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## THE CAUSE OF THE ICE AGE\*

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*It is shown that there has been only one ice age and that the theories of multiple ice ages are misinterpretations based for the most part on index fossils. Carbon-14 dating and the recession of Niagara Falls are used to demonstrate that the ice age is an extremely recent event. Evidence is presented to show that the ice age was caused by, and that it followed the universal flood. Evaporation of floodwaters cooled the atmosphere below the freezing point. It is proposed that melting of an Arctic icecap that floated northward in the floodwaters lowered the temperature of the ocean from 25° C. almost to zero. Just as evaporation is a cooling process, so is freezing a "heating" process which automatically brought on the postdiluvian "Climatic Optimum" which raised world temperatures 5° above "normal" after the ice age.*

### Introduction

Many conflicting theories have been proposed to explain the origin of the ice age. There is no need, however, for the pessimism expressed by Robin.<sup>1</sup> It is my conviction that an Ice Age would be expected to follow a universal flood. The areas now deserts were "soaking wet" for centuries following the flood. There were lakes everywhere; in fact, as shown by Lammerts,<sup>2</sup> vast lakes existed in the San Joaquin valley as late as 1870.

Evaporation kept the humidity at 100% most of the time. The earth was thus a new-style refrigerator—a modern evaporator type. For evaporation is a cooling process and if there is enough evaporation, and it is rapid enough, then it is a *freezing process*. Every cubic centimeter of evaporating water cools the atmosphere by 540 calories. Water vapor was rising from what now are deserts, from thousands of lakes, and from greatly enlarged oceans.

Thus, it could be said, from this point of view, that the earth was an ultra-modern dual-style

refrigerator with two kinds of refrigeration operating simultaneously. Freezing cold evaporation clouds were rising everywhere, resulting in rain-fall in the tropical areas and snowfall in the temperate zones, and cold winds were flowing across the resulting snow and ice fields pouring continuous snowfall on the adjoining shore lands.

Thus moisture laden supersaturated clouds were carried by wind currents to northern Canada, Scotland, Norway, and Sweden where snow fell daily from November to April, accumulating to depths of 500 to 1,000 feet during the first winter. One hundred years of such snowfall results in about 50,000 feet of ice—the glacial age. The tops of these ice mountains, a mile high, would be so cold that snow would continue to pile up all spring and early fall as well as in the winter. Very little would melt in the cold July and August summer. The result would be cumulative, the higher the mountain, the colder the temperature and the greater the snowfall or ice particle fall. The weight of such ice would cause it to flow outward across the Baltic Sea, depositing boulders all across the north German plains, as we find them today.

Such in general is my concept of how the glacial age was the inevitable result of a world wide flood. Now let us see how well the facts, as we know them, about the surface of the earth,

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especially evidence of glaciation, can be explained by this generalized concept.

### Monoglacial Theory Replaces the Multiglacial

Most geologists teach that several ice ages occurred but actually there is very little evidence of a second, third or fourth ice age. An increasing number of geologists are discarding the multi-glacial theory and are adopting the monoglacial theory. "Deposits formerly attributed to four or five separate Pleistocene glaciations are deposits of a single glaciation."<sup>3</sup>

But someone may ask, how can a 5,000-years-ago flood explain a 500,000,000-years-ago ice age in the Cambrian? For J. H. F. Umbgrove<sup>4</sup> states that *no less than six ice ages are known from the Precambrian*. And E. T. Brewster writes of a "Precambrian or Lower Cambrian" ice age: "In China in the latitude of northern Florida, there are 175 feet of obvious glacial till, scratched boulders and all, and over it lie sea-floor muds containing lower Cambrian trilobites, the whole now altered to hard rock."<sup>5</sup>

Notice that word "trilobites" in the last sentence. The whole theory of a Cambrian ice age with its 500,000,000-year date is based on these trilobites. Trilobites are used as index fossils of the Cambrian and later Paleozoic Age and rocks are dated accordingly. So each place the flood buried trilobites along with glacial till is labeled Cambrian and becomes one of the Cambrian or if not present Precambrian ice ages, 500,000,000 years old or more, merely because a lot of little fossil creatures, ¼ inch to 30 inches long resembling pill bugs in many ways, and softbodied invertebrates without backbones are said to have evolved 500,000,000 years ago.

And an ice age in Antarctica is said to be 60,000,000 years ago because some fossil sea shells are thought to have "evolved" 60,000,000 years ago and are therefore said to be index fossils of the Eocene! As George McCready Price has said, this logic "has all the infirmity of the Middle Ages" and ought to have been purged out of science long ago.

As might be expected, any science built on ice ages involving such theories of evolving fossils will fall into hopeless confusion. As J. K. Charlesworth of Queen's University, Belfast, frankly admits, "The cause of all these changes, one of the greatest riddles in geological history, remains unsolved, despite the endeavors of generations of astronomers, biologists, geologists, meteorologists and physicists it still eludes us."<sup>6</sup>

### Did the Continent of Africa Drift Down from the North Pole, or Up from the South Pole?

In Africa geologists have discovered a lot of so-called "glacial till" and "striae" which they interpreted as a Permian ice age in the hot tropics.

But as Ernst J. Opik admits, "How this could happen in a region which at present is within the tropics stretching from 17° to 24° north latitude, is one of the greatest geological puzzles we are confronted with."<sup>7</sup>

The mystery of glaciers in the hot tropics, near sea level, is explained by Alfred Wegener and his followers by the theory that the continents drifted slowly, like rafts on the sea, and that this part of Africa was once in the Antarctic where it developed glaciers. Supposedly, after many millions of years in Antarctic regions it drifted slowly up to the tropics and was somehow united with the rest of Africa, parts of which must have remained in warmer regions as they show no evidence of glaciers.

Continental drift is a controversial question and it will not be our task in this paper to consider the evidence relating to it. Certain puzzling features, such as glacial striae in the tropics and fossil forests and coal swamps in Antarctica, present an interesting challenge. Some scientists have attempted to meet this challenge by proposing continental drift and/or wandering of the poles. But flood geologists do not have to imagine huge continents floating around like rafts on a big ocean in order to explain coal beds. They merely imagine floating trees which piled up on hills, in alcoves or basins and became covered with floodwater mud to form coal.

But how could ice invade tropical regions in the flood? Is not ice lighter than water? Will it not float? So when Antarctica's icecap was covered with a mile or two of floodwater might not the icecap bob up to the surface and float away as the biggest iceberg of all time, and Greenland's icecap the world's second biggest iceberg?

There is a certain amount of factual evidence supporting this theory. There is evidence that there were no icecaps at the time the sedimentary rocks and coal beds were laid down. "Indeed it seems doubtful whether even the polar icecaps existed then."<sup>8</sup> Charles H. Hapgood writes, "I have suggested that in very recent times, no more than 10,000 years ago, a large part of Antarctica may have been ice-free."<sup>9</sup> Swinnerton writes about where the icecap floated, and where it melted, in this highly interesting passage:

A strikingly different picture is outlined by the Lower Cretaceous rocks of Central Australia. There some of the layers contain large erratic blocks which could only have been transported to, and dropped in, their present position by icebergs drifting into the seas where the original sediments were being laid down.<sup>10</sup>

If anyone suggests that ordinary icebergs dropped these large erratic blocks, such an idea may be refuted by simply looking at a map of

Australia and noting the dotted line marked "Northern limit of drifting ice." No ordinary-sized iceberg ever gets past this limit and if an iceberg did it would merely be cast up on the shore and melt, and never get into "central Australia." But Swinnerton imagines a highly extraordinary iceberg for he says that the "icebergs," "transported to and dropped in," "central Australia," "large erratic blocks," "where the original sediments were being laid down."<sup>11</sup>

The largest of these blocks is the "Ayers Rock." It is the world's most spectacular erratic boulder. "Ayers Rock, in the Northern Territory, is the largest single rock in the world. It is dark red, especially red at sunset."<sup>12</sup> It is 2¼ miles long, by 1¼ miles wide, with a height of 1143 feet showing above the ground. It is called "The Red Heart of Central Australia" because it is composed of red rock, shaped somewhat like a heart, and located at the heart of the continent near the geographical center of Australia.

There are no nearby mountains from which it could have been derived. But there it is, out in the desert with the sagebrush and the cactus, a huge monolith for which modern geologists can furnish no explanation. No ordinary-sized iceberg, such as Swinnerton's theory seems to suggest, could possibly transport such a colossal block of rock 2¼ miles in length.

But the proposed antarctic icecap itself, or a sizeable portion of it, could lift such an enormous weight, and the universal flood could float it into the middle of Australia and drop it down. Swinnerton adds these significant words: "Other layers yield fossilized logs of conifer trunks which must have grown under much less severe conditions than those reflected by the presence of icebergs."<sup>13</sup> The uprooted trees, the icebergs and the Ayers Rock must have been rafted in from somewhere, as neither the rock nor the conifers, and certainly not the icebergs, are native to Central Australia.

Now it's scarcely likely that the Antarctic icecap floated off northward and melted in Australia in one piece. There is an interesting clue which indicates that part of it probably floated to and melted in Africa. After considerable research and field work on ice ages in Africa, the Canadian glaciologist, A. P. Coleman, produced evidence that a continental ice sheet—not just icebergs, but an icecap—once invaded Africa from the sea.<sup>14</sup> According to Holmes, ice from the sea from the direction of Antarctica, invaded the southern tip of Africa, flowing directly northward.<sup>15</sup>

#### Continental Ice Sheet Flowed Northward Across India

Ice scratches on the rocks of India show that ice moved *from the south toward the north*, in a

direction away from the equator, as far as the Salt Range of Pakistan. This is an insoluble enigma to modern geologists, for *ice from the equator, flowing northward* cannot be fitted into any of their theories. But in keeping with flood geology huge icebergs from the Antarctic icecap may have floated over India *from the south* and scraped along over the rocks as far as the Salt Range, almost to the foothills of the Himalayas.

As to where Greenland's icecap floated and melted, we know at least that today's icebergs break off and float southward in the North Atlantic, cooling off the surrounding climate as they melt. If Greenland's ice age icecap broke up into thousands of icebergs, turning the northern half of the Atlantic into a half-freezing, half-melting ocean of floating ice—that would be sufficient to explain why icecaps developed in the adjoining areas of northwestern Europe and northeastern North America.

Some Greenland icebergs may be the ones that L. Dudley Stamp says got washed up and stranded on the English shoreline, although he writes "that the boulders were carried . . . through the agency of icebergs broken off from the Irish Sea ice where it terminated between the coast of Wales and Ireland."<sup>16</sup> W. L. Stokes writes that the sea between Greenland and Iceland "had been a mass of floating pack ice."<sup>17</sup>

Freezing-cold winds that blew across this ice field of floating pack ice and poured snow on the Highlands of Scotland would be sufficient to explain the British and Norwegian icecaps. Apparently there was no Gulf Stream at that time or it would have melted this "mass of floating pack ice." With "pack ice" replacing the Gulf Stream, northwestern Europe entered its ice age. Ice reflects sunlight: 75% of the light and heat arriving from the sun was reflected into space.

Not only did Greenland's icecap scatter icebergs over the Atlantic from Greenland to Cuba but Arctic pack ice floated through, or rather over, Bering Strait so that "From Alaska to Lower California, and from Greenland to Cuba, the oceans were crowded with icebergs."<sup>18</sup> Thus in the flood view the Arctic mass of ice floated south, bringing the ice age with it and refrigerating America and Europe in the ocean of melting-freezing icebergs.

Arthur Holmes of the University of Edinburgh writes, ". . . that part of the ocean must have been frozen over or effectively covered with pack ice as far south as British latitudes, and much farther south on the American side."<sup>19</sup> He states that the temperature of the world's oceans dropped from 25° C. to nearly 0° C., (or from 77° Fahrenheit, almost to freezing).

Holmes attributes the cooling of the oceans to vast quantities of melting ice. But he cannot conceive of any source from which the first ice

came, to get the ice age started. The floating ice-cap theory solves this problem by floating the Antarctic icecap out under the warm sun, thereby making the oceans a melting-freezing mixture, and explaining the drastic temperature drop from 77° Fahrenheit, or from 25° C. as stated by Holmes, almost to the freezing point.

From the south pole there is only one direction that ice may float, and that is north into warmer waters. If the 6,000,000 or 10,000,000 cubic miles of Antarctic icecap broke up into millions of floating, melting icebergs, each one a cubic mile or so in volume, that would be enough to turn the earth into an enormous old-style icebox, cold enough to explain the ice age many times over.

The real problem is not how to explain "the great ice sheet that covered most of India," but why it did not cover *all* of India. Or to put the problem in sharpest focus, why, as Coleman asks, "these ice sheets were distributed in what seemed a capricious manner? Siberia, now including some of the coldest parts of the world, was not covered, and the same is true of most of Alaska, and the Yukon territory in Canada."<sup>20</sup>

#### Why No Ice Age Glaciers in Siberia?

Let's start first with northern Siberia, the "coldest spot on earth." It is a lowlying plain at such a low altitude that it was covered with water during the larger part of the ice age. No icecap can be formed on top of water, which is supported by the fact that the north pole, one of the coldest spots on earth, has only a few feet of floating ice; whereas Greenland, farther south, is capped with a mile-and-a-half-thick icecap on top of its 1600-foot-high rock base.

When Siberia finally did rise above the receding floodwaters all of the north pole's ice had floated off southward and melted, and all of Antarctica's ice had floated off northward and melted, because north is the only direction it could go, so that the earth was no longer an icebox-style refrigerator. Neither was it much of an evaporation-type refrigerator, because by this time all the continents had risen and partially dried up. The Ural Mountains intercepted most of the moisture-laden winds so that there was only a light winter snowfall which melted the following July, as Siberia always rises above the freezing point in July and August.

But the northern tip of Greenland, which is almost on top of the north pole, had no ice age glaciers, and some of those northern Canadian islands were also devoid of ice although they were much farther north than the north magnetic pole. Theorists often bypass this most baffling of all ice age puzzles. A. P. Coleman writes in his *Ice Ages Recent and Ancient* that the northern tip of Greenland, some of those farthest-north Canadian islands, north of the north magnetic

pole, and all the low-lying land of the Yukon and Alaska show no ice scratches on the rocks, no glacial till, or signs of ice age glaciation.<sup>21</sup>

There is no problem for the flood theory as all of these low-altitude lands were probably covered with water for the greater part of the ice age. And icecaps could not have been formed on top of water. Nothing could have formed but a few feet of floating ice—about 30 feet thick as at present in some places.

And if glaciers flowed down from the adjoining mountains, the icebergs would have merely broken off and floated away. By the time these low-altitude lands rose above the receding floodwaters, all of the Arctic ice would have floated off southward to help bring on the American and European ice ages.

So there was no icebox refrigeration effect to glaciare those Arctic areas and not so very much evaporation-type refrigeration because the continents were beginning to dry up. But someone will immediately object, "You surely do not mean to imply that there was no ice in Greenland or in all those northern Canadian islands?"

Of course there was ice there in process of formation, but it was new ice, freshly frozen, and the freezing of water is the opposite of the melting of ice. The freezing of all the postdiluvian ice was a warming process that brought on the warm "climatic optimum" that immediately followed the ice age.

It is difficult for some to grasp this concept that freezing is a "heating" process, that it returns 80 calories of heat to the atmosphere for every cubic centimeter of water frozen. It may help to print "heat" in quotes, which doesn't mean heat in the sense of hot summer weather, but "heat" in the sense of moderating the winter—that is, not so far below zero.

In this sense then, the northern tip of Greenland and the farthest-north islands of Canada, and a few Siberian islands, having been shielded from the severities of the ice age, were now "heated"—that is, the cold winters made less severe as they rose up through the protecting sheet of water in the last stages of the ice age just as this "heating" effect was beginning to bring in the warm "climatic optimum" that immediately followed the ice age.

#### Mystery of Ice Age in the Hot Tropics

But by contrast with these unglaciated islands of northern Canada and tip of northern Greenland, glaciologist A. P. Coleman speaks of the insoluble mystery of an icecap in the hot tropics, on the 2000-foot-high plateau of southern India. He writes that the icecap "extended 1100 miles to the Salt Range in the north."<sup>22</sup> Of course it's an insoluble mystery, for no drifting continent or shifting crust theory can get India glaciated

at the north pole without shoving Asia up there ahead of it, or at the south pole without dragging Asia behind.

Arthur Holmes, and several other authors, solve this awkward problem by cutting off Arabia and India from the rest of Asia and placing India at the south pole, while leaving most of Asia farther north somewhere. In Figures 540, 874 and 875, he shows southern Africa, India, Australia and South America clustered around the south pole, becoming glaciated during the late Carboniferous, and in Figure 539 Holmes shows these four glaciated areas after having been carried by convection currents to their present locations.<sup>23</sup> Dr. Ronald Fraser writes,

Guided by convection currents in the mantle, the four continental masses of South America, Africa, India and Australia were scheduled to set sail from the heartland of Antarctica in Mid-Mesozoic times for their present anchorages: voyages of anything up to five or six thousand miles in the last two hundred million years, at a cruising speed of two or three centimetres a year.<sup>24</sup>

Holmes asserts that India crossed the equator (after having been glaciated from the south). It then parted company with the Afro-Arabian block and continued moving northeastwards until "its hidden extension" plunged underneath and uplifted Tibet. But according to my theory India (also Arabia) was never at any time separated from Asia, nor was it ever located near the south pole, nor did it ever separate itself from Africa by floating across the Arabian Sea, nor did it ever perform the fantastic feat of plunging underneath the Himalayan Mountains and lifting up the plateau of Tibet, which Holmes suggests. An ice age in India is no problem for the flood-ice-age theorist with a billion tons of Antarctic icebergs floating around off shore in the Indian Ocean, and cooling evaporation rising from the nearby Indian Desert.

Also Coleman showed that icecaps reached sea level, within the tropics, on three continents: Asia, Africa and Australia, as well as "in the mountains of Peru, almost at the equator."<sup>25</sup>

In order to explain these ice scratches in the tropics, Africa is said to have drifted over and around the south pole during the Permian, after which it drifted 5000 miles northward. It is no insuperable problem for the flood-ice-age theory to produce glaciers in tropical Africa, with a million Antarctic icebergs floating offshore. But without the flood theory as the key that unlocks the mysteries, the ice age is a confusing jumble of baffling mysteries.

### Why the Hudson Bay Area Was the Generating Center

The most baffling puzzle of all is why Hudson Bay instead of British Columbia should be the generating center of the northern hemisphere's biggest icecap. The ice of the Hudson Bay area was built up a mile or two in depth, *sufficient to flow over the top of the Appalachian Mountains* down onto the Atlantic seaboard to Boston and across the Great Lakes almost as far south as the 37th parallel of latitude which runs through the northern tip of Africa.

Charles H. Hapgood tries to solve the problem by suggesting that "the Hudson Bay region lay at the pole" about 18,000 years ago and developed its icecap while it was up there, but as it is not up there now he suggests "a movement of the crust that would move North America southward about 2000 miles. . . ." "Beginning about 18,000 year ago and ending about 8000 years ago."<sup>26</sup>

This would involve a movement of one thousand feet per year, or about a meter per day which is very much faster than the 3-centimeters-per-year speed at which South America, Africa and India drifted up from the south pole. This presents the continental drift theorists with an intolerable contradiction.

But the flood-ice-age theory as presently expounded can be used to explain the Hudson Bay puzzle quite naturally. (The reader will probably need an atlas during the discussion in this section.) Note first that the Arctic islands north of Canada are joined to the mainland, northwest of Hudson Bay by an isthmus around which is low-lying land. This low-lying isthmus may have been covered for centuries with the receding waters of the flood and *ice-cold waters from the frozen northwest Arctic Ocean poured across this isthmus* into Hudson Bay, and out again through Hudson Strait, filling the whole Bay area with ice water and turning eastern Canada into an Arctic region with sub-zero climate.

Central and eastern Canada rose into a block of ice, comparable to Antarctica. Moisture-laden winds, supersaturated with evaporating flood-water, poured down continuous snowfall, twelve months a year, that packed into a mile or two of ice that flowed *downhill* across the mountains to New York, and through and over the Great Lakes to St. Louis.

The current of ice-cold Arctic Ocean water flowed into Hudson Bay from the northwest and out again on the east side through Hudson Strait making an enlarged-volume, ice-cold Labrador current, with scattered Arctic icebergs, that may have driven the Gulf Stream off to the south and taken control of the North Atlantic. Then cold North Atlantic winds probably blew across this

ice field and poured sleet and snow over northwestern Europe, turning the British Isles, Norway and Sweden into blocks of ice.

A careful examination of the map of northern Canada will show a *very narrow channel*, near the north magnetic pole, through which ice-cold waters still flow from the northwest Arctic into Hudson Bay and out again in the Labrador Current. If the Canadian Government would block this narrow channel, which should not prove an impossible engineering feat, the temperature of Hudson Bay would rise still more and with it the temperature of eastern Canada, thereby permitting farming a little bit farther north and moderating to some extent those bitterly cold northern winters. The present-day channel can be thought of as an interesting relic of the flood and the ice age, the deepest part of the original channel.

As soon as the waters of the deluge had sufficiently subsided, the isthmus joining continental Canada with the Arctic islands rose through the receding waters, thereby blocking off the ice and ice water of the northwest Arctic. Hudson Bay then gradually rose to normal temperature. The Labrador Current dropped back to its present-day limited flow. The Gulf Stream once again took over the control of the North Atlantic and blew warm winds, melting Ireland's icecap in a few decades, with Sweden's and Canada's icecaps slowly melting in one or two milleniums.

Carbon dating shows that the ice had left northern Ontario 6380 years ago,<sup>27</sup> or about half or three-quarters this length of time if allowance is made for carbon dates being too old. A figure, *not based on carbon dating*, of less than 4000 years since the end of the ice age has been obtained from calculations concerning Niagara Falls. "Careful investigation by W. A. Johnston of the Niagara River bed disclosed that the present channel was cut by the falls less than 4000 years ago."<sup>28</sup> This figure of "less than 4000 years" can be fitted into flood chronology.

It is even possible, as shown by the following quotations, to fit the entire ice age into the post-diluvian epoch, including the build-up, duration, and the waning phases. H. E. Suess of the United States Geological Survey showed that some pieces of wood found in glacial till give a radiocarbon age of only 3300 years.<sup>29</sup> This establishes that the time since the death of the tree, including the time during which it was transported by the glacier, was close to only 3300 years.

The geologic suddenness of the final melting of the ice-sheet, proved by the brevity of existence of its attendant glacial lakes, presents scarcely less difficulty for explanation of its causes. . . .<sup>30</sup>

As more and more radiocarbon dates are collected it becomes increasingly clear that the ice

age is such a recent event that it cannot be assigned to any earlier age. Heat arrives from the sun at the rate of two calories, per square centimeter, per minute, and a little arithmetic will show that a floating Antarctic icecap could be melted by the sun in a surprisingly short time.

#### **Icebergs Floated Over Kentucky and Missouri**

Richard J. Lougee of Clark University has stated, "Iceberg-rafted erratic stones and boulders became grounded on the submerged topography of northern Kentucky, southwestern Missouri and eastern Iowa."<sup>31</sup> At the time of those icebergs most of the United States was still under water, for Lougee maintained "that an immense ice-marginal body of water was formed, extending from Ohio to Montana and from the Gulf of Mexico to the Wisconsin driftless area." It covered "the whole area of the so-called Nebraskan, Kansan and Illinoian glaciations." And, "Reduction of the ice age to 'unity' shortens geologic history and nullifies the meaning of the terms Nebraskan, Kansan, Illinoian, Wisconsin and the several 'interglacials'."

Lougee referred to "driftwood and other organic material heretofore interpreted to be 'interglacial' deposits." The "driftwood," of course, was the floating floodwater debris, much of which settled in such places as Coal Valley, Illinois, the name of the place indicating the type of basin in which the driftwood settled and was covered with mud to form coal mines.

Lougee completely upset the idea that so much water was locked up in the Antarctic icecap that ocean levels were 300 feet lower. These "iceberg-rafted erratic stones and boulders became grounded on the submerged topography of northern Kentucky and southwestern Missouri" which shows that most of the United States had not yet emerged from the floodwaters at the time of ice age maximum. An iceberg rafted erratic, grounded on northern Kentucky, implies that only the mountains had risen above sea level.

#### **One More Puzzling Feature of the Ice Age**

Why was the general advance of the ice sheet, as shown by carbon dating, intermittent? As Dr. W. L. Stokes of the University of Utah states the problem: Any theory that proposes to solve the ice age must provide "A mechanism for cyclic repetitions, or oscillations, within the general period of glaciation."<sup>32</sup> This is a severe requirement to demand of any theory, but the flood-ice-age theory can meet it. In the flood theory mountain ranges, islands and finally continents would rise through the receding floodwaters. Each rising range would block off the flow of floating ice, diverting warm or cold ocean currents, obstructing winds, changing directions

of prevailing warm or cold wind currents, lessening evaporation. This heterogeneous, changing panorama of factors inevitably produced the temporary retreats, re-advances, fluctuations, recessions, all within the general limits of the post-diluvian ice age.

This opens up a field for research: To correlate these carbon-dated advances and recessions with the rise of land masses and mountains and especially to consider how the rise of North America caused the Gulf Stream to resume its former flow and start melting the Scandinavian icecap.

The rising of mountains out of the ocean forms the basis of the "topographic control" theory, developed by R. F. Flint, glacial geologist. But he makes the rock masses of the mountains actually rise out of the water, whereas flood geologists speak of the mountains rising, in a figurative sense, meaning thereby that the mountains merely appear to rise as the waters recede.

The results of radioactive isotope dating indicate that European, American and Southern Hemisphere's ice ages were simultaneous. This upsets all those theories that move the poles around over different icecaps at different times. G. H. Dury writes, "It is now generally held that glacial maxima occur simultaneously in the north and south hemispheres. Similarly it is held that glaciation was simultaneous in Europe and in North America."<sup>33</sup>

#### How Can We Explain the Climatic Optimum?

And this brings us to another of those questions that has mystified geologists—how to account for that strange period of abnormally warm weather that immediately followed the ice age. Glaciologist R. F. Flint writes,

The evidence of fossil plants and in addition several entirely independent lines of evidence, establish beyond doubt that the climate (with some fluctuations) reached a maximum of warmth between 6000 and 4000 years ago; since then (again with minor fluctuations) it has become cooler and more moist down to the present time. Apparently, as recently as 500 B.C. the climate was still slightly warmer than it is today. The warm, relatively dry interval of 2000 years' duration has been called the *Climatic Optimum*. It is the outstanding fact of the so-called postglacial climatic history.<sup>34</sup>

Charles H. Hapgood writes, "The strange period of high temperature that followed the ice age . . . this warm period has been well established but its cause has been unknown."<sup>35</sup>

But the flood theory provides the key that unlocks the mystery. When the ice age was well advanced and beginning to approach its closing

phases, the mountains of Antarctica and Greenland were rising through the receding waters, all bare now, because the first icecap had floated off and melted.

There was no more ice to melt, to make the earth into an icebox-style refrigerator, and a continuously decreasing amount of water vapor to make an evaporation-type refrigerator. The atmosphere was supersaturated, so now the reverse process set in and moisture vapor condensed on the bare rock mountains of Antarctica and Greenland and snow piled up into one or two miles thickness of ice.

And just as evaporation and melting are cooling processes, so condensation and freezing are warming processes. Just as every cubic centimeter of water takes 540 calories of heat out of the air as it vaporizes, so it gives back 540 calories when it condenses again and a further 80 calories when it freezes.

An Antarctic icecap 6,000,000 square miles in area and one mile thick would give off  $1.4 \times 10^{25}$  calories (14 septillion) of heat, which is about  $5.6 \times 10^{22}$  British thermal units (56 sextillion). This is equivalent to  $2.3 \times 10^{15}$  tons of coal, a figure which would probably reach 3 quadrillion tons if Greenland's icecap and the glaciers of high mountains were included in the calculation.

This astronomical quantity of heat was not released suddenly or it would have burned up the earth, but gradually over the period of 2000 years. This raised world temperature five degrees as stated by Brooks in his *Climate Through the Ages*. This was enough to bring the ice age rapidly to a close so that we read of "a sudden virtually complete disappearance of the ice sheet . . . in an extraordinarily short period."<sup>36</sup> Hapgood expresses doubt and amazement that, according to carbon dating, "the whole warming process could have taken place in 380 years?"

The incredibly rapid dissolution of the icecap and sudden ending of the ice age can best be explained and illustrated by an extremely simple laboratory experiment. If a large chunk of ice representing the Antarctic icecap is placed in a beaker of water, and smaller chunks representing the Greenland ice mass, and the glaciers from the tops of the world's high mountains; and if then, heat, representing the sun, is applied, the temperature will be found to remain at the melting-freezing point as long as any unmelted ice remains; that is, the ice age will continue. The temperature will not rise as long as any ice remains. But the last remaining piece of ice will disappear with surprising rapidity for the obvious reason that all heat from the sun is concentrated on the last little bit of ice.

After a short, so-called interglacial intermission, during which, as Hapgood expresses it, "a large part of Antarctica may have been ice-

free,"<sup>37</sup> a new icecap began to form on the mountains of Antarctica and the highest peaks of the Alps. But these newly-formed Alpine glaciers are not the survivors of the former antediluvian glaciers, which in my view floated away, but are freshly-frozen postdiluvian glaciers only a very few thousand years old.

Richard F. Flint, glaciologist of Yale, states that "A large number of the present glaciers of the Alps are not survivors of the last glacial maximum, as was formerly universally believed, but are glaciers newly created within roughly the last 4000 years."<sup>38</sup> The date fits smoothly into flood chronology, but cannot be made to fit into any of the prevailing theories.

The United States Army team of researchers at Camp Century on the northwest coast of Greenland have succeeded in drilling through 4562 feet of ice. They reached rock. "The researchers said they estimated the age by measuring layers in samples of the ice which, like tree rings, reflect each season . . . the ice there is about 10,000 years old."<sup>39</sup>

This brings geology into as close an agreement with the Bible as could reasonably be expected. Furthermore, these same recent dates are exceedingly difficult to equate with any drifting continent theory of glacial origins.

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