be movement of continents into appropriate latitudes... And much of the fossil evidence upon which the time-honored concept of Tertiary 'cooling' has been founded could be nothing more than a reflection of drifting of what are now the northern-hemisphere land masses and ocean floors toward the pole and hence into cooler climes."⁵ Another theory holds that a huge number of tropical volcanos erupted at once, which threw vast amounts of water into the air, which, because the upper atmosphere was darkened, caused less sunlight to bombard and warm the Earth, which finally caused the vapors to fall at the poles in the form of snow and ice.⁶ Also, Hibbin attests to many burials of Pleistocene animals in ashes that fell *after* the ice ages.⁷ It should be borne in mind, however, that extensive simultaneous volcanism, as well as the ice ages, points to exoterrestrial forces impinging on Earth.

The solution must be catastrophic, it appears, but must take a special form, which elsewhere we have called *Solaria Binaria*. If it is consolation to the reader, explanations of "the ice ages" have generally been bizarre and fantastic. Nothing less may be expected of our theory

⁴ S. I. S. *Workshop* (Mar, 1978), 4.

⁵ C. B. Beaty, "The Causes of Glaciation," 66 *Amer. Sci.* 4(July 1978), 452-9, 458.

⁶ J. R. Bray, "Volcanism and Glaciation During the Past 40 Millennia," 252 *Nature* (20 Dec. 1974), 679-80

⁷ *The Lost Americans*, 163.

here, unless, of course, the reader is conversant ahead of time with our work. It is not unreasonable, we argue, to postulate a primordial age, as recent as 14,000 years ago, when no ice caps existed. The Earth would have been generally comfortable. It would be also enveloped in the gaseous atmosphere of the binary magnetic tube. This Uranian heaven blocked direct sunlight, but afforded an equable climate to the Earth.

The binary tube atmosphere would itself have been maintained by the same electrical and inertial forces that kept the Earth in rotation and orbit. Then the solar system as a whole was disturbed by the failure of one of its parts. The part that failed was the counter-solar or Super-Uranian node of the binary solar system. When the electrical current between the Sun and Super-Uranus diminished, the magnetic field around the current diminished. All the bodies that circled around the current ceased orbiting around the axis between Super-Uranus and the Sun and descended radially to the plane of the ecliptic. They began to find new individual orbital paths around the Sun. They moved out towards larger orbits.

The atmosphere, a remnant, specially attached to the Earth, of the old plenum atmosphere, drew more closely about the Earth. "Heaven came down to embrace Earth," to paraphrase the Greek myth. The clouds were pierced by material erupted from the disintegrating Super-Uranus and blown down the magnetic tube between the binary partners. Some of it precipitated upon the surface of the Earth. The Earth could not melt much of the ice, most of which fell at the electrically least-guarded poles. The now direct sunlight helped the friction of the fall to vaporize and precipitate some of the ice as rain. Flooding began at the edges of the forming ice caps. The time postulated for these events began about 14,000 years ago.

Within a few centuries the threat to life on Earth became extreme. Great ice blocks covered the extremities and local regions of the globe and threatened ultimately to make contact, erasing practically all life. At the same time flooding spread throughout the world.

If one-third of the globe was covered by ice at the time of maximum advance, according to conventional theory, ice was piled three miles deep at the poles; there was twelve million cubic miles of ice. For a hundred years catastrophists and disbelievers in the ice ages have pointed out that an incredible power (heat and winds) was required to evaporate equatorial water, lift it, and transport it to the polar areas. The world would have burned up at the equator while freezing deeply at the poles. The idea supplies its own contradiction; yet it is the accepted theory, that molecule by molecule the water evaporated, drop by drop it condensed in vapor clouds, ton by ton it fell - all off and on for a million years and more. Then the mechanism was turned off, rather suddenly; much of the ice melted and the oceans rose by several hundred feet several thousand years ago.

Direct exoterrestrial deposition of snow to form the caps follows from the heat requirements to evaporate, lift, transport and condense as snow the contents of the ice caps. The surface heat requirements might have stressed the biosphere life tolerances. Further, in order to raise the required mass of water, the clouds transporting water from tropical to arctic regions would become so dense that heat from the Sun of today would cease to penetrate to the surface with sufficient energy to continue the lifting task. The latent heat of aqueous vapor at the tropics is 1000° F. A pound of water vaporized at the Equator has absorbed 1000 times the quantity of heat that would raise a pound of water in temperature by one degree Fahrenheit.

An exoterrestrial catastrophic solution is called for, from beginning to end. The time to erupt the Moon arrived with a passing great fragment of Super-Uranus. The Earth's crust burst.

Lava had to flow in endless streams. Great volumes of sky-borne ice must have fallen and participated in the bursting mechanics. Cook has figured the needed forces, but we should add an initial impetus from the eruption and blow-off of the Pacific crust. A fracture shot to the old North Pole and down the Atlantic, thence around the world. The ice avalanched. It fed the boiling sea bottoms to help them settle and expand. Much was then evaporated and precipitated again by the conventional method, but under catastrophic conditions. Finally the new world surface shaped up and stabilized. The precipitous curve of disaster dropped exponentially to the slight level of activity where it could be mistaken for a linear uniformitarianism.

It was thus that the worst and best accident happened. The earth cleaved, lost most of its continental crust, and the ocean basins began to form. This greatest of all catastrophes removed the ice and permitted life to survive; it became the greatest of all blessings. A date of 11,500 B. P. may be ascribed to the event.

The ice caps, as Cook has so well calculated the scene, collapsed and avalanched upon all sides, moving into the great chasms of boiling lava directly or through floods that rushed over the land and plunged down into the new oceanic chasms, carrying debris to form slopes. Hundreds of deep canyons were grooved into the land and slopes around the world, where they remain today, "fossils" from the time of ice age collapse and of the filling of the ocean basins. The ice caves were formed -solid ice from the ice ages sandwiched in between layers of once boiling lava flows, still intact, though hollowed out somewhat, now refrigerating food and supplying age-old spring waters.⁸

Geologists have counted and recounted the number of ice ages and of interstadials, the periods between stages. John Gribben, in a recent work on *Forecasts, Famines and Freezes*, counts ten ice ages, of which one lasted only for a century or less. Paying no attention in their "petrofabric analyses" to our impression that fossil "glacial and stream deposits" could just as well come from comet-tail or meteoritic splashing, geologists saw breaks of climate in the interruptions of moraines, where now a swelling and then a shrinking may appear. In the soil found squeezed between strata of glacial debris, there is also the suggestion of successive ice ages. Even the Arctic Ocean is said to have been free of ice in Pliocene and Pleistocene times, on the basis of calcareous nanno-fossil deposits below the present ice.⁹ And another study, of the Labrador shelf area, based on fossilized sediment cores, argues for an ice-free sea extending back 21,000 years from the present.¹⁰

Over a mile deep in the Greenland ice field around Dye 3 radar station, Greenland, ice cores are being drilled, extracted and analyzed.¹¹ From its rock base upwards, the ice is expected to afford 100,000 years of Earth history and the beginning of at least the local ice age (cf other estimates of 1 to 3 million years and our own of 14,000 years). Oxygen ratios in sampled slices of the drilled ice are calculated to determine climatic trends and time scales. The units are "annual" ice varves. As depths increase, the distinctions blur. Dust ratios are used as indicators of heavy volcanic events in the world.

The stratification challenges any quantavolutionary attempt, as here, to explain the ice accumulation as a brief episode. Obviously the ice under examination did not fall as blocks, at

⁸ Patten, *The Biblical Flood and the Ice Epoch*, 120-4.

⁹ T. R. Worsley and Yvonne Herman, 210 *Science* (17 Oct. 1980), 323-5.

¹⁰ G. Vilks and Peta J. Mudie, 202 *Science* (15 Dec. 1978), 1181-3.

¹¹ See Walter Sullivan, *N Y Times*, Aug. 9, 1981, 1, 24.

least not most of it, or, if it did so fall in the region, the blocks splattered and connected up or flowed afterwards under weight, internal pressure and heat, picking up atmospheric exposure and dust.

Heavy snowfalls, whirled about by heavy winds, would, however, establish the great depth in short order, in dozens or several thousands of years, with present snowfall adding steadily to the basic conserved precipitation. It is noted that at an estimated 10,000 years, the "ice age" deposits of tiny crystals end and the large ice crystals of the present era begin. For those who are disturbed by only 100,000 years for the Greenland ice cap, because of ice age theories of a million years, there is the consolation that the ice beneath relentlessly squeezes out to form icebergs that search out more southern climes.

Interpretations that seek a long drawn-out succession of uniform deposits may be an illusion of sorts. The evidence rather may indicate the erratic character of the ice falls, both in intensity and distribution over the Earth's surface. It may also indicate a wobbling of the axis of the Earth as its electrical fields changed and its motions within the solar system altered. Whether the globe changed geographical axis once, with such gradualness that it scarcely wobbled, or whether it changed once quickly and wobbled several times before settling down in its new position, or whether the geographical axis changed several times in several hundreds or thousands of years, an illusion of several ice ages and subdivisions thereof might be fostered.

Faced with the problem of explaining the chalk cliffs of Etretat (France) across from Dover, which are laminated, French geologists have tried to establish a correlation between the laminations and the oscillations of the axis of the Earth. The oscillations occur some 23,000 to 41,000 years apart, the sedimentary layers are individually accorded 20,000 to 40,000 years. *Voila*, as the Earth rocks, the sea level and the biological activity of the sea rise and fall, as evidenced in the layers. "But how explain that such feeble orbital variations should be capable of engendering such important changes? The problem," wrote a group of French editors led by Serge Berg, "is far from being clarified." Surely so; however, not only chalk sediments but also ice layers could be deposited in a short time if the wobbings of the axis were greater and more frequent, as is demanded in quantavolutionary theory. Strata of all kinds can be laid down quickly, including strata that reflect and measure falling snow and ice.

Furthermore, as we have pointed out, unfossilized till deposits, possibly themselves exoterrestrial, are used to denote recent and ancient ice ages. "... The Huronian super-group in the south of the Canadian Shield presents this evidence most unambiguously. Three tillite levels are reported from that region corresponding to three glacial periods separated by epochs of warm or even hot climatic regimes which lasted some tens of millions of years."¹²

So, too, around the world, on every continent (whence geologists have deduced shifting sidereal poles); thus "two principal tillites are dated isotopically at 870-820 MY and at about 680 MY." These statements, by a pronounced quantavolutionist, L. J. Salop, evidence the overall grip of conventional scientific theory on the scientific mind, for it would be only consistent of Salop to query the origin of the tillites and then the conventional view of many ancient and modern ice ages. The correlation of tillites with ice ages is deceptive of time and causation. Why not repeated switches of a comet tail?

¹² Salop, I.J., *Precambrian of the Northern Hemisphere*, Elsevier, 23 ff.

A late report, in the newsletter of *Science and Technology* (54: 2, 1982), describes an area of the Huqf Desert of Oman where tillites on striated bedrock -taken as glaciation -seem to be associated with oil reservoirs, and the complex is pronounced Early Permian (-158 my), when coal is supposed to have formed as well from tropical vegetation. We see no contradiction in ice striking hot tropics, provided the ice comes from the skies, and provided that along with the ice one brings down stony till to gust along, scratching the rocks. Here, however, one may dispense with the glaciation, which is predicated upon the till; ice may or may not have fallen. One may also tie in the oil deposits with the exoterrestrial source of the till, a comet. One may, moreover, hold in abeyance the dates assigned to the events; the time may have been only thousands of years ago.

The ice ages, then, may be a product not of a million or more years, but of several thousand years, from 14,000 B. P. to about 9000 B. P. At this latter time, there began a settled and milder age, with a subdued binary, an equable climate under still cloudy skies and two suns, the Sun and Saturn. This would be the renowned Golden Age of Saturn, of which so many legends speak, an age following the revolt that dethroned the god Uranus, the age before another great catastrophe, when the gods warred again and Jupiter removed his father, Saturn. There occurred huge inundations, brighter skies, and the present ice caps developed, shaped around the present geographical poles. The Antarctic cap is largely contained on a land mass with an ice flow over its boundaries and into the sea. The Arctic Sea was almost entirely a swamped continent, despite the rifts through it, and received its ice directly upon this land in the transition from Saturn to Jupiter. The extreme conditions of Earth fracture and ice avalanching encountered in the critical period beginning at 11,500 B. P. would have destroyed all ice. Evidences of mild climate and an abundant biosphere are present in both polar areas, some of this presumably from the Saturnian interlude, most from pre-lunar times.

Thus far, no human vestiges have been discovered where once the Uranian ice cap lay. The turbulent moving ice would have erased all such evidence down to a considerable depth of rock, even in the absence of land thrusts, flood, wind and fire. Certainly humans retreated to warmer climates in the face of the icy tempests. Still, primates, proto-humans and *homo sapiens* lived among the animals whose remains have been found under ice and permafrost. Whether a long-term date (like two million years) or a short-term date such as I suggest here is adopted, these species existed before the ice and they may one day provide new fossil discoveries.

There is an old map, called the Piri Reis map, that shows perhaps the coastline of the Antarctic continent as it would have appeared in the interim between the settling down from the great ice cap collapse and crustal shifts of Lunaria and the new ice caps of Jovea that remain today. That would be during the "Golden Age" of Saturn. The Piri Reis map is the subject of a book by Charles Hapgood, who also provided a singular theory of ice cap avalanche with a mechanism different than Cook's. (Einstein thought Hapgood's idea that the ice cap would have shoved the continental crust on a wedge principle to be mechanically acceptable.)¹³

I incline to the view that the map, which was drawn up from various old sources a few years after Columbus anchored off Santo Domingo, plots the shores of Antarctica well because, during the Saturnian period, a mild cloudy climate prevailed, the southern oceans and shores were free of ice, and navigation was well developed. Probably human settlements then existed

¹³ *The Path of The Pole* (Philadelphia: Chilton, 1970).

in Antarctica as they did in many places in the far north that are now encased in ice or permafrosted.

We speculate that the "ice ages" did happen, first in Uranian, then in Jovian times. Much of the Earth was frozen. The ice was mainly exoterrestrial. Vsekhsviatskii writes of Saturn that "observation of its rings over the past 300 years have shown that during this time the middle line has moved 0.17 of its original distance closer to the surface of the planet. Therefore, one may suppose that in a matter of some 1800 years a large part of the material in Ring B will fall onto the surface."¹⁴ We are here back to visualizing Vail's canopy drops, from primeval sources, or as a way-station. But a Saturnian explosion, not a falling of Saturn's rings, deluged the Earth with ice. Saturn's rings today may be fall-back debris of the same incident, still falling back.

The ice came down with falls of gravel and tillites. The great Ice Age extended from about 14,000 to 11,500 B. P. During this time the Earth was wobbling, the atmosphere turbulent and the deposits of ice were eccentric. Life would have been exterminated by the spread of ice and flooding if the greatest of all catastrophes had not cleaved the Earth and formed the ocean basins. Then ice and waters avalanched or fell into the basins as these grew in size, filling them ultimately over their brims.

The present ice age began in proto-historical times. Saturn's explosion drenched Earth with water and ice and the terrestrial axis tilted as a result of the explosive force. The age of "Jupiter of the Bright Skies," as the Greeks significantly denominated him, began; the skies were clearer and the climate colder because of the tilt; the high canopy was almost quite gone leaving merely the present upper atmospheric levels and magnetosphere of Earth. Ice began to gather around the northern and southern poles, drifting over the cultures of the age of Saturn.¹⁵

¹⁴ "Physical Characteristics of Comets," (Moscow, 1958), NASA-TTF-80.

¹⁵ Flavio Barbiero, *Una Civiltà sotto Ghiaccio* (Milan: Nord, 1974).