



FOUNDATION FOR RESEARCH ON ANCIENT AMERICA

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NEWSLETTER No. 28

January 17, 1978

Greetings, Members and Friends,

The time approaches for our annual meeting. This will be held February 5 at the Stone Church, Floor A, Partridge Hall. A brief business session will precede the program. We shall again be privileged to hear Dr. Richard A. DeLong of Graceland College, who will be freshly back from another trip to Mexico prepared to present one of his excellent illustrated lectures. Those who heard Dr. DeLong at our last meeting, October 2, know what a treat is in store for his hearers at this forthcoming meeting. His slides cover a great range of material related to the Book of Mormon and his presentation is impressive. Do come and share in this experience.

We have a good report from Thoric Cederstrom, now studying at the Hebrew University in Jerusalem. He is carrying a heavy course load of twenty-six hours. He says that some of the courses on archaeology have required research which he believes will be helpful to the Foundation. He wrote, "Currently I am doing research in two areas for the Foundation. One is concerned with the Essenes and their relationship with Christianity, which I think will throw some light on the pre-Christians of the Book of Mormon; also I'm doing investigations on the domestication of plants and animals in the Middle East as compared to the same processes in Mesoamerica." He seemed particularly interested in studying various tools used in archaeology, i.e., C₁₄ dating and chemical analysis in a course which he called "Scientific Research Methods." He said, "Currently I have a job at the Rockefeller Museum of East Jerusalem. I am working for the Department of Antiquities in the Archaeological Laboratory. The work is very interesting and I receive a little money to help meet the daily rises in prices due to inflation here." He expects to go on some sort of a dig soon.

Without your membership dues and special contributions it would have been impossible to have contributed \$2,500 toward Thoric's expenses to go to Jerusalem for study. Our fiscal year for dues begins January 1 and ends December 31, which means that we are now awaiting your membership renewals. Enclosed is a form which will make it easy for you to send your check to our treasurer.

Please do not forget to send us your change of address if you wish to continue receiving the Newsletter. The Post Office does not forward these letters, nor are undelivered letters returned to us, which simply means that we go to the expense of sending you newsletters which you do not get if you do not keep us informed as to your current address.

We wish for you a good New Year, happily engaged in the work of the Lord, especially the promotion of the Book of Mormon through every means possible, including that of special study and research.

--- T.D.S.

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Through the courtesy of Gregory I. Donovan, Plymouth, Michigan, there came to us a copy of Bible-Science Newsletter, December 1977, in which appears "A Critique of the Contemporary Division of the Flood Model," by Bernard E. Northrup, Th.D., Professor of Old Testament Language and Literature, Baptist College, Clark Summit, Pennsylvania.

Professor Northrup discusses in a highly scholarly, well documented manner the Great Flood and the post-Noahic division of the earth. He upholds the Biblical account of the flood, affirming that flood waters did cover the entire earth, and answers a number of pertinent questions raised by opponents of this view. He believes the separation of the earth took place later, saying "geographical, biological, botanical, magnetic and other evidence is absolutely overwhelming" in establishing the fact that the continental separation did occur, and that most continental separation did not occur during but after the Noahic flood.¹ He says it was about twenty-five years ago that the Atlantic Ocean floor became a subject of intense interest; Alfred Wagener concluded in 1912, as had Francis Bacon in the 1600's, that the Atlantic Ocean had been formed by the division of North and South American from Europe and Africa.

It is believed by Professor Northrup that the "opening of the fountains of the bottom of the ocean was the means of expanding the existing ocean in Noah's day until it entirely covered the earth. Geological evidence clearly associates continental separation with continental elevation, not with submergence. He says, "The geological record entombed in the rocks testifies to the major elevation of the land mass a considerable time after the deposition of the universal Paleozoic (Noahic flood) deposits were laid down. Large portions of the present continent of North America were still submerged or awash with tidal waves of giant size for several centuries after the Noahic flood."² It was the movement of the continent westward that produced the subterranean pressures which in turn ultimately elevated most of our continent to its present configuration."

Then Prof. Northrup deals with the "obvious evidence in Africa, Israel, Lebanon and Turkey that the African Rift and its northern extension were formed long after the emergence of that area from the sea," and that "the book of Job . . . contains a remarkable amount of references to rifting, diastrophism, massive tidal activity. . . . I insist that this requires man to be present in Palestine during the later stages of the continental rifting. And we must not ignore the fact that the Jordan Rift rends Paleozoic and Mesozoic structures." There follow evidences and reasons for man in this part of the world very early after the flood. He feels that man's migrations and habitations in this area "must become a prime target for Creation studies in this decade."

Also, Prof. Northrup deals with "common floral and faunal patterns in the same latitudes on both sides of the Atlantic Ocean, and makes this positive assertion, "The explorations of the Glomar Challenger once and for all put to death the concept of temporary land bridges as a means of migration for plants, animals and man, with the exception of whatever migration may have taken place over the North Pole area. Of course we recognize that much plant life must have survived the flood after the manner of the olive of Genesis 8." Whereupon he speaks of some specific plants, including those that could not be propagated by cuttings. As to the banana he questions, "In what way was this plant, which cannot stand the voyage through the temperate zones, carried to America?" and answers by affirming, "Certainly no migration over the North Pole could have accomplished the migration of the banana." He exploded some other impossibilities, adding, "I conclude that they must have been

¹The Bible bears out this claim--Genesis 10:16, verse 25, K.J. (T.D.S.)

²The Book of Mormon indicates that the Jaredites did not come to this land until well after the flood. Ether 6:2. (T.D.S.)

transported by sea migration routes long before Europeans discovered South America, or, perhaps better, . . . before the mid-Atlantic rift had developed beyond the incipient stages."

Prof. Northrup states, "That the world's great mountain chains literally were crushed upward into their present configuration by massive continental plate movement during the late Mesozoic and early Cenozoic times long after the major retreat of the flood is inescapable if the physical evidence be considered at all. I personally have surveyed much of this evidence in many parts of the world. That the uplifting of most of the world's great mountains was accomplished after their platforms were above sea level is factual."

Regarding the Sierra and Coastal Ranges of California, he says careful studies show unmistakable clues that this uplift began 13,000 feet below sea level and continued until flood deposits had been elevated to a total of nearly 30,000 feet.

. Thousands of feet of Paleozoic and Mesozoic formations have been stripped off the top of the uplifting Sierras during the crushing of the leading edge of the continent, exposing granitic intrusions which caused the uplift. Along this great core giant line of Tertiary volcanos has vented the enormous heat of the plate movement. These volcanic peaks tower between 11,000 and 13,000 feet today. Along the eastern and western edge of this ridge at its base lie the shattered, uptilted flood and retreat-of-flood deposits. It was these which attracted the 1849 gold rush. . . . Some areas were uplifting slowly from the sea while other areas had been exposed directly after total submergence. It appears that abruptness was the norm.

the uplifting of the Sierras by its massive granite batholiths did not even begin until Miocene times which I consider to be no less than 750 to 1,000 years after total submergence by the Noahic flood."

Prof. Northrup says there is not enough water on the earth to have covered Mt. Everest but "The world's great mountains did not exist at the time of the Noahic flood. They all are the product of post-flood division. This conclusion is one of the benefits of considering physical evidence in geology as parallel with Genesis. Geologists are universally in agreement that the world's great mountains are all very young, having been elevated in the last stages of geological history. This mountain building below and above sea level is the result of massive lateral post-flood buckling, folding, uplifting and possibly some overthrusting. These movements include the Sierra orogeny of the Cretaceous, the Laramide Revolution, the Alpine and Cenozoic times in the United States alone. The end result of this extended process of elevation was the spectacular sculpturing of the world's great juvenile mountain ranges. . . . The Sierras suffered intense tsunami erosion. As they were being elevated above sea level, seismically generated waves produced by plate movement pounded the West Coast. The Great Valley of California served as a catch basin below sea level for debris that was pulled back into the ocean by the waves. . . . There are hundreds of thousands of square miles of this in the form of subaerial ash beds and lava flows in the western United States alone. . . . The resources of magma within the earth which spewed forth these hundreds, and even thousands of feet of glass, ash, cinders, and flows did so under atmospheric conditions," covering all of the northeastern part of the United States, far inland.

Also, "submarine volcanism was occurring in the ocean bottom and along the continental shelves. . . . I have seen similar submarine ejecta along the coast of Peru and on the south coast of Puerto Rico. . . . Another separate area of evidence requiring post-flood catastrophism may be found in the study of glaciation. The . . . ice age left glaciation on a vast scale above sea level in Canada and in the northern United States on these Cenozoic subaerial extrusions. . . . This is true also at higher elevations farther south in the Sierras, Klamath Mountains, in the Rocky

Mountains and in higher terrain between these mountains. . . . In Peru glaciation begins with 10,000 feet above sea level near the coast along the Cuzco highway about 1,000 feet south of the Equator."

Prof. Northrup traces the formation of great lakes filled with fresh water, beaches and lake basins, changed by the uplift of entire mountain chains long after the flood had retreated in their areas. He said, "This summer I discovered what appeared to be a very old fireplace in a road cut of Highway 40 in Utah. It was in the side of a very large sand dune which had been built on the shore of the lake that filled the Uinta Basin before its waters drained to help cut the Grand Canyon . . . This site never had been buried by the Noahic flood. Its deposits lay far beneath the lake bed. Man had sufficient time to migrate from the middle east to western United States, arriving there while these enormous freshwater lakes were still there. The continuing uplift that followed their arrival drained the lake basins, carving the canyons of the Green River, the San Juan, the Colorado and their tributaries into Noahic flood sediments that had indurated sufficiently that vertical canyon walls were possible. . . . Precisely the same event series is supported by a study of the Snake River gorge and the Columbia River gorge where I have lived in both Idaho and Oregon. I have followed the path of the spillway of Lake Bonneville where it drained northward in the ice age through Red Rock pass into the Snake River. Its waters roared westward from that point and catastrophically carved the Columbia River gorge in a very brief time, a conclusion only recently reached by uniformitarian geologists also." His concluding statement is, "No, it is not possible to place all continental division and all geological catastrophism in the Noahic flood. "

Book of Mormon students will follow various deductions and conclusions made by Prof. Northrup, not only with reference to the Biblical account of the Great Flood, but also with Book of Mormon accounts, such as Ether 6:2 which makes reference to the time when the flood waters had receded from off the land, and of course of the time of the great storm (III Nephi 4:6-17) during which "the face of the whole earth became deformed."

* * * * *

Several in this area have drawn attention to an account printed in the Kansas City Times, December 5, 1977, of the finding of a jade amulet found in Costa Rica. Scientists believe this is new evidence linking three ancient civilizations in Mexico, Guatemala and Costa Rica. Archaeologists have known that the cultures of the Olmecs of Mexico, the Mayas of Guatemala and the unnamed inhabitants of Costa Rica had intermingled between A.D. 1 and A.D. 400, said Michael Snarskis, a Columbia University doctoral student who headed the excavation team which uncovered the burial place of a teen-aged boy. The carved, 13-inch, gray-green artifact was found face down along the right arm of the boy, who is believed to have held high social status.

Preliminary studies of the amulet (charm) indicates it was originally the work of the Olmecs between 600 B.C. and 300 B.C. The wristlet's style has been observed only on columns at Kaminaljuya in highland Guatemala, but Snarskis said that smaller, highly polished clam-shell amulets, not carved, have been excavated at the Olmec site of La Venta (1100 B.C. to 500 B.C.) south of Veracruz, Mexico, and at another site, Cerro de las Masas, in Veracruz. Similar designs have been found in Mexican sites of Izapu culture along the Mexican-Guatemalan border.

Besides the jade amulet, the team found stone grinding tables, tripod ceramic vessels and small jade objects. It is believed by National Museum experts that perhaps half the artifacts originally uncovered by the construction workers were looted before the archaeological team arrived.

The following research was done by Robert F. Smith, Independence, Missouri:

Metallurgy

John L. Sorenson, "A Reconsideration of Early Metal in Mesoamerica," Katunob, IX:1 (Mar 1976), 1-8 [journal published by the Museum of Anthropology, Univ. of N. Colorado, Greeley 80639]: Sorenson reassesses the full range of archaeological and philological evidence pertaining to Mesoamerica, demonstrating the completely erroneous nature of the usual assumption that metallurgy was not known in Mesoamerican before 900 A.D. Indeed, conservative evidence indicates that metal-working was going on in the New World long before the Nephites could have crossed the sea, i.e., at least by the 2nd millenium B.C. However, Sorenson's discussion may be much too professional for most readers.

Old fashioned references to "brass" in the King James Version of the Bible and in the Book of Mormon are actually references to "bronze." Brass was not known in ancient times, since it is an alloy of copper and zinc--a fairly modern mixture--and is found in no excavations of the ancient date. The Hebrew Bible always refers to "bronze" (an alloy of copper and tin), and Joseph Smith likely followed the KJV in calling this alloy "brass" (of course, copper could also be hardened by adding arsenic, but this is probably not to be taken into consideration here). In the Old World, lists of metals usually have copper, bronze, and tin listed together, and this is only logical (Chicago Assyrian Dictionary, Vol. E, p. 321; H. Otten, Keilschrifttexte aus Boghazköi, XII:42:11b-12a). This was true from the 3rd through the 1st millenia B.C. (J. D. Muhly and T. A. Wertime, "Evidence for the Sources and Use of Tin During the Bronze Age of the Near East," World Archaeology, V:116; they argue, incidentally, that non-recovery of technology described in a text is no reason to deny its existence, p. 117). Thus, in the Book of Mormon, where we find ziff, copper, and brass listed together (Mosiah 7:6, 11), "tin" may be the meaning of ziff.

During the Jaredite period, magnetite and ilmenite (native iron) mirrors were being manufactured in the Oaxaca Valley of Mexico: ca. 1475 - 1125 B.C. on a recalibrated C-14 scale (Flannery and Schoenwetter, Archeology, 23:2:149). In discussing the Olmec mirrors from the same period from sites in lowland Veracruz, Fuson suggests that those of magnetite (lodestone) may have been used as compasses (Annals of the American Association of Geographers, 59:508--Fe₃O₄, magnetite, is first mentioned in the Old World by Thales of Miletus ca. 600 B.C., and ilmenite and meteoric iron were known in the Old World from at least the 3rd & 4th millenia B.C.). Michael Coe has even discovered an Olmec magnetite "pointer" or mercury-floater-compass which appears to have been machined! This remarkable object is from San Lorenzo-Tenochtitlán (Baity, Current Anthropology, 14:443; Fuson, AAAG, 59:508-9). Magnetite is known from Olmec sites mainly in the late phases at San Lorenzo, i.e., ca. 1200-840 B.X., recalibrated on the basis of dendrochronology (Fuson, AAAG, 59:508). See also FRAA Newsletter, 27:4-5; 24:5-6, for other such reports.

A geological map is available in K. Flannery, ed., The Early Mesoamerican Village (Academic Press, 1976), p. 318, fig. 10.10, showing the procurement routes along the known sources of iron ore in Oaxaca Valley. These sites may have been worked ca. 1475 - 1125 B.C., the Early Formative. Sorenson and I privately hold that the area was the land of Moron, with the capital at San José Mogote--the largest ancient site in the area.

Comments on the above by Roy E. Weldon:

Paragraph 1 is quite correct.

Cont'd. . . .

The Book of Mormon describes the Jaredite metallurgy in very advanced terms--machinery, iron, copper, brass and steel. (Omni 1:19).

Paragraph 2. The Nephite record mentions brass 37 times. Concerning the liahona, we are told that it was made of "fine brass" (I Nephi 5:11).

It appears unadvisable to make final conclusions about whether ancient inhabitants of America did not know how to make brass or steel, etc.

Paul Bergson, metallurgist of Copenhagen, Denmark wrote several pamphlets on the prehistoric metallurgy of Ancient Ecuador. In his booklet, The Gilding Process and the Metallurgy of Copper and Lead Among Pre-Columbian Indians, Mr. Bergson has metallurgical analysis tables, including a hardened copper ax, containing seven other ingredients in addition to copper. Paul Bergson says they had discouraged the use of quicksilver, adding ". . . the Indians have taken their secret of forging platinum with them into the grave" (p. 23).

Mr. Bergson's books are on exhibit and sale in the Museum of the University of Ecuador in Guayaquil, Ecuador. Also on exhibit are various samples of plating and gilding, some of which were accomplished by techniques unknown to science today.

Hiram Bingham, National Geographic archaeologist, in The Lost City of the Incas, (Machu Picchu), p. 28, says that Inca bronze crowbars showed tensile strength of 28,000 lbs. to the square inch. Another bar, Mr. Bingham says, was "hardened by methods known to the Incas" which had "even greater strength than this."

Since there are vast areas in South America and Central America where no white man has set foot, and since known archaeological sites have scarcely been scratched, and since there are a number of lost secrets and inexplicables, it behooves us to proceed with care and an open mind in following this most intriguing pursuit of scientific evidences pertaining to this venerable and sacred record of the ancient Jaredites and Nephites.

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Robert F. Smith, who spent four years in Jerusalem, is offering his services to teach a short series of (5) lessons in Hebrew in February or March. If interested, please call our secretary, Shirley Eakin, 254-9115 (evenings).

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