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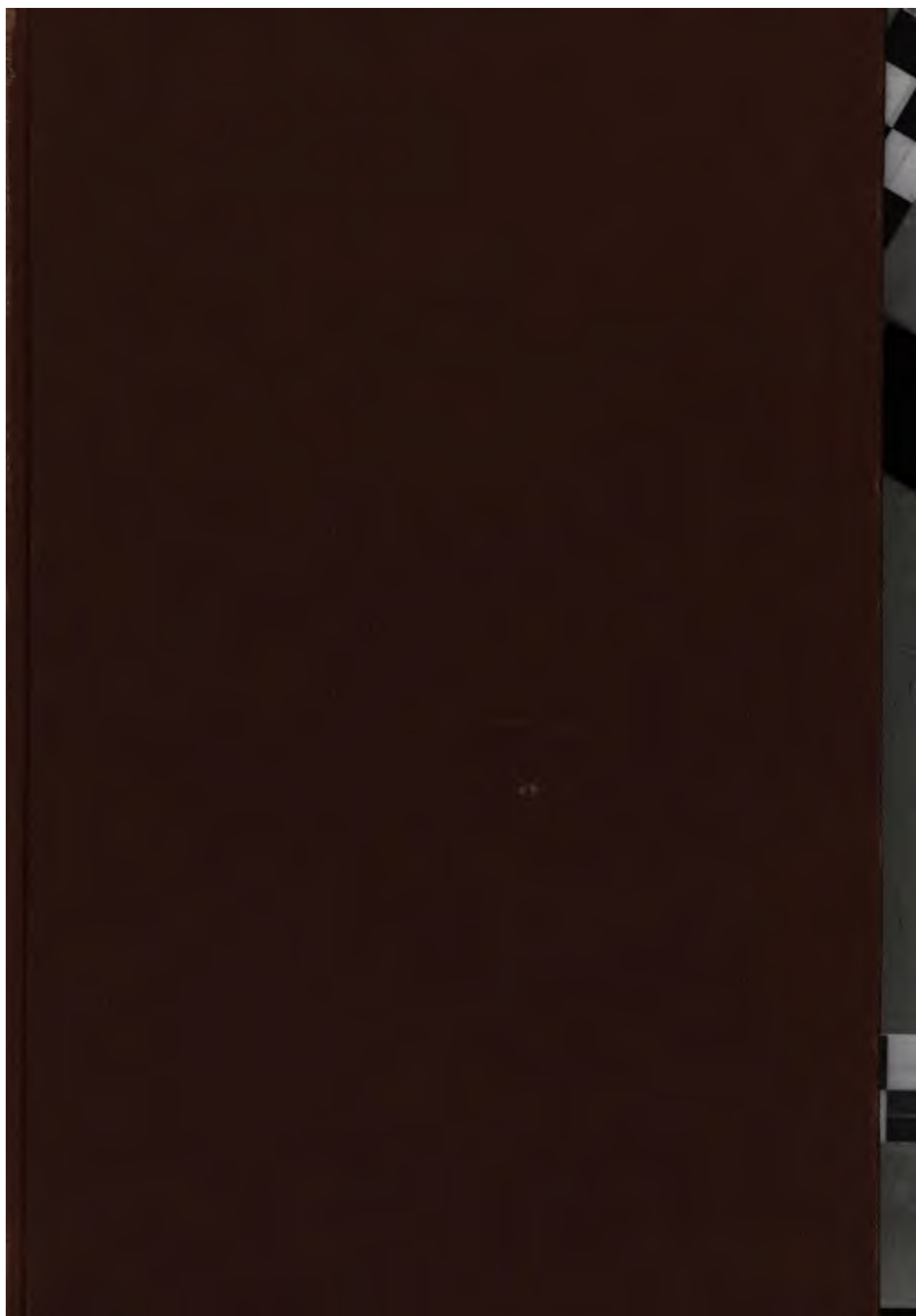
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TABLE OF CONTENTS.

VOLUME XIV.

ANTIQUITIES OF BRITISH COLUMBIA. <i>James Deans</i>	33
ANTIQUITIES AT THE WORLD'S FAIR. <i>Harlan I. Smith</i>	289
ANCIENT INSCRIPTIONS AT CHATOTA, TENNESSEE.....	
..... <i>A. L. Rawson</i>	221
ARCHÆOLOGICAL NOTES.....	
Ancient Alphabet.....	298
Asia Minor.....	298
Biting Serpent (The).....	296
Columbus.....	297
Historical Exhibits.....	54
Huas (The).....	298
Kansas Historical Society.....	54
Maya Hieroglyphics.....	298
Mexican Shield.....	298
Ninth International Congress of Americanistes.....	54
Not a Serpent Mound.....	299
Polynesian Society.....	298
Prehistoric Times in Egypt and Palestine.....	297
Red Hand (The).....	296
Rock-Hewn Tombs.....	298
Round Towers in Ireland.....	296
Symbol of the Egg (The).....	54
Winged Circle in Palestine.....	297
BIBLICAL ARCHÆOLOGY.....	
Amorite Pottery.....	55
Canaanite Mask.....	55
Hercules and Melkart.....	55
Hyksos Kings (The).....	56
Mahanaim.....	56
Scriptural Figures near Kana.....	56
Siloam Inscriptions.....	56
Solomon's Porch.....	55
Tadmor of the Wilderness.....	56
Turanian Letter (A).....	57

BOOKS ON EARLY ART.....	<i>Barr Ferree</i>	173
BOOK REVIEWS.....		
Admiral of the Ocean-Sea (The), by Charles Paul Mackie.....		120
America, Its Geographical History, by Walter B. Scaife.....		360
Beowulf, an Anglo-Saxon poem, translated by J. M. Garnett.....		241
Cause of an Ice Age (The), by Sir Robert Ball.....		241
Discovery of America, by John Fiske.....		242
Elene, Judith, Athelstan, translated by James M. Garnett.....		241
Ethnology in Folklore, by George Laurence Gomme.....		359
Evolution of Christianity, by Dr. Lyman Abbott.....		301
Fight at Finnsburg (The), translated by James M. Garnett.....		241
Fort George, The Site of, by W. Scott Hill, M. D.....		58
Grammar of the Lotus, by William H. Goodyear.....		243
Har-Moad, or the Mountain of the Assembly, Rev. O. D. Miller.....		117
Henry Boynton Smith, by Lewis F. Stearns.....		301
Human Mystery in Hamlet (The), by Martin W. Cooke.....		57
Ilex Cassine, by E. M. Hale.....		185
Index Armorial, by A. D. Weld French.....		300
Irish Element in Mediæval Culture (The), by H. Zimmer.....		302
Labrador Coast (The), by Alpheus S. Packard.....		185
Lief Eriksen, The Landfall of, by Eben Norton Horsford.....		116
Life in Ancient Egypt and Assyria, by G. Maspero.....		243
Little Brothers of the Air, by Olive Thorne Miller.....		302
Man and the Glacial Age, by G. Frederick Wright.....		359
Masks, Heads and Faces, by Ellen R. Emerson.....		184
Men, Mines and Animals, by Lord Randolph Churchill.....		300
Navajo Belt Weavers (The), by R. W. Shufeldt.....		58
Observations on the Havesu Pai Indians, by R. W. Shufeldt.....		58
Old Documents and the New Bible, by J. Paterson Smyth.....		301
Olden Forms of Terra Cotta Roofing Tiles, by E. S. Morse.....		302
Prehistoric Works East of the Rocky Mountains, Cyrus Thomas.....		186
Primitive Man in Ohio, by Warren K. Moorehead.....		356
Races of the Old Testament, by A. H. Sayce, LL. D.....		119
Records of the Past, by A. H. Sayce, D. D.....		244
Schliemann's Excavations, by Dr. C. Schuchhardt.....		57
Stone, Bronze and Iron Ages, by John Hunter Duar.....		299
Studies of the Gods of Greece, by Louis Dyer.....		58
BORROWED MYTHS OF AMERICA.....	<i>Stephen D. Peet</i>	336
CASA GRANDE REPRODUCED FOR THE WORLD'S FAIR....		327
CLIFF-DWELLINGS OF THE MESA VERDE.....		
.....	<i>W. Birdsall, M. D.</i>	123

TABLE OF CONTENTS.

v

CORRESPONDENCE	
Antiquities at the World's Fair.....	<i>Harlan I. Smith</i>289
Buddhist Symbol in a Mound.....	<i>J. R. Sutter</i>171
Engraved Figures on Ivory.....	<i>William Frisbie</i>227
Fort Ancient Park Committee.....	<i>I. H. Harris</i>170
How Many Geds on Olympus?.....	<i>J. D. Butler</i>228
Indian Pottery, An.....	<i>Ed. B. Beans</i>225
Irish Discovery of America.....	<i>Dominick Daly</i>45
Letter from Dr. A. H. Sayce, A.....172
Mary of Berytus.....	<i>Daniel B. Turney</i>224
Mound-builder's Pipe, A.....	<i>O. H. P. Graham</i>289
Mounds in Florida.....	<i>Clarence B. Moore</i>292
Paleolithic Relics.....	<i>S. H. Binkley</i>350
Stone Dam in Iowa.....	<i>Cora M. Jordan</i>226
Strange Face on a Pebble.....	<i>J. R. Sutter</i>107
Races in the San Juan District.....	<i>Lewis W. Gunckel</i>351
EDITORIAL.....	
Ancient Assyrians in Michigan.....	51
Cliff-dwellers' Relics.....	111
Discovery of America, The.....	352
Frauds and their Perpetrators.....	52
Hubert Howe Bancroft, Sketch with Portrait.....	230
Human Tree Figures.....	109
Human Winged Figures.....	177
Miraculous Portraits.....	110
Pre-Columbian Contact with Other Countries.....	50
EARLY RELIGION OF THE IROQUOIS..	<i>W. M. Beauchamp</i>344
EXPLORATIONS AT TEL-HESY.....	<i>Theodore F. Wright</i>105
EVOLUTION OF THE HUMAN FACE....	<i>Alton H. Thompson</i>277
EDWARDS, MISS AMELIA B.....	<i>Wm. C. Winslow, D. D.</i> ..305
IDOLS AND IMAGES.....	<i>Stephen D. Peet</i>197
IMPORTANT DISCOVERIES IN EGYPT AND THE HOLY LAND..	353
LIGHT ON ETRUSCAN DARKNESS.....	<i>James D. Butler</i>106
LITERARY NOTES.....	
Books by Collectors.....	114
Collectors as Correspondents.....	114
Grammar of the Lotus.....	115
Intaglios.....	115

LITERARY NOTES— <i>Continued</i>	
Local Societies.....	115
Museums of the Future.....	115
Our Contributors.....	114
MAYA CODICES.....	<i>Cyrus Thomas</i> 328
MOUND-BUILDERS AND MASTODON....	<i>Stephen D. Peet</i> 59
MOUND-BUILDERS' CULTUS AND VILLAGE LIFE.....	
.....	<i>Stephen D. Peet</i> 247
MOUND-BUILDERS, THE WATER CULT AMONG THE.....	
.....	<i>Stephen D. Peet</i> 5
NEW DISCOVERIES IN TENNESSEE....	<i>G. P. Thruston</i> 95
NEW DISCOVERIES.....	
Ancient City in Mexico.....	52
Discoveries in Greece.....	182
Fossil Elephant.....	52
Prehistoric Canals.....	183
Sacrificial and Burial Mounds.....	183
Teeth of the Mastodon.....	182
Tertiary Finds.....	181
Underground City, An.....	182
NEW EXPLORATIONS AND DISCOVERIES.....	
Cemeteries in Costa Rica, by Lewis Chable.....	235
Cliff-Dwellings, by W. K. Moorehead.....	235
Hittite Statue in England.....	236
Important Discoveries in Africa.....	237
Ruins in Mashonaland, by Theodore Bent.....	237
Stone Graves in Illinois, by William McAdams.....	235
Symbolic Relics from the Peat-bogs of Denmark.....	236
Temple at Argos, by Waldstein.....	236
The Schwatka Expedition.....	235
NOTICES OF NEW BOOKS.....	<i>Albert S. Gatschet</i> 238
German Lyrics.....	239
James C. Pillings' Bibliography.....	328
Norton's Florida.....	239
Omahas and Ponkas.....	239
Proverbs of Angola.....	238
Studies on the Rig Veda.....	238
RELIGION OF THE IROQUOIS.....	<i>W. M. Beachamp</i> 344
PRE-COLUMBIAN CONTACT WITH OTHER COUNTRIES.....	50

TABLE OF CONTENTS.

vii

PRE-COLUMBIAN DISCOVERY OF AMERICA.....	
..... <i>J. P. MacLean</i>	
I.—A General Review.....	33
II.—The Sagas.....	87
III.—The Sagas and America.....	139
IV.—Norse Remains in America.....	221
V.—Odds and Ends.....	271
POWELL, MAJOR J. W., Sketch with Portrait.....	155
SITE OF AN ANCIENT CITY IN OREGON.....	355
THE OLD FORT IN SALINE COUNTY, MO. <i>T. H. Lewis</i>	123'
THE "HORN OF THE ALTAR"..... <i>T. F. Wright</i>	229
THE QUEEN OF EGYPTOLOGY..... <i>Wm. C. Winslow, D. D.</i>	305
THE TABLETS OF TEL-EL-AMARNA.....	335
THE EARLY RELIGION OF THE IROQUIS. <i>W. M. Beauchamp</i>	344
THE WATER CULT AMONG THE MOUND-BUILDERS.....	
..... <i>Stephen D. Peet</i>	5
VILLAGE LIFE AND THE MOUND-BUILDERS' CULTUS....	
..... <i>Stephen D. Peet</i>	247

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No. I.

THE WATER CULT AMONG THE MOUND-BUILDERS.

BY STEPHEN D. PEET.

In our last number we spoke of the different systems of religion prevalent among the Mound-builders, with especial regard to their location and geographical distribution. We noticed that there were different systems embodied in the works of the different districts. The works of the effigy-builders, who were probably hunters, indicated totemism; those of the tomb-builders of the prairies, who were nomads, denoted animism; those of the altar-builders of the middle district, who were agriculturists, exhibited fire worship; the sacred enclosures or villages of the Ohio district denoted the moon cult. We did not, however, complete the study of the districts, nor did we exhaust all the systems prevalent. It remains for us to finish this task.

We are now to take up such other systems as prevailed among the Mound-builders, and to study their characteristics and their peculiarities, especially as these are exhibited by the tokens and symbols of these districts. We are to notice that the religious systems of the Southern Mound-builders were much more elaborate and highly developed than those of the Northern Mound-builders, suggesting that the Southern Mound-builders belonged to a different race or received their religion from a different source. These systems are certainly more artificial, more highly organized, and show more highly developed thought. They may have sprung from nature worship, the same as the northern systems, and been owing to the growth of religious sentiment in the more permanent and advanced condition of society which prevailed at the south. Still, there are so many strange symbols in these districts, resembling those in oriental countries, that we are tempted to ascribe them to contact with civilized races, and to say that they are identically the same as

those prevailing in Europe, Asia and the far East, and must have been transmitted to this country. We do not undertake to follow up the channel through which they flowed, nor to decide as to the country from which they came, but we can not help the conviction that they bear the impress of systems which are known in historic countries and which appear in the early ages in those countries.

We imagine that there was once in the far East a system of nature worship which was as rude as anything found in America; that at that time the elements of fire, water, lightning, the sun and moon, and all the nature powers, were worshiped, or, at least, divine attributes ascribed to them. We are sure that serpent worship and tree worship prevailed, and appeared in the East, though we do not know exactly at what time they appeared. Phallic worship and image worship also came in at a certain stage in the progress of thought. The last served to corrupt and degrade the other systems, and very soon perverted them, so that they became sources of degradation to the people. The Scriptures condemn these, and history confirms the justice of the sentence. The tradition of the serpent in the Scriptures may be an allegory or a statement of fact, but there is no doubt that the serpent worship was a source of degradation and a sentence was placed upon it by enlightened conscience. The personification of the nature powers did not elevate the people, for when the personification grew more elaborate the moral practices grew more degraded. When the Eleusinian mysteries were introduced into Egypt and Greece, everything became significant of the processes of nature. Names were given to the nature powers, and myths were invented to explain the origin of the names; but the myths and mysteries did not save the people from degradation.

While the doctrine of immortality and the future state was understood and the anticipation was symbolized by nature worship, yet cruelties were practiced and degraded rites attended the worship of the elements. The phallic worship and fire worship were devoted to human sacrifices, and sun worship itself was attended with the immolation of human victims.

All of these systems are found in America, and their symbols are scattered far and wide. We do not know whether they are to be connected with the decline of religion in oriental countries, or with the progress of religion in America, for they are closely connected with the nature worship, from which all moral distinctions were absent. Still, the symbols which, in Eastern lands, are suggestive of degraded practices are the very symbols prevalent here. They are symbols which, in the East, belonged to the secret mysteries, the very mysteries which were so full of cruelties and degradations.

We maintain that the religion of the Mound-builders not only embodied the same elements as those which became so strong

in the oriental religions when at a certain stage, but it shows how these elements interacted. The fire became the symbol of the sun and consumed the offerings made to the sun, and became sacred as his servant. The serpent was frequently regarded as a divinity in some way amenable to the sun, and so serpent pipes and serpent effigies were connected with the sun circle in the symbolism of the Mound-builders. It is possible that there was a certain kind of tree worship;* the same element of life having its chief embodiment in the tree, which was able to stand up in its force. The moon cult also prevailed, for the moon is always an attendant upon the sun. Whether there was a distinction of sex between the sun and moon is unknown; but the sun circle and the moon crescent may have been male and female.

These three types of nature worship, in which the fire, the serpent and the sun were the chief divinities, probably prevailed throughout the Mound-builders' territory, though their symbols varied with different localities. We recognize the water cult, the solar cult, and the image worship, as different phases of nature worship; but we find that in the symbols there was a remarkable resemblance to the symbolism of other countries, and whether able or not to trace one to the other, we are struck with the thought that there was a studied and intentional symbolism, which resembled that of the Druids, in all their earthworks. The altars, the temple platforms, the burial mounds, the dance circles, the village enclosures, and the covered ways, were all here used not only for practical purposes and such as would subserve the convenience of the people living in the villages, but they were especially devoted to religious purposes and contained symbols in them. The relics also were symbolic, and many of them were buried with the persons,—their very position, in connection with the bodies, having a religious significance. It was not one cult alone that was symbolized in these, for some of the burial mounds contained offerings to the spirit of the dead—the symbols of the soul being placed in the mouth; but there were other offerings made to the water, to the sun, others to the fire, and others to the moon. The relics placed upon the altars, the ornaments, the flint discs, the copper crescents, the mica plates, the carved images, and the pottery figures, were all consecrated to the sun, and, when placed as offerings upon the altar, bore in their shape the symbol of the sun, as much as the altars themselves, or the earth-works in which they were enclosed. There is no locality where this system of sun worship is not symbolized. What is more, the system seemed to have brought into its service, and made useful, the symbols of the preceding

*This is the explanation given by the Dakotas of tree worship. The spirit of life was in the tree. It may be that this will account for the tree worship in the East, and will explain how tree worship and phallic worship became associated. The two in the East were symbolized by the sacred groves, so-called, the symbol of Asharah, or Astarte, the moon goddess.

stages of worship. The serpent, the phallic symbol, the carved animals, the crescent-shaped relics, the fire-beds,—all were associated with the sun circle and made parts of the symbolism of sun worship. We imagine the combination to have been as follows: The sun symbol was embodied in the earth circles; the moon cult in the altars; the fire cult in the ashes in and beside the altars; the water cult in the ponds and wells found in and near the enclosures; animal worship in the effigies; the phallic symbol in the horse-shoe earth-works. We also find that the elements, such as the four quarters of the sky, four winds, four points of the compass, are symbolized by the cross and four concentric circles. So we come to look at everything as more or less symbolic. It is remarkable, as we study the village sites, how many of the conveniences of village life were placed under the protection of the sun divinity, and how much provision was made for the worship of the sun under all circumstances. We notice that the ponds and springs are near the villages; that covered ways connect the villages with the river's bank, and we imagine there was among the Mound-builders, as well as among the Pueblos and Cliff-dwellers, a cult which regarded springs and rivers as sacred and peopled them with divinities. We imagine that the most sacred ceremonies were observed in connection with these springs, and that the elaborate earth-works were erected to give solemnity to the various mysteries, which were directed by the secret orders. These different cults were combined, but, for the sake of convenience, it will be well to take them up separately.

1. First let us consider the water cult. This is a system which was very obscure in America, as, in fact, it was in the East. It seems to have existed here, but was closely connected with the solar cult, the ceremonies of that cult requiring the presence of water to make it complete. We have shown how extensively distributed was the tradition of the flood in America, how varied was the symbolism which perpetuated this tradition. We do not know that any such tradition existed among the Mound-builders nor can we discover any symbol which perpetuated it; but the water cult which we recognize is very similar to that which prevailed in Europe at a very early date, and was there symbolized in the prehistoric earth-works. We turn, then, to the resemblance which may be recognized between some of the earth-works in Southern Ohio and those in Great Britain. We have already spoken of this, but as certain new investigations and new discoveries have been made, we review the evidence.

1. The first group of works which we shall cite is the one at Portsmouth. The chief evidence is given by the avenues or the covered ways, which seem to have connected the enclosures on the different sides of the river. These, by aid of the ferry across the river, must have been the scene of extensive religious

processions, which can be compared to nothing better than the mysterious processions of Druid priests which once characterized the sacrifices to the sun among the ancient works of Great Britain. It has been estimated that the length of the avenues or covered ways was eight miles. The parallel walls measure about four feet in height and twenty feet base, and were not far from 160 feet apart. It is in the middle group that we discover the phallic symbol (see Fig. 1), the fire cult, the crescent of the moon and the sun circle. In the works upon the west bank of the Scioto we find the effigy enclosed in a circle (see Fig. 2), as a sign of animal worship, and in the concentric circles (see Fig. 3) with the enclosed conical mound, on the Kentucky side, we find the symbols of sun worship. We would here call attention to the theories recently thrown out by Mr. A. L. Lewis that the water cult was combined with the sun cult at the great works at Avebury; the avenues made of standing stones having passed over the Kennet Creek before they reached the circle at

Beckhampton; the same is true at Stanton Drew and at Mount Murray, in the Isle of Man. In each of these places were covered avenues reaching across marshy ground towards the circles. "If the circles were places of worship or sacrifice, such avenues connecting them with running streams may have had special object or meaning."*

Mr. Lewis says: "I have never adopted Stukeley's snake theory, for I could never see any great resemblance to a serpent, nor could I see any thing very suggestive of a serpent in the arrangement of the other circles. Still, Stukeley's statements about the stones of the avenue, leading from the great circle toward the river, are very precise." Stukeley says: "There were two sets of concentric circles surrounded by another circle, which was encircled by a broad, deep ditch, outside of which was an embankment large enough for a railway; two avenues of stone leading southwest and southeast. The theory now is that they led across the water of Kennet Creek to Beckhampton and to Overton Hill. The so-called coves in the large circles mark the

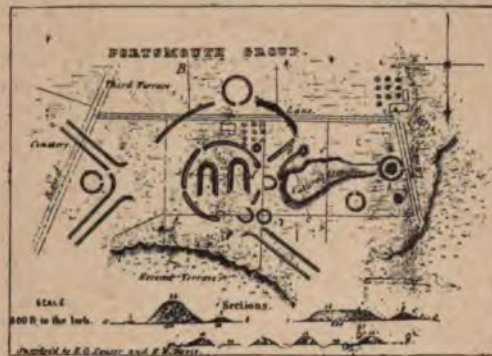


Fig. 1.—Horse Shoe Enclosures at Portsmouth.

*Journal of Anthropological Institute, February, 1891

site of altars, whereon human sacrifice may have been offered to the sun; but the avenues mark the place through which processions passed in making their sacrifices,—a passage over water being essential to the ceremony."

This is a new explanation of these works, but it is one which becomes very significant in connection with the works at Portsmouth. Here the avenues approach the river in such a way as to show that a canoe ferry was used to cross the river, the ceremony being made more significant by that means. The covered ways, to be sure, do not reach the edge of the water, but terminate with the second terrace, leaving the bottom-land without any earth-work. This would indicate that the works are very old, and were, in fact, built when the waters covered the bottom-land. It may be said, in this connection, that all the covered ways are similar to these; they end at the second terrace, and

were evidently built when the flood-plain was filled with water. As additional evidence that the works at Portsmouth were devoted to the water cult and were similar to those at Avebury, in Great Britain, we would again refer to the character of the works at either end of the avenues. Without insisting upon the serpent

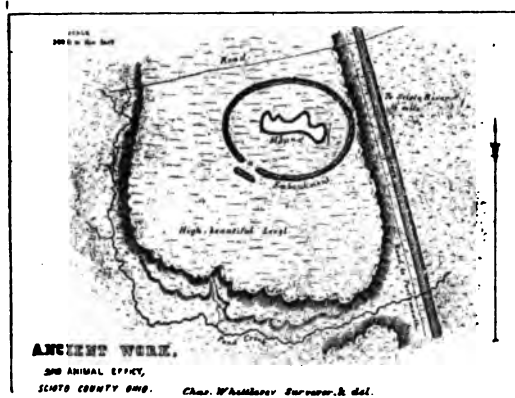


Fig. 2.—Effigy on the Setoto.

symbol being embodied in the avenues, we think it can be proven that the most striking features of the work at Avebury are duplicated here; the sun symbol being embodied in the concentric circles upon the Kentucky side; the phallic symbol in the horse-shoe mounds upon the Ohio side (see Figs. 1, 2, 3) and the avenues of standing stones corresponded to the covered ways which connected the enclosures on the Kentucky side with that on the Ohio side.

The group on the third terrace is the one which is the most significant. Here the circle surrounds the horseshoe, as the circle of stones does at Avebury. Here, too, is a natural elevation that has been improved by art, and made to serve a religious purpose. Mr. T. W. Kinney says this mound, which was a natural elevation, was selected as the site for a children's house. In excavating the cellar there was discovered a circular altar composed of stones which were standing close together, and showed evi-

dence of heat. This altar was four feet below the surface. Leading from the altar was a channel about eighteen inches wide, composed of clay, which was supposed to be designed to "carry off the blood", giving the idea that human sacrifices were offered here, as they were upon the altars at Avebury. Squier and Davis say that the horse-shoes constitute the most striking features; they are both about the same size and shape. They measure about eighty feet in length and seventy feet in breadth. Enclosing these in part is a wall about five feet high. These horse-shoes might well be called coves. The ground within them was formerly perfectly level. They open out toward the river and were on the edge of the terrace, and so were elevated above the surrounding country and were in plain sight. Near them was a natural elevation eighteen feet high, but gradually subsiding into a ridge towards the enclosed mound. A full view of the entire group may be had from its summit. The enclosed mound was twenty-eight feet high by one hundred and ten feet base. It is



Fig. 5.—Sun Circles.

truncated and surrounded by a low circumvallation. As additional evidence to this, we may mention here the great works situated about a mile west. See Fig. 4. Here is a group of exquisite symmetry and beautiful proportions. It consists of an embankment of earth, five feet high, thirty feet base, with an interior ditch twenty-five feet across and six feet deep. Enclosed is an area ninety feet in diameter; in the center of this is a mound forty feet in diameter and eight feet high. There is a narrow gateway through the parapet, and a causeway over the ditch leading to the enclosed mound. This is a repetition of the central mound with its four concentric circles. It is said that there was near this a square enclosure resembling the chunky yards of the South, and that the group taken together was of a Southern type. There are several small circles, measuring from one hundred and fifty to two hundred and fifty feet in diameter; also a few mounds in the positions indicated in the plan.*

Most noticeable is a mound within four concentric circles, placed

*Mounds like this are common in this district and may be regarded as sun symbols. See the cut of works at Portsmouth; also of terraced mound in Greenup County, Kentucky, and at Winchester, Indiana.

at irregular intervals in respect to each other. These were cut at right angles by four broad avenues which conform nearly to the cardinal points. From the level summit of this mound a complete view of every part of this work is commanded. On the supposition that it was in some way connected with religious rites, the mound afforded the most conspicuous place for their observance. See Fig. 3.

"The mound in the center, at first glance, might be taken for a natural elevation. It is possible that it is a detached spur of the hill enlarged and modified by art. It is easy while standing on the summit of this mound to people it with the strange



Fig. 4—Terraced Mound opposite Portsmouth.

priesthood of ancient superstition and fill its walls with the thronging devotees of mysterious worship. The works were devoted to religious purposes and were symbolic in their design."*

Atwater speaks of this group as having wells in close proximity to the horse-shoes. He speaks of the earth between the parallel walls as having been leveled by art and appear to have been used as a road-way by those who came down the river for the purpose of ascending the high place. We have dwelt upon these peculiarities of the works at Portsmouth for the very reason that they seem to prove the existence of a water cult, and because it so closely resembles those in which the water cult has been recognized in Great Britain. We maintain, however, that it was a cult which was associated with sun worship, and that the phallic symbol was embodied here. We maintain that sacrifices were offered to the sun, and that the human victims were kept in the corral on one side of the river; that they were transported across the water and carried up to the third terrace, and immolated

*Ancient Monuments, page 82.

near the horseshoe, and that afterwards the processions passed down the terrace, through the avenue, across the river, a second time, and mounted the spiral pathway to the summit of the terraced mound situated at the end of the avenue.

In reference to this corral, so called (see Fig. 5), we may say that the walls surrounding the area are very heavy, and are raised above the area enclosed, in places as much as fifty feet. They convey the idea that the enclosure was for holding captives, for they resemble the walls of a state's prison rather than those of a fort; being level on the top and made as if designed for a walk for sentinels. The parallel walls or covered ways on each side of this enclosure have an explanation from this theory. They were built to the end of the terrace and were probably intended to protect the sentinels who were stationed at the ends. They command extensive views, both up and down the river, and were convenient places from which to watch the enemy, as they might approach to release the captives. The groups upon the Kentucky side and the effigies on the Scioto are connected with these horse-shoes and with one another by the avenues. The group to the east is the most interesting on account of its symbolism, and the most interesting part of it is the mound with the spiral pathway.



Fig. 5.—Corral.

2. The works at Newark are next to be considered. These works are described in the chapter on "sacred" or village enclosures, but we take them up here in connection with the water

cult. The most remarkable feature of this entire group of works is that presented by the various lines of parallel walls, which extend from one enclosure to another, and from the enclosures to the water's edge. There were five sets of parallels: One has been traced from the octagon westward for about two miles; another extends from the octagon toward the large square for about a mile in length; a third extends from the octagon to the bottom-land, and probably once reached the water's edge; a fourth extended from the circle called the old fort to the square; a fifth extended from an irregular circle, on the edge of the terrace, to the bottom-land, and, perhaps, to the water's edge.

One of the peculiarities of these parallels is that the roadway, in many places, was elevated above the wall. In the northern avenue this elevated grade extends for a quarter of a mile, and is broad enough for fifty persons to walk abreast. A similar grade is found in the avenue that leads from the large square to the irregular circle. The same is true of the parallel leading from the large circle, down the terrace, to the South Fork. The bank of the third terrace, here 20 feet high, is cut down and graded to an easy ascent. The roadway is elevated above the walls, and extends out upon the alluvial bottoms beyond the wall. A similar grade is constructed at the extremity of the northern wall. There was a road excavated into the terrace for one hundred and fifty feet, but the earth was used to form an elevated way over the low, swampy ground at the foot of the terrace. These excavations constitute quite an imposing feature when seen on the spot. The inquiry is, what was the object in erecting these parallel walls, and making such elevated roadways, with grades at the ends of the roads leading to the bottom-lands? The water is now not there and the grade seems to be useless. One supposition is, that at the time the works were erected, the water flowed over the first terrace and washed up to the foot of the second terrace; and that these grades were used for canoe landings.* Why are the roadways elevated and made so broad? Were they designed for the passage of armies, with troops marching abreast? Were they designed for religious processions, which were led from the water to the sacred enclosures? Let us examine the works more particularly. Squier and Davis say that a number of small circles were found within the paral-

*Mr. Isaac Smucker says the terrace was fifty feet above the bottom land; very few mounds and no walls on the bottom lands. He thinks one set of parallels may have led across Licking Creek to Lancaster. He says that formerly there was a fort on a hill to the west of these works; a fort which contained fifty acres, whose walls were conformed to the outline of the hill. This may have been another of the hill forts, which were used by the sun worshippers as a refuge when their villages were attacked. He also says that the works extended from the Raccoon to the Licking and covered the plain. The octagon was on the bank of one stream, the irregular circle and graded way near the forks, and the parallel led toward the other stream. The alligator effigy and the fort referred to were several miles west. He speaks of a reservoir or artificial lake, twenty rods in diameter, and a sugar-loaf mound, about fifteen feet high, situated on one of the bluffs, also of a crescent earth-work and large enclosure between the alligator mound and the old fort. See *American Antiquarian*, Vol. VII, Page 349.

lels,—they probably mark the site of ancient circular dwellings. Circles having diameters of one hundred feet, with ditches interior to the walls, and elevated embankments interior to the ditch, are also seen at various points at the ends and along the sides of the covered way. These circles, with their enclosed crescents, betray a coincidence with those connected with the squares and covered ways at Hopeton, at Highland and elsewhere. May they not have been circles in which religious houses were placed? There is one circumstance which favors this supposition. Mr. Isaac Smucker says there was a group of burial mounds near the old fort, around which was a paved circle eight feet wide,—the mounds being closely connected at the base. Each one of the mounds was made up of a series of layers of earth alternating with layers of sand, followed by layers of cobble stone,—the cobble stones being first placed over a strong burning. In the mounds six or eight post holes were discovered filled with sand; the center post extending down several feet. The conclusion was, that the conical buildings and rotundas had been built upon these mounds; and that fires and burials or burnings had taken place in the rotundas. Different hearths or fire beds had been built inside, making different occasions of sacrifice. Mr. I. Dille says: "To the east of the line of embankments on the second bottom of the creek, are numerous mounds. In 1828, when constructing the canal, a lock was built here. Fourteen human skeletons were found four feet beneath the surface, some of which seemed to have been burned. Over these skeletons, carefully placed, was a large quantity of mica in sheets and in plates; some of them were eight and ten inches long, and four and five inches wide. It is said that from fourteen to twenty bushels of this material were thrown out."

We are to notice, in this connection, the various religious works at Newark. 1. The effigies; there was a bird effigy inside the old fort, with its altar; an alligator effigy, with its altar, at Granville. 2. The circles; there are circles inside the avenues, various circles on the terrace inside the large enclosures; many of these circles have crescents, showing that the moon cult prevailed. 3. The ponds and water-courses; the pond near the old fort has a peculiar shape. 4. The corrals; the old fort was a good specimen; it resembled that at Portsmouth, on the Kentucky side; this had the ditch on the inside and had a high wall, which gave the impression that it was designed to hold captives within the area rather than to defend the area from an attack from without. 5. The parallel walls located near the fort; these were undoubtedly for the trial of captives, where they ran the gauntlet. 6. The network of walls and gateways; this can be explained only on the supposition that elaborate ceremonies were observed here; the walls can not be regarded as game-drives; they may have been designed for protection of the villages, but,

if so, they were villages of a class of sun-worshippers. But it is probable that here all forms of worship—animal worship, fire-worship, moon worship, water cult—were mingled together and brought under the control of the solar cult.

3. The same lesson is impressed upon us as we go away from this series of works and enter the circles and sacred enclosures on the Scioto River, on Paint Creek, the Muskingum River, the Miami River and the White River. In nearly all of these places we find the enclosures having the form of the square and the circle, and having about the same area as those of Newark. We find also that there are small circles with ditches and small crescent embankments inside of the circles; also gateways opening toward the enclosures, giving the idea that they were places of sacred assembly and at the same time symbolic in character. We notice, too, that in many of the groups there are covered ways resembling those at Newark, and that the graded ways generally

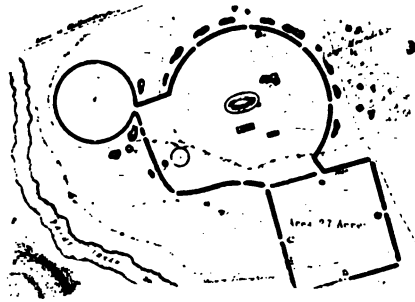


Fig. 6.—Works at Paint Creek.

lead from the sacred enclosures to the water's edge, giving the idea that they were used for processions, the water cult being common in all of the localities. At Marietta the graded way leads from the second terrace up to the third terrace, and connects the enclosure and the three temple platforms with the river,

thus giving the impression that they were used for religious purposes rather than for warlike, that processions leading captives passed from the water's edge up to the temples and to the high conical mound.*

Mr. Harris says there was at Marietta a well sixty feet deep and twenty feet in diameter, of the kind used in early days, when water was brought up in pitchers by steps. This well may have been for the convenience of the people living in the enclosures, but its proximity to the temple platforms and the conical mound and the graded way makes it significant.

4. The works at Paint Creek. There were wells or reservoirs inside both the enclosures at this point. Atwater says in one there was a large pond or reservoir fifteen feet deep and thirty-nine

*Squier and Davis say there was a sloping terrace 700 feet wide between the end of the covered way and the bank of the river; that there were no works on this terrace, which was about forty or fifty feet above the river. They seem to doubt that the river flowed over the terrace at the time that the graded way was built. It is possible that the village was upon this terrace, and that the inclosure upon the upper terrace was the sacred place, where the chiefs dwelt, and that the graded way with the protecting walls were designed for processions from the village to the temple, though the other supposition is a plausible one.

feet in diameter. It was supplied by a rivulet which runs through the wall, but at present sinks into the earth. These wells may have been merely for the convenience of the villagers, but there are so many places where hot houses or assembly houses were placed near ponds of water or streams or springs, we conclude that water served an important part in the religious ceremonies. These enclosures on Paint Creek contain mounds or sacrificial places, which seem to be connected with the ponds. Atwater speaks of one covered with stones and pebbles. He says this mound was full of human bones. Some have expressed the belief that on it human beings were once sacrificed. Near this was an elliptical mound, built in two stages, one eight feet high, the other fifteen feet. On the other side of the large mound was a work in the form of a half moon, set round the edges with stones, and near this a singular mound, five feet high and thirty feet in diameter, and composed entirely of red ochre, an abundance of which is found on a hill near by. The small circular enclosure opens into a large area and connects with it by a gateway. Inside the circle is a lesser circle, six rods in diameter. It seems probable that this circle marks the site of the rotunda and that the whole enclosure was



Fig. 7.—Sacred Enclosure near Anderson.

used for sacred purposes, the larger enclosure being the place where the imposing religious ceremonies were observed. Atwater speaks especially of the wells, one of them being inside of the enclosure, near the mound, and others outside the walls. It would seem from the proximity of the wells to the mounds that there were here the water cult, the fire cult, the moon cult combined, and the complicated system of religion in which the priests had great power.* See Fig. 6.

Another locality where the water cult is apparent is on the White River, in Indiana. Here, in one place, is a square enclosure with a diameter of 1320 and 1080 feet, which has a mound in the center nine feet high and one hundred feet in diameter. This is on the fair grounds at Winchester. Near Anderson, on the banks of the White River, there is a group of small enclosures. One of these has a constricted elliptical embankment one hundred and fifty feet in diameter. Another has a length of two hundred and ninety-six feet and a width of two hundred and fifty feet,—the wall being thirty-five feet at base and four feet high; ditch, eight feet wide, with a gateway which is protected by two

*Ancient Works on Paint Creek.

small mounds. On the same section is a group containing four circles, two ellipses, and a terraced mound. The embankment of one at the base is fifty feet wide and nine feet high; the ditch is five feet wide, ten and one half feet deep. The central area is 130 feet in diameter, and contains a mound four feet high and

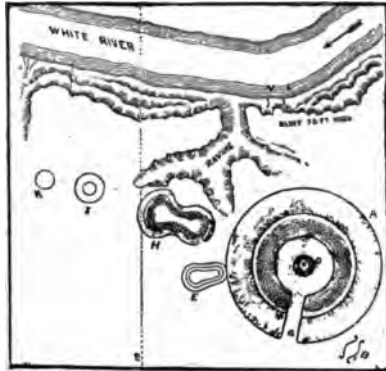


Fig. 8.—Sun Circle on White River.

30 feet in diameter. The gateway is 30 feet wide. Carriages may drive in through the gateway and around the mound on the terrace, and have room to spare. The group is an interesting one, and was evidently designed to be symbolic. Other earth-works similar to this are found near Cambridge, in Wayne County. Here there are two circles, with embankments four feet high, and wide enough on the top to allow two carriages to pass each other. The ditch is on the inside of the embankment, and within the ditch is a circular, level area, with a causeway leading across the ditch through the gateway. These are situated on the bank of the Whitewater River. A passage-way leads from the bluff to the water's edge, equally distant from both circles.

These circles seem to be all religious symbols, the enclosure with the circular mound and ditch, and passageway across the ditch, being symbolic of the sun, the constricted ellipses being a symbol which resembles the banner stones. The graded ways from these small enclosures to the water's edge show that with the solar cult the water cult was here associated.

There are several structures devoted to the water cult on the Kanawha River, in West Virginia, and on the Wateree River, in North Carolina. These resemble the earth-works in Southern Ohio. Their peculiarities are that they are circular enclosures, have uniform measurement of 660 feet in circumference, have a ditch on the inside and a mound on the inside of the ditch. Several of the circles have a truncated mound situated outside of the gateway and guarding the entrance, conveying the idea that there may have been a rotunda on the summit, and an

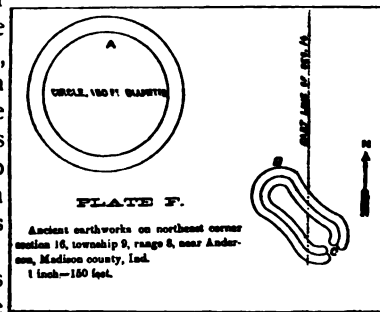


Fig. 9.—Circle and Ellipse near Anderson, Indiana.

assembly place or council house inside the circle. There is near one of these circles a graded way which leads from the enclosure through the terrace down to the bottom land of the Kanawha River, a feature which is noticeable in the Ohio mounds, and was there ascribed to the water cult. One of these mounds was explored and found to contain an altar exactly like the altars in Ohio. It was covered with charred human bones. There were in the same mound, at different depths, skeletons; one recumbent, two in sitting posture. The altar was at the bottom, this showing that the ancient race was the same as the sun worship-

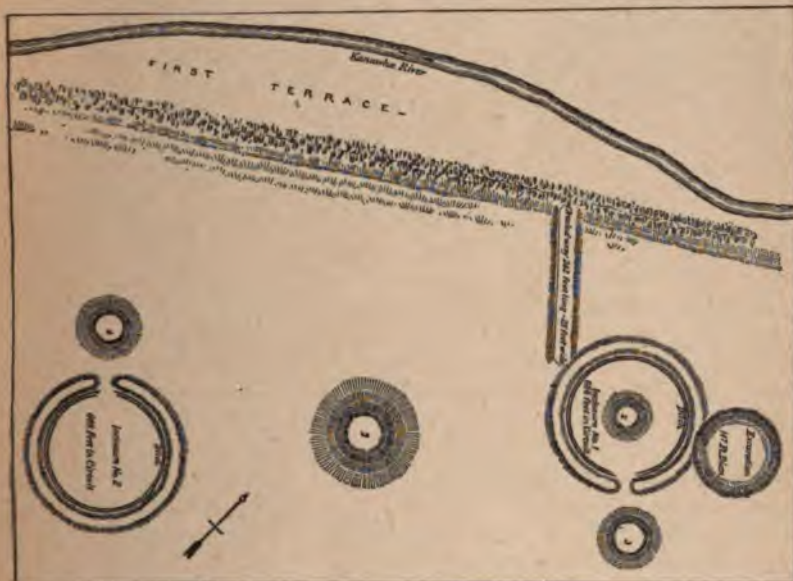


Fig. 10.—Sun Circles and Graded Way on the Kanawha River.

ers of Ohio. But it was followed by others, who built mounds, but did not build altars.

5. The same lesson is conveyed by the graded ways, which have been discovered in the Southern States, and which, according to Squier and Davis, are quite numerous. Descriptions have been given of these by Mr. Bartram, and his explanation of them was that they had been used for avenues which connected the estufas with the artificial ponds used for bathing. They are called savannahs, as they are now meadows, but they were once undoubtedly filled with water and are artificial. The mounds were probably foundations for rotundas.

Mr. H. S. Halbert has described another mound situated in Winston County, Mississippi. Here was a mound about forty feet high with a semicircular rampart surrounding it. A roadway led from this mound towards the creek, but ended in the

intervening swamp. The Messier mound in Georgia is another specimen also. This is a pyramid, which was once surrounded by a rampart or wall. There is near it a large, artificial pond, covering an area of about two acres, and an immense circular well forty-eight feet deep. The mound is one of the largest in the Southern States,—320 feet long, 180 feet wide, 57 feet high, situated upon the summit of a hill. It was not erected for defensive purposes, but as a temple. In



Fig. 11.—Altar.

the religious festivals observed here, ablutions served an important part, and water was an essential element. II. We now come to the system of sun worship. This was a very extensive system, and one which seemed to rule over all others. In fact, we may say that all the other systems are adjuncts or tributaries to this. Sun worship was widely distributed, and prevailed among nearly all the districts in the Mound-builders' territory, though it is the most prominent in the middle and southern districts. It found its highest, or, at least, most complicated, development in Southern Ohio. Here a very ancient people were devoted to sun worship, whose history is unknown, but whose works and relics were left in great numbers. We enter this district, and shall study the earth-works and relics here, with the idea that we shall ascertain something about the system. There is no part of the country where the tokens are more suggestive and interesting. In fact, nearly everything here is suggestive of this system. A most complicated series of earth-works, some of them designed for villages, some of them for forts, some for dance circles, some for burial places, some for council houses, but they were all symbolic. Here were also many solid mounds, some of which contain altars; others were sacrificial places; others were lookout stations; others were temple platforms; others were places of religious assembly; but in all of these we find symbols of the sun. It would seem as if the sun worshipers had been so impressed with their system that they had used the works of nature as contribu-



Fig. 12.—Altar.

tors to worship—the hilltops, the valleys, the streams, the very springs having been used by them in carrying out the different parts of their varied cult. The clan life prevailed here, and clan villages were numerous; clan emblems were not uncommon, but sun worship was the uniform element with all the clans. This uniformity extended not merely to the river system, bringing

together the clans scattered along each river, but it extended also from river to river, and brought together the people of the entire district into one grand confederacy. This confederacy extended from the White River, in Indiana, to the Muskingum, in Ohio, and may have embraced all the country between the Wabash and the Alleghany Rivers. There are also some evidences that it extended from Kentucky into West Virginia, and that the works upon the Kenawha River and the Licking River belonged to the same system.

The altar mounds described in the cuts (Figs. 11 to 14) contain no relics. The first one contained fragments of pottery; the second a mass of lime and fragments of calcined shells.

May it not be that pottery vessels were offered in one and inscribed



Fig. 13.—Altar Mound.*

shell gorgets in the other, the fire having reduced these to ashes. The other mounds in this enclosure contained altars on which offerings of costly and highly wrought relics had been placed—two hundred pipes on one, large quantities of galena, thirty pounds in all, on another, obsidian arrows and pearl beads on another, copper gravers and ornaments made of copper and covered with silver on another. The mica crescent depicted in Fig. 15 was at the bottom of the largest mound, one which overlooked the whole group. The crescent was shelving, its outer edge being raised a few inches above the inner edge, but there was no altar in the mound and no other relics. The location of the group of mounds is to be noticed here. "Mound City" is opposite the



Fig. 14.—Altar in Relief.

*The description of the mounds containing the altars was given in a former chapter. The altars represented in cuts 11 and 12 were found in mounds Nos. 2 and 4. No. 3 contained a double altar. This altar showed marks of intense heat. The relics which had been offered were varied; arrow-points of obsidian, of limpid quartz, of copper gravers or chisels, copper tubes and carved pipes. In mound No. 8 was an altar somewhat resembling that in Mound No. 2. The deposit on this altar was very extensive; 200 pipes carved in stone, pearl and shell beads, discs and tubes made of copper, copper ornaments covered with silver. Masses of copper were found fused together in the center of the basin. The pipes were in fragments. They represented animals, such as the otter, heron, fish, hawk with bird in its talons, panther, bear, wolf, beaver, squirrel, raccoon, crow, swallow, buzzard, paroquet, toucan, turtle, frog, toad, rattlesnake, and a number of sculptured human heads. Mound No. 7 was the one which contained the crescent, Fig. 13. It was the largest and highest of the group, and commanded a view of the entire group. It contained no altar, merely a clay floor, but the crescent was shelving or dish-shaped; the outer edge rested on an elevation of sand, six inches in height. The mica crescent was the chief feature of the mound, though the earth of the mound was incredibly compact. Mound No. 9 contained an altar and a layer of charcoal. In the altar were instruments of obsidian, scrolls of mica, traces of cloth, ivory and bone needles, pearl beads. The articles contained in the altars show an extensive aboriginal trade as well as an advanced stage of art. The symbolism contained in the altars prove that the offerings were made to the sun and moon.

enclosure at Hopeton and nearly opposite the square enclosure at Cedar Bank. The covered way at Hopeton leads toward Mound City. May it not be that this was the way through which processions passed on the occasions when the annual burial feast or "great burning" took place? The passage across the river by a ferry to the place of burning would resemble the Egyptian custom, and would fulfil the picture which Virgil has drawn of Charon crossing the river Styx with the souls of the dead.*

Let us take up the works in detail, and see the symbolism contained in them. We notice that there are truncated pyramids or platforms in this district, generally inside of square enclosures, that they were orientated and had inclined passage-ways to their summits. We notice also that there were elliptical and conical mounds inside of the circular enclosures, many of them sur-



Fig. 15.—Crescent Pavement.

rounded by pavements in the form of ellipses and crescents. We also notice that these large enclosures are always connected by parallel walls or covered ways with the clusters of small circles and crescents; that the altar mounds are generally surrounded by circular walls; that even lookout mounds are inside of circles. We notice further that there are terraced mounds with spiral pathways on their sides, and many of these have ditches and circles surrounding them, some of them have several concentric circles. We notice also that some of the enclosures are in the shape of constricted ellipses, others have triangular gateways, others combine the square and circle in one. We notice also that the altars are carefully built in the form of circles and squares.

We conclude that a complicated system of symbolism prevailed, a symbolism devoted to sun worship. We notice further that the relics are symbolic, that while many of the pipes were carved in the shape of animals and serpents, some of the tablets were inscribed with human tree figures. The mica plates and copper ornaments and other metallic relics were in the shape of crescents, circles and scrolls. Some of them had the suastika inscribed upon them, a mingled symbolism being apparent in the relics. We notice still further the resemblance between the earth-works and the relics, animal figures being found in some of them, as in the pipes, but crescents, circles and scalloped figures in the earth-works as well as in the tablets and metallic relics. While the suastika has not been recognized in an earth-work, the cross has been. The serpent and the bird effigy are well known, but these remind us of the figures on the inscribed shell gorgets so

*H. S. Halbert speaks of an ancient road which crosses the Tombigbee, connecting the cemetery on Line Creek in Mississippi and Mound-builders' settlements in Alabama. The habit of crossing streams with the bodies of the dead is an old one, and was common among the Egyptians and other Eastern nations.

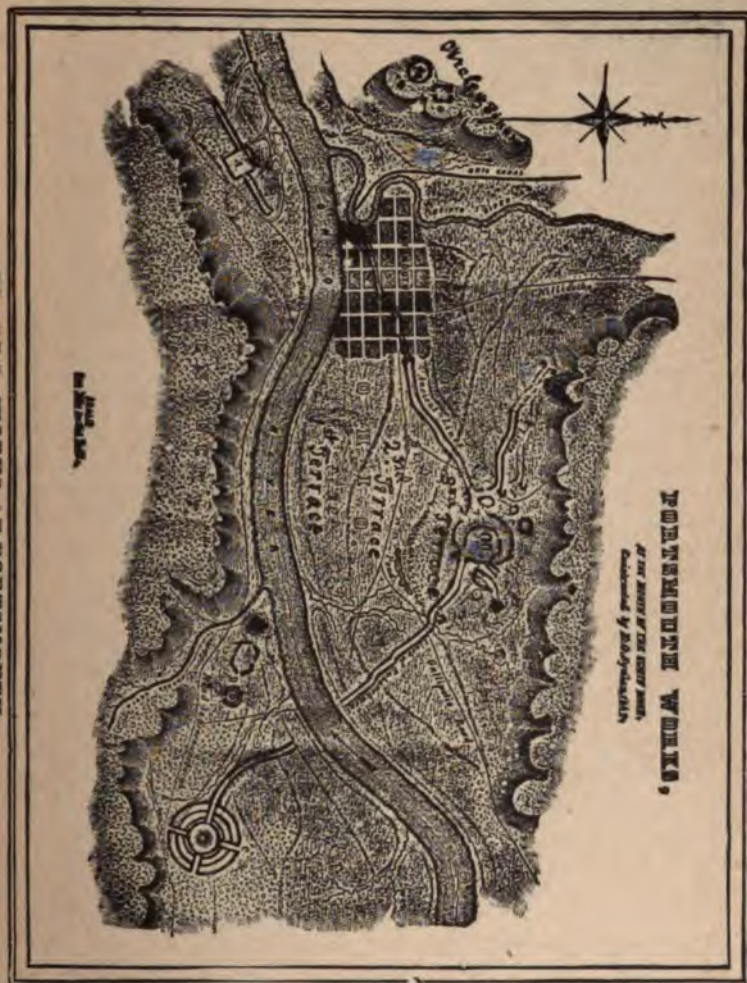


PLATE I.—WORKS AT PORTSMOUTH.

common in the South, the elliptical enclosure in the body of the serpent resembling the same figure on the inscribed shells.

The earth-works of Ohio were designed to protect the villages, which were so numerous there, but they were villages which were pervaded by sun worship. The people dwelling within them were surrounded by the symbols of the sun and followed all the processes of village life under the control of this luminary. They went to the fields, to the dance grounds, to the places of assembly, to the ponds and streams and springs under its protection, and even placed their dead in graves or upon altars which were symbolic of the sun. When they conducted war, they brought back their captives, kept them for a time in enclosures consecrated to the sun, and afterwards immolated them as victims and perhaps presented their bodies or hearts as offerings to the sun, making the remarkable terraced mounds the place where this chief rite was celebrated. The platform mounds may have been foundations for temples; they were, however, temples which were depositories for the bodies of their eminent men, rather than assembly places, and were approached by great and solemn processions, the graded and covered ways having been built for the express purpose of accommodating these ceremonies. There was nothing like this among the aborigines of the North or of the South, though we imagine that if we substituted stone monuments for the earth-works that the Druidic system which prevailed in Great Britain would fit the frame and make the two pictures very similar. There was no living race in America that had any such symbolism or customs. The nearest approach to it would be the confederacies of the South, who were in the midst of the pyramids, and who occupied them, though they may not have built them.

The similarity between the symbolism of the Ohio Mound-builders and that of the stone grave people will be seen from an examination of the cuts. See Plate IV. These cuts represent the shell gorgets found in these graves, as well as in the southern and southeastern mounds. In the gorgets the serpents are coiled and the concentric circles have symbols of the sun and moon and stars between them, as the squares have birds' heads at their sides and loops at their corners, but the figures are the same and the significance similar. May we not say that the nature powers were all symbolized in these figures.

Let us now draw the comparison between these works and those found in the Southern States. The Mound-builders of the South were evidently sun worshipers, but they embodied their system in an entirely different series of works, the pyramids being the chief structure of that region. There are contrasts and resemblances—contrasts in the works, resemblances in the relics. We have opportunity of studying this contrast in this locality. The pyramid builders reached as far north as the Ohio River and

Vincennes on the Wabash, and we find that while they were sun worshipers, there was another class of sun worshipers alongside of them, which adopted the circle as their symbol, and built their structures in this form. Here we call attention to the large group of mounds which surrounds the city of Vincennes. Dr. Patton says of these: "The beautiful valley in which Vincennes now stands was doubtless the site of a great city occupied by the Mound-builders. There is a line of elevation surrounding this valley on the north, south and east, and from the great number of mounds in the locality, and the large size of some of them, and the relics found we may suppose that the region was densely populated by an ancient people whose history is veiled in obscurity." He speaks of the probability of some of the large mounds having been used for sacrificial or cremation purposes. The mounds are called mounds of habitation, lookout mounds, temple mounds and terrace mounds. The pyramid mound, one mile to the south of Vincennes, is surrounded by a cluster of small mounds, is 350x150 feet at the base, and 47 feet high. The sugar-loaf mound, just east of the city, is 216x180 feet, and 70 feet high. The mound one mile northeast of Vincennes has a diameter of 366x282 feet, and rises to an elevation of 67 feet above the plain. The top is level, with an area of 10x50 feet. A winding roadway from the east furnished the votaries an easy access to the summit.



Fig. 16.—Works at Alexandersville.

We may suppose that Vincennes marks the eastern extremity of this confederacy, of which the great Cahokia mound was the



PLATE IV.

center, while the works on the White River marked the western extremity of the Ohio district, the two classes being brought into close proximity. We may notice the contrast between them. It may be that the Mound-builders of the Wabash River and of the Miami River migrated south at the incursion of the savage Indians and became the pyramid-builders of the Gulf States, one class erecting the pyramids on the Mississippi and the other those on the Atlantic coast. In that case, we shall be studying the relics of the same people when we take up the shell gorgets and the tablets of the South.

Passing out from this region on the Wabash River, where there are so many pyramids, we come to the region where the circles are so numerous. We first find some of these on the White River, some of which have already been described. They become more numerous as we reach the Big Miami, the works at Alexandersville and at Worthington (see Figs. 16 and 17) being notable specimens. The works at Worthington are very interesting. There is here a square enclosure whose diameters are 630x550 feet. It is orientated. At one corner of this is the small circle, 120 feet in diameter, whose gateway is in line with that of the square. On the wall is the truncated cone, 20 feet in height and 190 feet in diameter. Opposite the circle, on the bank of the stream, is the small circle with three openings. This circle has a ditch inside, and seems to combine the circle, the square and triangle in one. The author discovered at one time a group similar to this, at Fredericksburg, twenty miles north of Newark. Here were the triangle, the square and the circle all combined in one. Near by was another enclosure, which was even more striking in its shape. It was situated on the bank of a beautiful stream and was in the midst of a fine forest of maples. The wall was in the shape of an ellipse with scalloped sides and ends, the curves being very graceful. Within the walls was the ditch, which had varying widths. The platform within the ditch was rectangular. From the center of the platform a symmetrical oval mound rose to the height of fifteen feet. This was leveled at the top, but its base just fitted the platform, the ends and sides extending to the ditch. No one

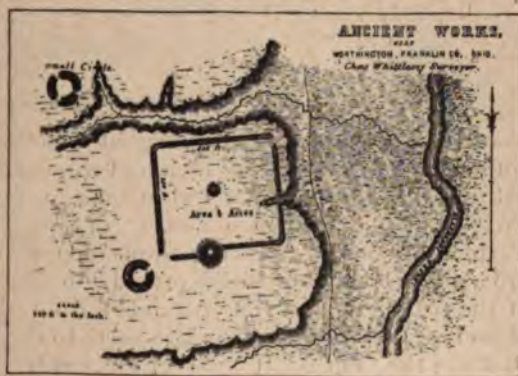


Fig. 17.—Works at Worthington, Ohio.

who had seen this group could deny the taste and skill of the Mound-builders, or doubt that some of their works were erected for ornament and for the embodiment of a religious symbolism.

We come next to the works on the Little Miami. These have recently been explored under the auspices of the Peabody Museum. Prof. Putnam says: "In this region are some of the most extensive ancient works of Ohio, such as Fort Ancient, with its walls of earth from twelve to twenty feet high, enclosing over a hundred acres; Fort Hill, with its surrounding walls of stone, enclosing about forty acres; the great serpent effigy, more than a thousand feet in length, the interesting works at High Bank, at Cedar Bank and at Hopeton, with their squares and circles, besides hundreds of mounds measuring from a foot or two in height to others forty or fifty feet in height. Here we have found elaborately constructed works of a religious character. Here, too, as offerings during some religious ceremony, we have found the most remarkable objects that have yet been taken



Fig. 15.—Spool Ornaments and Cross from Stone Graves.*

from ancient works in the United States—small carved terra cotta figures, representing men and women; ornaments made of native gold, silver, copper and meteoric iron; dishes elaborately carved in stone; ornaments made of stone, shell, mica, and the teeth and bones of animals; thousands of pearls perforated for ornaments; knives of obsidian; all showing that the intercourse of the people of that time extended from the copper and silver region of Lake Superior on the north to the home of the marine shells in the Gulf of Mexico on the south; to the mica mines of North Carolina on the east and the obsidian deposits of the Rocky Mountains on the west."

The beautiful location of this group of earth-works indicates that in this locality there must have been a great population, the relics containing evidence of the wealth of the builders, as well as the religious character of the works themselves. Near this group of works the explorers found in the burying place of the sun worshipers a number of graves containing skeletons attended

*We would here acknowledge our obligation to General G. P. Thruston, who has kindly loaned us the cuts which he has used in illustrating his excellent work on "The Antiquities of Tennessee."

by a large sea shell made into a drinking cup and a number of shell beads, and enclosed in the bones of each hand a spool-shaped ornament made of copper, a copper pin, a wooden bead covered with thin copper, several long, sharp-edged, flint knives of the same shape and character as obsidian flakes from Mexico. Of the ear ornaments, Prof Putnam says: "I have never found them in any of the several thousand stone graves of the Cumberland Valley which I have explored, nor have we found traces of them among the hundreds of graves associated with the singular ash-pits in the cemeteries which we have explored in the Little Miami Valley, nor with the skeletons buried in the stone mounds of Ohio. They seem to be particularly associated with a people with whom cremation of the dead, while a rite, was not general, and who built the great earth-works of the Ohio Valley. I can further say that in all recent Indian graves I have opened this peculiar kind of ornament has not been found; we have certainly found them in such conditions in Ohio that they must have been buried with their owners long before the times of Columbus." One peculiarity of the altars is that they seem to have been emptied and used over and over again, but the bones and ashes were removed and buried by themselves. In reference to the locality Prof. Putnam says:



Fig. 19.—Pipe from Etowah Mound.

"The more we examine these works the more interesting and instructive they become; we have already spread before us the outlines of a grand picture of the singular ceremonies connected with the religion and mortuary customs of a strange people."

Spool ornaments have since been found among the stone graves and described by Gen. Thruston. Fig. 18. The cross was found in the Big Harpeth works in Tennessee. One of the spools—No. 2—was found in a large mound, embedded in ashes, south of Nashville. This had a thread of vegetable fibre about the central shaft. The other—No. 3—was found in a mound with the Savaunah works. The little copper awl, with horn handle, was found on Rhea's Island, Tennessee. Gen. Thruston says in reference to these spools that their similarity to those of Ohio illustrates the intercourse which prevailed during prehistoric times. We call attention to the idol pipes; the one represented in the cut (Fig. 19) was taken from the great Etowah mound in

Georgia, ploughed up near the base of the pentagonal pyramid. It may have been used by one of the ancient caciques in blowing or puffing tobacco smoke to the sun at his rising, as was their habit. It shows the prevalence of sun worship during prehistoric times. The Mound-builders of this section had many idol or image pipes. Some of these pipes represented females holding pottery vessels, others males holding pipes; the sex being discernible in the faces and by the utensils used; the faces always directed towards the sun.

What is peculiar about the works in Ohio is that the very mounds where so many relics were discovered and where offerings had evidently been made were in circular enclosures which resembled those found elsewhere. The dimensions of the enclosures are as follows: That upon the hill was a perfect circle, 550 feet in diameter; contained a large mound, in which was a stone wall, four feet high, surrounding an altar of burned clay, from which objects of shell, stone, copper were taken. A graded way from the top of the hill to the level land below connects the circle above with an oval enclosure, whose greatest diameter is 1500 feet. Near this oval is an earth circle, 300 feet in diameter, and in the circle a small mound. At the foot of the graded way is another small circle, enclosing a burial mound and a group of altar mounds, around each of which is a circular wall. Here, then, we have the same symbol as at Portsmouth—a conical mound inside of a circular enclosure, and what is more the mound has proved, after excavation, to contain an altar and relics upon the altar, thus confirming the thought that this was a symbol of the sun.

The works at Cedar Banks suggest the same combination. This work is situated upon a table-land. It consists of a square enclosure, 1400 feet wide, 1050 feet in length, with two gateways 60 feet wide, and an elevated platform 250 feet long, 150 feet broad and 4 feet high, which is ascended from the ends by graded ways 30 feet broad, and in all respects resemble the truncated pyramids at Marietta. About 300 feet distant from the enclosure are the singular parallel walls, connected at the ends, 870 feet long and 70 feet apart. About one third of a mile south is a truncated pyramid, 120 feet square at the base, 9 feet in height, and a small circle, 250 feet in diameter, with an entrance from the south 30 feet wide. The sides of the pyramids correspond to the cardinal points. The circle has a ditch interior to the embankment. It has also a semi-circular embankment interior to the ditch, opposite the entrance. The group is so disposed as to command a fine view of the river terraces below it. The head land seems to have been artificially smoothed and rounded. See Plate III.

It is difficult to determine the design of these works. The most plausible theory is that the truncated pyramid within the

square enclosure was the site of a temple or depository for the dead; that the small circle and small pyramid were covered with religious houses resembling rotundas; that the parallel lines were devoted to the trial of prisoners or captives, and that the whole group was used for religious purposes.

We pass from this region to Circleville (see Fig. 20), at the head of the Scioto River. Here was formerly a group of mounds which were the first ever explored. The exploration called attention to the ancient works of the State. Here were a large circle and square. Within the circle the conical mound, surrounding the mound a crescent-shaped fire-bed or pavement, composed of pebbles extending six rods from the base of the

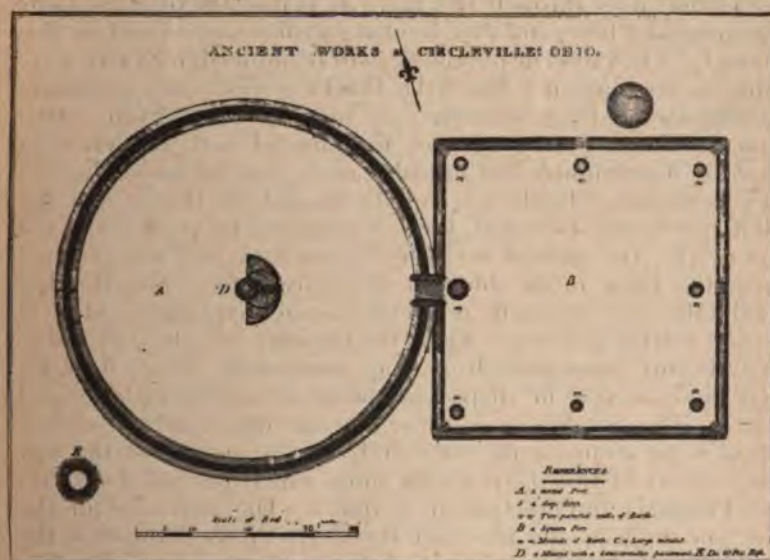


Fig. 20.—Circle and Crescent at Circleville.

mound. Over the pavement was a raised way, which led from the area of the enclosure to the summit of the mound, the inclined passage or bridge making the ascent easy. The crescent pavement attracted attention and was a very interesting feature of the work. It may be that fire was kept burning in this pavement and that the mound itself was used for human sacrifices. Mr. Atwater says that in this mound were found two human skeletons lying on the original surface of the earth.

Whether there was fire kept burning in the crescent pavement, over which the graded way passed, which led to the summit, is uncertain; but the evidence is that, in the mound, fire had been used, and that is probable. Mr. Atwater says that in this mound were found two human skeletons lying on the original surface of the earth, with charcoal and wood ashes, several bricks, well

burned, a quantity of spear heads, a knife of elk's horn, a large mirror, made of mica, three feet in length, one and one half feet in breadth, one half inch in thickness. The skeleton had been burned in a hot fire, which had almost consumed the bones. The tumulus outside of the circle contained many skeletons that were laid horizontally with their heads toward the center, feet out. Beside the skeletons were some stone axes, knives and perforated tablets. The fosse near the mound, which contained skeletons, was semicircular in shape.

Here, then, we have the symbolism of the fire cult, of the moon cult, and the solar cult, and we imagine the ceremonies observed were symbolic. It was the custom of the East to make the victims pass through the fire. It is possible that the same was practiced here, and that human sacrifice was offered on this mound. The crescent pavement is to be noticed, for there were others resembling it. Mr. S. H. Brinkley speaks of a pavement surrounding a large mound, near the Big Twin Ford. This pavement was to the east of the mound and was crescent shaped; it was ninety feet in width, and extended under the foot of the mound. To the west of the mound, on the edge of the bluff, and below the bluff, was an immense heap of ashes, ten feet deep. The mound was elliptical in form and was perched upon the brow of the bluff in a sightly place. Mr. Binkley thinks the ashes were the result of cremated remains; and he is a very careful observer. From the quantity of ashes, we judge that the fire must have been long continued. Here, then, we have again a crescent shaped pavement associated with fire and ashes. The significance of these different works will be understood if we compare the rites and the ceremonies of the sun worshippers of this district with those which prevailed in Syria and Phœnicia, in Old Testament times. The pavement of the crescent suggests the idea that the victims passed through the fire. The ashes within the mound suggest human sacrifices. The position of the bodies indicates that they were sacrifices to the sun. The height of the works suggest the thought that there temples upon them which were devoted to the sun,

PRE-COLUMBIAN DISCOVERY OF AMERICA.

BY T. J. McLEAN

It is generally conceded that the greatest achievement recorded in the annals of history was the discovery of America by Columbus. It has been fraught with incalculable benefits to the human race. To the genius of Columbus must be ascribed all the honor and glory.

It is unnecessary in this place to narrate the great difficulties which Columbus was forced to surmount in order to accomplish his purpose. These have been so often set forth that all students of American history have become familiar with them. The world has deservedly accorded unbounded praise to the Genoese mariner, having called him the greatest of discoverers, and inscribed his name among the most illustrious of men.

Men being more or less inclined to theorize, and to a certain extent governed by race prejudice and religious rancor, it would not be surprising that there should be those who would attempt to pluck the laurel from the great explorer's brow. It is a shame that calumny and strong epithets should be resorted to in the discussion of a purely historical question. Upon the face of it there is a countenance of weakness in the cause of those who resort to such methods.

Mere theories will arise and their associates will demand attention, however much facts may be distorted in order to substantiate their views. The weaker the cause the louder the contention.

There is quite an extensive literature relating to the so-called pre-Columbian discovery of America, and claims have been put forth in behalf of various persons more or less mythical. It would be a work of supererogation to enter into a discussion of all the views that have been proclaimed and the reasons therefor. When sifted none of them will bear a critical analysis, although documentary evidence is assumed to support ten or more of these hypotheses.

The one that takes rank in priority is that of Hoci-Shin, a Buddhist monk, who, in the year 499 A. D., returned from an extensive journey to the east and reported that he had visited a country lying about 6,600 miles to the east of Japan, and an equal distance to the east of China. He called the country Tusango on account of many trees growing there that went by

that name. It has been assumed that this country was Mexico and California. The Irish discovery appears to have been two fold. First, St. Patrick sent missionaries to the "Isles of America", which would place the date prior to 460 A. D., thus ante-dating the purported Chinese discovery; and, second, at a time little previous to the Norse discovery or toward the close of the tenth century.

Next in chronological order is the advent of the Norsemen in America, about 1000 A. D.

Some time previous to 1147 there set sail from Lisbon eight Arabian brothers called Maghrourins, who swore they would not return till they had penetrated to the farthest bounds of the Dark Sea. They came to an island inhabited by a people of lofty stature and a red skin.

Another story affirms that about the year 1169, Madoc, a son of Owen Gwywedd, prince of North Wales, left his country on account of disturbances, and determined to search out some unknown land and dwell there. With a few ships he embarked with his followers and for many months they sailed westward until they came to a large and fertile country, when they disembarked and permanently settled. After a time Madoc returned to Wales, where he fitted out ten ships and prevailed on a large number of his countrymen to return with him. Both Mexico and the Californias have been assigned as the place of this Welsh settlement.

The marvelous tales of the Venetian brothers, Nicolo and Antonio Zeno, date back to the year 1380. They established a monastery and church in Greenland. After the death of Nicolo the other remained for fourteen years in the service of the chieftan, Earl Tichmni. Antonio heard of a land, a thousand miles distant, populous and civilized, ruled by a king, and having Latin books in the library. Farther to the southwest was a more civilized region and temperate climate. Antonio set out in search of this land, but the voyage proved unsuccessful.

An obscure writer of the date of 1717 put forth the claim that, about the year 1464, John Vaz Casta Cortereal, a gentleman of the royal household of Portugal, explored the northern seas by order of Alphonso V, and discovered Terra de Baccalhaos or land of codfish, afterwards called New Foundland.

The discovery by the Poles is placed in the year 1476; that by Martin Behaim in 1483; and that by Cousin of Dieppe in 1488.

These alleged discoveries have not been without their advocates. Any other purported discovery will gather to itself zealous defenders, however short may be the thread upon which the evidence depends. If it once gains a foothold, the most cogent of reasons and the most forcible of facts will fail to dislodge it. Even intelligent minds will be drawn into the maelstrom of error.

Closely related to the purported pre-Columbian discoveries are certain accounts of early travelers, who found the native Indian language to be Welsh and Highland Scotch. The evidence of this rests upon a more plausible basis than the former; and yet it would be difficult to find an anthropologist who accepted the story of Morgan Jones or the pleasant tale of Lord Monboddó. As no one has recently championed the latter, it will be only necessary now to turn the attention to the former.

Of all the theories propounded, the advocates of the Norse discovery have been the most pertinacious. They have been instant in season and out of season. Among those who have shoved themselves to the front, Mrs. M. A. Shipley, Professor R. B. Anderson and B. F. DeCosta may be considered to be the most conspicuous. Of these, the first is the most reckless in regard to statements, and the last named is the fairest and most judicious; whilst all of them are easily detected in trying to make out a case. Even questions not directly concerned in the presentation of the case have been dragged into the controversy. Christianity and the Christian Church have come in for a tirade of abuse.

"The Christian nature is undoubtedly the same all over the world: hypocritical, canting, secretive, avaricious, deeply designing and Machiavellian; each leader makes a tool and a dupe of his followers; congregations do their priests' or their ministers' bidding, and the whole society is permeated with their spirit and purpose."¹ "The North failed and sank into a decline through accepting Christianity."² "The Church has destroyed self-respect."³ "To tear down Christianity, under present conditions, is in no wise iconoclasm; neither will it leave a moral vacuum; the necessity is not even upon us of building up something else in its stead, for a structure has stood for ages, testified to by reliable history, which the Church and Christianity have obscured and hidden from the gaze."⁴

Not satisfied with this unprovoked invective against Christianity, we are also treated to an assault on Columbus, who is accused of being a thief, "ambitious and unscrupulous," "bigoted Roman," "Italian adventurer," "needy adventurer," etc. These epithets, which appear to be so savory to the author of *Icelandic Discoveries*, appear to have been inspired by Professor Anderson, who, quoting with approval from Goodrich, declares Columbus to have been "a fraud, mean, selfish, perfidious and cruel."⁵

Without a blush or qualification it is declared that Columbus "stole his information" concerning the Western Continent from the Norsemen;⁶ that he made a "secret" visit to Iceland;⁷ that

¹ Shipley's *Icelandic Discoveries*, p. 171. ² *Ibid.* p. 183. ³ *Ibid.* 188. ⁴ *Ibid.* 192

⁵ *America Not Discovered by Columbus*, p. 7.

⁶ *Icelandic Discoveries*, p. 9. ⁷ *Ibid.* p. 11.

his discovery was "bogus";¹ that the Norse "were the first Europeans who landed on American shores was pregnant with good to us ; this made 'the name America the synonym of wealth, of adventure, of freedom', and not the false tidings borne by Columbus to Spain of a discovery of which he would have been incapable but for stolen information;"² "Columbus, the bigoted Roman Catholic adventurer, who fed his ambition and greed on the narratives of the Norse voyages to America, read secretly in Iceland, strove to give the New World the opposite tendency,—the downward tendency";³ Columbus, hearing of the Western World, "went to Iceland in order to pursue the investigations to which all this had given him a clue. After his visit to Iceland, he made out to find America, as any one else could have found it after obtaining definite directions ;"⁴ he was guilty of "religious felony", and purloined the knowledge of a discovery of transcendent value made by men of a pagan race who were recently and very reluctantly converted to Christianity, for the purpose of securing princely honors and emoluments for himself, the greatest conceivable aggrandizement for the Church. Such an opportunity for universal dominion as could never, in the nature of things, occur again in the life of the world ; and last and most important of all, for the purpose of making the New World, through its entire submission to the Holy See, the means of crushing out all tendencies to rebellion against the church that might possibly manifest themselves again in Europe."⁵

These severe and uncharitable views would prepare the reader for an estimate of the character of the Norse as given by the same pen, for it may be anticipated that one extreme follows another. If the character be exalted, then the literature created by that people must also be transcendent. "There was no stint of historical records in Iceland ; its literature was as rich and varied as it was copious. The Latin lore (?) of the monks could in no sense be compared with it ;"⁶ "free to think and to act, to follow their impulses, the dearest aim of the Norsemen was to cultivate character, to attain that degree of excellence which would make their life a joy to them ; their heaven was only valuable to them as following upon a valuable life here on earth, and they were never disposed to resign this life for the sake of a future one ; if they sought death, or met it bravely, it was for other reasons, not savoring of sickly renunciation. This aim of theirs to be great developed a heroic age ; the warriors and the bards emulated each other ;"⁷ the literature of Iceland was vast and "preserved in the retentive memories of its Scalds and saga men, the annals of what was in many respects an ideal civilization, describing the life of a race mentally and physically sound, whose thoughts, words and acts were strong and

¹ *Icelandic Discoveries*, p. 13. ² *Ibid.* p. 22. ³ *Ibid.* p. 34. ⁴ *Ibid.* 69. ⁵ *Ibid.* 105
⁶ *Ibid.* 43. ⁷ *Ibid.* p. 123.

vigorous." "To the supreme good fortune of future generations this was preserved where the Christian desecrators could not enter, it was safely guarded behind spiritual bolts and bars, in the faithful and reverent minds of the people, and long after, not much before the seventeenth century, when the nations of Europe, after the first decisive revolt, represented in the Reformation, had begun to recover from the asphyxia into which the unnatural and preposterous doctrines the Christian religion had thrown them, Icelandic history was made known to them, the revelation of a system of ethics, of a moral code, of political and social regulations and customs so unlike those which Christian Europe had adopted and lived after that it could not at first produce anything but astonishment and very partial understanding ;¹ "the value of this literature, this history of the North, which from all accounts seems to be the only reliable history we have, is that it describes, with that graphic force, yielded by truth alone, a state of society founded on natural principles ;"² "the actual life in Iceland, the intellectual stature of its people, reveal to us undreamed-of possibilities. In casting off the incubus of the Church we do not enter unguardedly into vague and problematical conditions, but we resume conditions once found all-sufficient for human welfare, we will again lead the life of rational beings, and defamed reason will be our sure guide ;"³ "the evils that the American people are vainly trying to reform, disabled as they are by the paralyzing conviction that all human effort is well-nigh unavailing, are not manifestly derived from Norse ethics. These, on the contrary, have been the source of infinite good."⁴

The quotations thus given are not to be passed over slightly, as the ravings of a disordered mind, for they have not only been inspired by less irrational writers, but have been deemed important enough to be published both in England (Kegan Paul, Trench, Trubner & Co.) and America (John B. Alden.)

B. F. DeCosta writes: "We fable in a great measure when we speak of our Saxon inheritance; it is rather from the Northmen that we have derived our vital energy, our freedom of thought, and, in a measure we do not yet suspect, our strength of speech."⁵ Again, the same writer is moved to say: "The feature of the Icelandic sagas relating to America is plain. Their simple, unaffected statements, all uncolored either by personal vanity or national ambition, will more and more win the confidence of historians, who find in their statements, committed to writing, as all the testimony proves, in pre-Columbian times, convincing and unanswerable proof of the fact that Leif Ericson and other adventurers found America and visited New England

¹ Icelandic Discoveries, p. 165. ² Ibid. 168. ³ Ibid. 183. ⁴ Ibid. 123.
⁵ Ibid., p. 56.

during the times and under the circumstances described."¹
 "Those who imagine that these manuscripts, while of pre-Columbian origin, have been tampered with and interpolated show that they have not the faintest conception of the state of the question."²

Prof. Anderson declares "it was the settlement of Iceland by the Norsemen, and the constant voyages between this island and Norway, that led to the discovery, first of Greenland and then of America; and it is due to the high intellectual standing and fine historical taste of the Icelanders that records of these voyages were kept, first to instruct Columbus how to find America and afterwards to solve for us the mysteries concerning the discovery of this continent."³

Passing over these statements, for the present, our attention is called to the confidence expressed in the universal belief in the Norse discovery. Without limitations or qualifications one writer boldly declares: "At the present time, historians agree with great unanimity that the continent of America was visited during the tenth and eleventh centuries by Icelanders resident in Greenland;"⁴ but elsewhere the same advocate speaks about "vindicating the Norsemen . . . who not only gave us the first knowledge possessed of the American continent, but to whom we are indebted for much beside that we esteem valuable."⁵

Another author, whose writings are not less numerous, calls loudly and vehemently to have the truths established, because "it is necessary for the truth, as to the discovery of America, to be established *immediately*," that the first duty is obviously to confirm the fact of the Norse discovery," the history of which has been "so miraculously preserved in Iceland", and furthermore "the single statement that the discovery of America by the Norsemen has never been conceded by the world to be a fact."⁶

If we proceed upon the assumption that the Norsemen discovered America, that Vinland was in America, the sagas are "reliable history", then it must be conceded there must be an agreement among those accepting this reliability, as to the location of Vinland or any other specified place. Not necessarily the exact spot should be singled out, but the opinions should conform to the relative position. But most unfortunately there is a wide divergence of opinion among historians.

Torfaeus, who awakened interest in the subject in 1705, was content to place the scene in America, without even attempting to name the localities. In 1755, Paul Henri Mallet, in his

1 Pre-Columbian Discovery of America, p. 59.

2 Ibid, p. 40.

3 America Not Discovered by Columbus, p. 65.

4 DeCosta, in the Popular Science Monthly, Nov. 1880, p. 35.

5 Pre-Columbian Discovery of America, Second Edition, p. 7.

6 Icelandic Discoveries, pp. 14, 194, 195.

"Histoire de Dannemarc", locates the scene in Labrador and Newfoundland. Robertson, in 1778, in his "History of America", although with misgivings thinks "that the situation of Newfoundland corresponds best with that of the country discovered by the Norwegians." M. C. Sprengel (1782), in his "Geschichte der Entdeckungen", thinks they went as far south as Carolina. In 1793, Munoz, in his "Historia del Nuevo Mundo", puts Vinland in Greenland. Barrow, in his "Voyages to the Arctic Regions" (1818), places Vinland in Labrador or Newfoundland. Hugh Murray, in "His Discoveries and Travels in North America", (1829), doubts the assigning of Vinland to America. Henry Wheaton (1831), in his "History of the Northmen", thought Vinland should be looked for in New England. Bancroft, the most eminent of American historians, in the original third edition (1840), of his history, says "Scandinavians may have reached the shores of Labrador; the soil of the United States has not one vestige of their presence." Wilson (1862), in his "Prehistoric Man," declares that Markland, "which, so far as the name or description can guide us, might be anywhere on the American coast," and that Nantucket is referred to is assumed, because they spoke of the dew upon the grass, because it tasted sweet. Foster, in his "Prehistoric Races of the United States" (1873), abruptly dismisses the subject, speaking of it as conjecture and no memorials having been left behind. Nadaillac (1882) speaks of the Norse discovery as "legends in which a little truth is mingled with much fiction." Weise, in his "Discoveries of America," (1884), believes the sea-rovers did not even pass Davis' Straits. The Massachusetts Historical Society (1887), through its committee, reports: "There is the same sort of reason for believing in the existence of Leif Ericson that there is for believing in the existence of Agamemnon—they are both traditions accepted by later writers; but there is no more reason for regarding as true the details related about his discoveries than there is for accepting as historic truth the narratives contained in the Homeric poems. It is antecedently probable that the Northmen discovered America in the early part of the eleventh century; and this discovery is confirmed by the same sort of historical tradition, not strong enough to be called evidence, upon which our belief in many of the accepted facts of history rests." It is certainly evident that Winsor, in his "Narrative and Critical History of America," does not depend upon the Norse discovery.

Following the account of the sagas, as given by the astute editors, it is discovered that the first land made by the Norse was Helluland, or Newfoundland. Farther to the south, they came upon a thickly-wooded country, which they termed Markland, or Nova Scotia. After a voyage to the south of several days, Cape Cod was reached. Vinland comprehends Martha's Vineyard and surrounding country. In arriving at these loca-

tions, in order that they might be corroborated, it is not necessary to point out the many "supposes" and adroit changes called forth by the text, in order to force it to say just what might be desired. Neither is it found advisable that the "simple and unaffected sagas," the "only reliable history" we have, should be allowed to speak for themselves, because a skilled interpreter can carefully interpolate and explain, whenever such may be deemed necessary, which is quite frequent. Nor has it been thought best to give a succinct account of the sagas by the advocates of the pre-Columbian theory, and a correct analysis of their contents, for undoubtedly such an exposure would not add to the lustre which it has been attempted to cast over them. De-spoiled of careful editing, the many *supposes* eliminated, the facts and contents made known, the record would present itself in an unenviable light.

It is not the advocating of a theory, the foisting of an idea, the building up of a clever hypothesis, that is to be desired. If the sagas give a simple, clear, convincing narrative of a voyage or voyages to the western world, and if those sagas have been written by men desiring to speak only the truth although, there might be a slight tendency to romancing, and the descriptions of places are accurate enough to be traced out, and if written before the discovery by Columbus, there can be but one result. It must then be admitted that the sea-rovers saw the New World. If so, what then?

This being true, there is no need to abuse Columbus and hold him up to the scorn of mankind. It will be unnecessary to traduce Christianity and hold up the ancient Norse as patterns of excellence, and as having enjoyed an ideal civilization. The distinguished authors who have expressed doubt and disbelief will be hoisted on their own petard.

It is not a subject for strong adjectives or loud declamation. The sagas should receive the same treatment as any other piece of writing that has been brought to light after having remained covered for ages. The facts they present should be accepted; the theories for what they are worth; the romancing rejected; the marvellous sifted, and the whole analysed.

It must not be assumed that it is here purposed to make an investigation into every line pointed out in these literary remains, for now we are interested only in their purported relation to the discovery of America. Nor is it to be presumed that a happy conclusion will be reached, for the confusion, as exhibited by the past, must be expected to be continued in the future. That same tendency to theorize, already referred to, and desire to be at variance with rugged facts, will still be the great companion of some—erratic, tempestuous, baneful.

THE ANTIQUITIES OF BRITISH COLUMBIA.

BY JAMES DEANS.

I.—ANCIENT PLACES OF SEPULCHRE, CAIRNS, ETC.

In these days of antiquarian research, there is hardly a week passes in which the newspapers and magazines do not furnish their readers with accounts of discoveries in shell-mounds, earth-works, ruined temples and cities, and many other things in almost every part of the world—remnants of by-gone ages which have come down to our day, and among which men are searching for records of the long-forgotten past. While the attention of the world is turned to these wonderful works left behind by the Mound-builders in the United States and Canada, to the wonderful ruined cities of South America, and to many strange things in other parts of the world, few or none may have time to turn from these well-trodden paths in order to ask what we have in that line in this far-distant isle of the ocean—Vancouver Island. To all such, if any there be, I would answer yes; and with permission I would, through the columns of your valuable journal, try to give a description of all we have so far as I am able, giving what I have found after many years of careful observation and research on my part, whether aided by others or alone. I shall also quote what I have heard on the subject among the aborigines.

Commencing, I shall take up the cairns and other places of sepulchre. Before I enter into a detailed account of my experience while examining these silent records of the past, I shall quote a few lines from an essay on Vancouver Island, written in 1862, by Charles Forbes, M. D., of the royal navy, because in a few words he gives all that was known of these cairns up to that date. After pointing out the remarkable resemblances between these cairns and the ancient British cairns on Dartmoor, Devonshire, England, he says, speaking of our cairns: "These circles of stones point to a period in ethnological history which has no longer a place in the memory of man." And further he says of them: Scattered in irregular groups of from three or four to fifty or more these stone circles are found, crowning the rounded promontories, over all the southeastern end of Vancouver Island. Their dimensions vary in diameter from three to thirteen feet; of some only a simple ring of stones marking the outline now remains. In other instances, the circle is not only complete in outline, but is filled in, built up as it were, to a height of from three to four feet with masses of rock and loose stones,

collected from among the erratic boulders which cover the surface of the country and from the gravel of the boulder drift, which fills up many of the hollows. These structures are of considerable antiquity, and whatever they may have been intended for, they have long been disused, and through the center of many the pine, the oak and the arbutus have shot up and attained considerable dimensions—a full growth. The Indians, when questioned, can give no further account of the matter than that “they belonged to the old people;” and an examination, by taking some of the largest circles to pieces and digging beneath, throws no light on the subject. The only explanation to be found is in the hypothesis that these were the dwellings of former tribes, who have either entirely disappeared or whose descendants have changed their mode of living, and this supposition is strengthened by the fact that a certain tribe on the Frazer River did until very recently live in circular, bee-hive shaped houses, built of loose stones, having an aperture in the arched roof for entrance and exit, and that in some localities in Upper California the same remains are found, and the same origin assigned to them; and this idea was strengthened by the fact that any one who opened any of them found nothing but a few ashes at the bottom. I did not find even this much when, in the spring of 1858, along with three young men, I opened a few. Besides the above mentioned ideas as to their use, I may mention one which I consider rather foolish. It was that our aborigines, in order to catch wild fowl, built these piles around poles on which were suspended a sort of net or rope work. Believing them to be burial places, from their resemblances to the cairns of my native Scotland, I intended to open a few whenever I had the opportunity, which came about in the following manner, thirteen years afterward.

In 1871, being on the Canadian Geological Survey, the leader of our party, the late Mr. James Richardson, to whom I was assistant, instructed me to take two men of the party and open enough of them to satisfy us as to how they were built and for what purpose. Having made arrangements the previous day, we next morning made an early start from Victoria armed with picks and shovels. After looking around for a suitable one we at length decided to open one, the largest of a group, placed on the brink of a terrace, sixty feet above another one of about five hundred yards in width, bounded by a bluff fifty feet in height. This bluff is the sea bank of the present day, while the first mentioned was its bank in by-gone ages. Thus the cairn we opened was, when built, sixty feet above high water, but to-day is one hundred and ten feet above it.

Profiting by past experience, I decided to be very careful while opening it. First, by measurement, it was found to be twenty-four yards in circumference and eight in diameter. While opening it our plan was to dig a trench four feet wide right

through its center, careful always to keep on solid, unbroken ground, and also, as we proceeded, to observe its mode of construction. After a day's hard labor we were rewarded by finding right in the center, at the bottom of a circular hole, beneath a pile of large stones, the greater part of the skeleton of a human being. Around it were wood ashes, chiefly of oak and pine. The body had been cremated and the parts remaining unburned had been placed on the bottom of the hole, or, as I shall henceforward call it, the receptacle, in the following order: First, the skull had been placed face downward, due south. The bones of the legs and arms had been placed in line from the skull northward, while whatever bones were found unburnt were placed on top of them. When done, all the ashes had been gathered into the receptacle.

Excepting these bones, nothing whatever was found. Over these remains six inches of fine sand had been thrown. Above all, three large stones had been rolled, filling the receptacle completely. So much was it filled that they had to be moved before we could get at the remains. With regard to the skull, we could make nothing of it, because it crumbled to dust while we were cleaning it. Even there was no exception with the teeth; they, too, crumbled away fast as we picked them up.

Now for the cairn itself, and to it particularly I call your attention, because it was a fair sample of all the others. In the first place, the builders appear to have marked out a circle, varying in size according to the cairn about to be built; next they seem to have cleared off all the soil within its bounds, which appears to have been saved in order to put it in the receptacle over the remains. The receptacle we always found in the center of the circle, and always shaped like a large basin. In size they vary according to the dimensions of the cairn. In this one the receptacle was six feet wide, and twenty inches deep. Over it the pyre, or pile of wood had been built. This pyre, which appears to have been square, was big enough to enclose the receptacle, in order that while the body was burning the ashes might drop into it. The inside of the pile had evidently been filled with dry wood in order to help the kindling as well as the burning. The body, with the knees drawn up under the chin and tied, in some instances (if not in all) had been placed in a cedar wood box, where it had been laid on and covered as well with cedar bark fiber. Above all a quantity of sprigs of bog myrtle had either been placed in the coffin or cast on the funeral pyre, while it was burning, by people dancing in a circle around it; or probably these sprigs were used both ways. In some instances, at least, the box with the body had been placed on the pyre. In other instances I am justified in believing that the body before being placed on it had only been wrapped in mats. By digging up the bottom of the receptacle we found that in most cairns it had the pink tinge of fire, prov-

ing, I think, that not only had all the ashes been gathered into the receptacle and left to burn out, but fresh fuel appears to have been added to further reduce the bones. Besides the large stones above mentioned a number of smaller ones had been added until it had the appearance of an inner cairn overlapping the rim of the receptacle fully a foot all around; thus, while the diameter of the receptacle was six feet, that of the inner cairn was eight. Between the inner cairn and the outer circle was a space two feet wide. This outer circle was formed by stones three feet long, being set on end in imitation of a circle of standing stones, each one being five feet apart and all marking the outline of the original circle. These standing stones, fifteen in number, very much resembled the sun circles in Bolivia and other parts of South America—with this difference, that earth and stones had been gathered and piled up within the round of this circle, until they assumed the shape of a dome within a circle, five feet in height from the bottom of the receptacle to its apex, or highest part, eight yards in diameter at its top spur outside to outside of the outer circle, and altogether twenty-four yards in circumference.

Looking around us we observed that the cairn we opened was the largest of a group of five, three big ones and two very small ones. The other two big ones we found to be thirty feet in circumference, and ten feet in diameter. On opening them we observed both were built on the same principle, but not so well finished as the large one, nor had so much care been taken in the burning. Judging by what was left of the bones these two cairns had been erected over the ashes of two females, probably the two wives of the party (if a man) in the large cairn. Among the bones of the first of these two was an ornament of wood, which crumbled away as soon as the air got to it. A piece of quartz had been placed by the bones of the second. The two small ones had been erected over the ashes of children. This was doubtless a family group, no other cairns being near them. In the two foot space above mentioned in the larger cairn I found, mixed with wood ashes, a large quantity of what appeared to be human bones partly burned and broken into small pieces and then scattered around in this space. Probably these relics were the remains of slaves who had been killed and burned after their owner's death, and following some ancient rite or usage their bones had been scattered all around the receptacle where lay the ashes of his or her master. Probably these people killed their slaves in order that they might be of service to them in the other life. Such was practiced among the northern tribes up till a few years ago.

Besides the above mentioned cairns, which were formed of gravel, earth and stones, there are others, and by far the greater number, formed entirely of stones and rocks. To describe these in their various forms will be the subject of my next paper.

Correspondence.

THE IRISH DISCOVERY OF AMERICA.

Editor American Antiquarian:

My article, as published in the *Gentleman's Magazine*, (London) of September, was intended for the general reader, and it was therefore not necessary nor advisable to accompany it with notes, references, quotations, etc., such as you desire for its republication in THE AMERICAN ANTIQUARIAN. I may say at once that, for the article as it stands, I read up the ordinary authorities on Mexican history: Prescott, Alsass Chevalier, Kingsborough and others. These (especially the first named) will, I think, be found to cover all of my references to Mexico of an historical character. Your request, however, induced me to avail myself of a favorable opportunity I had, in a grand library, of looking into more original authorities. These, I find, fully confirm all that is set down in the article, and lend additional interest to the subjects it treats upon.

In writing up the subject of the Irish discovery of America, I have claimed that St. Brandon was the missionary who impressed his thoughts of the people of Central America, and is the person who was deified under the name of Quetzatcoatl, or the Fair God. At present, I propose to give the evidence of this as furnished by the various authorities on ancient Mexican history.

Peter Martyr, in the *Decades*, Gomara, in *la Istoria de las Indias*, Torquemada, in his *Indian Monarchy*, Acosta, in his *Natural and Moral History of the Indies*, Cogolleudo, in his *History of Yucatan*, Gracios, in his *Origin of the Indians*, Las Casas, Stephen de Jalaccar, Father Renesal, Bernal Diaz;—all testify to the extraordinary Christian-like knowledge and religious practices of the Mexicans and the peculiar attributes of their Messiah, Quetzatcoatl. Crosses were objects of worship and veneration. They were used to exorcise evil spirits from places where their presence were suspected; they were placed as a protection and dedication on newly born children; they were erected over the dead and in temples, and were, everywhere in Mexico and Yucatan, treated as divine or religious emblems.

The Mexicans, notwithstanding their gross idolatry and their innumerable idols, believed in one Supreme God, who was the creator and lord of all things in the heavens and on the earth. He was a God in Trinity and was called Icona or Yzona, the other

members of the Trinity being Bacab or Vacab, and Estruach or Echvah. [The varied ways of spelling these names may be due as much to translation as to local peculiarities.] The cross derived its sacred character from the fact that Bacab died *tied* (not nailed) to a cross, where he had been placed by some wicked spirit. His mother miraculously conceived of him. In her service in the temple she found a lambent flame which she placed in her bosom and thus conceived Bacab.

The practice of infant baptism, of holy communion, and of confession, etc., are confirmed by the writers I have mentioned. The same observation applies to the priesthood in its different orders, and, in fact, to all the references to the Christian-like knowledge, beliefs, and practices of the Mexicans, showing that at any rate the modern authors are faithful interpreters of the original Spanish writers.

In theorizing, as I have, upon the personality of Quetzatcoatl, I was under the impression that my ideas were quite new and original, and I was a little afraid that they might be regarded as another instance of the generous disposition credited to Irishmen of claiming for their country all the great men who are anywhere to be found. But I am at once a little disappointed, and not a little surprised, to find that my surmise was by no means novel. It seems that at a very early period after the rapid conquest of Mexico the Spanish ecclesiastics gravely discussed the question whether Quetzatcoatl was not an early Irish missionary. They were well informed upon the subject of the extraordinary zeal in the cause of conversion shown by the Irish monks of the sixth, seventh and eighth centuries, and they considered it probable that Quetzatcoatl—the supposed introducer of all that looked like Christianity—was an early Irish missionary, though they appear to have had no knowledge of the legend of St. Brendan. Still, another surprise awaited me when I found in Torquemada on the authority of Las Casas an account of an Indian tradition in Yucatan, to the effect that the native notions about the Trinity were originally taught them by a white man who came into their country, with twenty companions, from across the eastern sea. They had sandals or coverings for their feet, went bareheaded and wore long beards. In addition to the doctrine of the Trinity they introduced the orders and discipline of the priesthood, the monastic and conventional systems, baptism, confession and penance, fasting, communion, etc. The name of their chief was Cocolcan, Kukulcan, or Cuculcan,—an undoubtedly Irish name. He was supposed to be the same as Quetzatcoatl, and the Spaniards held the names to be very much alike, though I can not say I am struck with the resemblance. In the native paintings Quetzatcoatl was frequently represented as wearing a pointed mitre, and this was a favorite head covering for the Mexican idols, who were always supplied with a kind of Episcopal

crozier. In connection therewith Gomarra mentions that some natives, on seeing Spanish bishops in their ecclesiastical costumes, anxiously inquired if they were not gods. St. Brendan was a bishop.

All this is very curious, and it becomes more so in view of another ancient historical legend given in Professor O'Curry's lectures on "The Manuscript Materials of Irish History", to which my attention has been recently directed. This is the story of the three brothers, Corras. They were of a princely family of the west of Ireland, and born of the same mother at the same time. In early manhood they made themselves infamous by their wild and lawless conduct, committing murders, outrages and robberies of every description. At length they repented, became filled with remorse, and desired to make atonement for their manifold sins. Their atonement took the form of a missionary expedition across the Atlantic, which had the approval of St. Finan or Finbar, a bishop of Clonard, and founder of the famous monastic school or university at that place. They directed a suitable boat to be built (as described in Sullivan's poetic version of the legend)—

"Go, build a currach stout and strong,
With tough ash ribs; three layers of hides
Strain round her timbers and along;
Fast bind her seams with cord and thong,
And coat with fat her sounding sides.

Then fill well with pole and oar,
Slight tapering masts and well-knit sails
Launch boldly out from Galway's shore,
Nor heed the distant breakers roar."

Amongst their companions are enumerated a bishop and his attendant, the boat builder and another man,—apparently, seven persons in all. This voyage took place in the year of 540. They sailed for forty days in a south western direction, when numerous islands were reached, and beyond them a mainland. All sorts of supernatural sights were witnessed in those transatlantic regions. The legend is silent as to the duration of the stay of the pilgrims, but it is stated that they finally found their way to the coast of Spain, from whence some of them went to Rome and thence to Ireland. It is noteworthy that St. Brendan was a friend of St. Finan and for a time an inmate of the establishment of Clonard. Possibly, his knowledge of the story of the adventures of the brothers Corras may have assisted in inducing him, some ten years later, to make his famous voyage across the Atlantic.

As bearing upon the above tradition, it may be of some significance that Quetzatcoatl is sometimes known under the name of Cozas (so close in resemblance to Corras) as well as Cuculcan. But Quetzatcoatl is hopelessly confused with all sorts of deities, primary and minor, in the Mexican pantheon. Most generally he was the god of air; but, as Cozas, he was one

of the four rain gods. He was, also, in some beliefs, identical with Bacab, the crucified member of the Trinity. This confusion may be partly due to the ignorance of the Spanish writers, but probably it arose, in a great measure, amongst the Mexicans themselves. This is very natural if we bear in mind the extraordinary reputation which Quetzatcoatl enjoyed, and the remoteness of the period of his existence. Occidental mythology is full of instances of venerated or famous men and women of past ages being made into deities, and sometimes into a variety of deities.

In Yucatan, Quetzatcoatl, as already noted, was called Kukulcan or Cuculcan, and was said to have reached that province coming across the sea from the East. The subsequent kings of Yucatan "were called after him Cocomes, which means judges." (Torquemada.)

Some difficulties are removed by the supposition, in itself not unreasonable, that each of the two Irish legends is substantially true, and that the Corras and their companions landed in Yucatan, and St. Brendan much further to the north. The former passed amongst numerous islands of a "tropical"* character, and these would be the Bahamas, the West Indian islands, and the islands of the Caribbean sea. There is no reference in the voyage of St. Brendan to any such islands; he reached a mainland or continent and found a large river running from east to west. This may have been the Cumberland, Tennessee, Ohio or other tributary of the Mississippi, taking a western course. From thence he found his way to Tula, north of the Mexican Valley, and the capital of the Toltecs,—a route which the Toltecs are supposed to have taken in their original migration from the Ohio and Mississippi Valleys. Two similar expeditions so close together in point of time, each composed of persons of the same nationality, the same general characteristics, and teaching the same kind of religion and morality, would be confounded in the lapse of ages and in the absence of precise records; and the traditions of the Corras, in Yucatan, and of St. Brendan, in Mexico, would be treated as relating to the same personages. Cuculcan—possibly the name of the bishop who accompanied the Corras—would be regarded as identical with Quetzatcoatl or St. Brendan, as the Spaniards supposed, and as the natives of Yucatan and the neighboring districts of Mexico appear also to have held, according to the statements of the Spanish writers. The purely Mexican tradition of Quetzatcoatl relates to his presence at Tula and at Cholula only; whilst the Yucatan tradition of Cuculcan rather monopolizes that individual as a celebrity of Yucatan.

I learn, from my further inquiries into the history of St. Brendan, that he had a cousin, Barinthus, who had made a voyage

*Some of them were places of fire occupied by the souls of the damned.

into the Atlantic, and visited certain "happy islands", far away in the ocean, and that St. Brendan was greatly influenced in deciding upon his voyage by the accounts given to him by his cousin. It, therefore, appears that I was mistaken in assuming that St. Brendan acted on a pious impulse solely within himself. He must have known of the voyage of the brothers Corras, and he was familiar with his cousin's adventures. He had, therefore, some idea whither he was going. It would appear, indeed, that in the middle of the sixth century the existence of lands beyond the Atlantic was believed in by the Irish, and were known to them by actual discovery, if we may rely upon the ancient legends touching the brothers Corras, St. Brendan and Barinthus.

In the legend of St. Brendan it is said that, on reaching the mainland, he and his company marched fifteen days inland before they came to the large river running from the east to the west. There the saint was arrested in his further progress by a divine personage, who commanded him to return and leave to future ages the Christianizing of the people of those regions. But the account of the seven years' sojourn of the saint in the transatlantic countries is inconsistent with such a speedy termination of his explorations.

D. D.

THE VOLUME FOR 1892.

An especial attraction of the AMERICAN ANTIQUARIAN for 1892 will be the new department entitled *Pre-Columbian Discoveries*. There will be a series of articles upon this subject by different authors. The *Cliff-dwellers* and their relics will also be treated by two or three gentlemen who have spent much time in exploring the region. The *Totem Posts* and *Antiquities* of the north west coast will be described by a gentleman who is now a collector, in that region, for the World's Fair. Besides these, there will be articles upon the *Hieroglyphics* in Central America; the *Myths and Folk-lore* of the Micmacs in Maine; the human-tree images and other symbols of the Mound-builders.

The *Correspondence* this year will be more varied than usual. All accessions to museums will be announced and descriptions of new finds will be given. The most important feature of the volume will be the Oriental Department. The purpose of the editor is to make this very prominent. The expectation is that it will be very useful to bible students, as arrangements have been made to furnish information about all the *New Discoveries* in bible lands. The prospect is that the volume will be more interesting and valuable than any preceding it. We hope to receive many new subscribers.

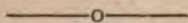
Editorial.

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PRE-COLUMBIAN CONTACT WITH OTHER COUNTRIES.

We have two articles in this number on pre-Columbian discovery; one by an American clergyman, the other by an English barrister of Irish descent. These articles bring out some of the points. There are, however, many others; proofs of some of these are furnished by the deluge myth which prevailed so extensively throughout the continent, myths which come from tradition, the traditions which have been handed down by living races. There are other evidences, which come from the department of archæology, which treats mainly of relics and architectural remains. We have maintained that these give their testimony in favor of a pre-Columbian contact with other countries. There are everywhere throughout the continent tokens which so bear the impress of foreign influence that we can not fail to recognize them. The resemblances are so great that we are constantly struck with surprise. These resemblances are found not only in the earth-works and relics of the Mississippi Valley, but especially in the monuments and ruined palaces of the central provinces. Among the mounds we find the cross, suastika or fire generator, and the solar wheel, the horse-shoe. Among the ruins of Mexico and Central America we find all these symbols and with them many others, as such the double animal headed throne, the sphere or globe surmounted by the human image, the elephant trunk ornament, the serpent ornament, the winged globe, and other symbols, the image or idol which is found above the doors or the palaces, in whose form and attitude and expression of face we find a complete likeness of Buddha as he is represented in India and China. The winged globe is seen over the door of the temples or shrines or adoriatorios of Palenque and Uxmal. They remind us of the winged globes over the tombs in Egypt, while the serpent, which is intertwined among the other ornaments or the facades of these palaces, reminds us of the classic countries; the elephant trunk, which projects so frequently from the facades of the palaces, reminds us of the same ornament which forms the chief feature of the idol temples and many-storied towers of India and China. The circular pavements and carved columns of Peru remind us of the same architectural forms which are found in Assyria; and the pyramids with the spiral pathway to their summits remind us of the towers or Zikarrats of the same country. The palaces also of Central America in their general

arrangement have a very striking resemblance to the palaces of Chaldea, as there are long halls and apartments arranged around courts, situated upon terraced pyramids, in the midst of which are towers. The palace of Sargon at Korsabad might be taken for one of the palaces of Central America, as the arrangement is exactly the same. These are all very important features in the architecture of the East and of the West, and the resemblances are very striking. There are many other resemblances, but we have not space to speak of them now.



ANCIENT ASSYRIANS IN MICHIGAN.

Some remarkable finds have been made in Michigan, which, to some of the citizens, would indicate that there was at one time a colony of Egyptians, Assyrians, or some oriental people. The editor of the *ANTIQUARIAN* received, last summer, telegraphs and letters in reference to these finds and was invited to come and examine them. He did not go; but Prof. Foster, of Evanston, went and wrote up the finds. His letter was published in the Chicago papers with illustrations. These represented pottery chests, or receptacles of various sizes and patterns, decorated with figures of Sphynxes or hieroglyphics, which showed familiarity with both Assyria and Egypt. Most of these, however, were found in mounds, although some of them were found under the roots of pine trees. They were very curious. A few weeks later the editor noticed that Joe Mulhauser had been visiting a friend who was the mayor of some little city in the northern part of Michigan, but that he had been respectfully invited to leave the place. Joe Mulhauser has been known for the last twelve years as the imaginative writer who describes remarkable finds;—finds consisting of the body of De Soto, clad in armor, with a diamond hilted sword at his side; the body of an immense whale,—the size of the ribs very carefully given, and the skeleton of a man inside the whale; remarkable caves full of statuary and halls, of such nature as Aladdin's lamp might disclose. These imaginative writings have been published by some western papers. They have ceased to excite surprise. The new trick has been more successful. Great pains seem to have been taken of the fabricated pottery; and the vessels have been put in such out-of-the-way places that intelligent people have not been deceived. The tidings of the finds have just reached the East, where this western Munchausen is not known. *The Nation* has given two columns or more to it, and Prof. Jastrow, of Philadelphia has passed his opinion upon the finds. It is comical, and yet there is a serious side to it. Articles were sold on the railroads in Michigan, and innocent persons were made victims. There still seem to be new discoveries. We would inform our readers that the Assyrians did not leave their relics in the mounds of Michigan.

FRAUDS AND THEIR PERPETRATORS.

One of the greatest of the many annoyances to archæologists is that so many fraudulent relics are found in the mounds. It seems difficult to fasten the frauds upon any one, for they are planted probably in the night and are adroitly covered up. Some of them are wrought with reference to the special sensation that may be made, and are very startling in their resemblance to foreign articles. These are very easily detected and are rejected at once; others, however, bear a resemblance to the relics of the Mound-builders, and are very deceiving. The most of these have some ancient alphabet, Hebrew, Phœnician, Hittite, and are recognized as frauds by these means. Among these, are the Grave Creek Tablet, the Newark Holy Stone, the Pemberton Ax, the Stone from Grand Traverse Bay, and a great many others. Not one of these has been accepted by the skilled archæologists, but they have been discussed and defended by others, until they have grown wearisome. There ought to be some penalty affixed and civil processes commenced to stop such dastardly work, for innocent men are frequently implicated with the guilty.

NEW DISCOVERIES.

AN ANCIENT CITY IN MEXICO.—The Press Association has announced a discovery, by Mr. William Leighton, of an ancient city, about one hundred miles west of Socorro, about seventy-five miles to the nearest railroad. The city was in the midst of the short ranges of bleak, pinon and cedar covered mountains, and was situated about three hundred feet above a canon. The houses were built of huge sandstone blocks, of even size, laid in strong mortar beds, with the joints broken. One wall was little more than six feet high, three feet thick, and thirty feet long; other walls stood to the height of nearly thirty feet, reaching to the third story. Some of the rooms on the lower floor are intact, even to the roof of cedar timbers set in the walls. The whole structure was evidently built around an inner court or plaza, as the modern adobes and pueblos are grouped, and many families must have resided within the same walls. There could not have been less than a hundred rooms in the building, and all were apparently finished in careful style. Some of them must have been completely dark, for there was no evidence of their having either doors or windows leading outside, through which daylight could come, the only means of communication with them being through the adjoining rooms.

All over the ground, around and through the ruins, were scattered numberless fragments of pottery of a highly artistic character of design and decoration. In the inner court of the large building described, this court being a rectangular area of 100x150 feet, I expected to find some more per-

fect specimens of the workmanship of the people, and in this I was not disappointed. In about the center of the court there was a circular depression of twenty feet in diameter, probably the site of a former fountain basin or reservoir. This basin was filled nearly to the top with dust and debris, and I started carefully to explore the depths. Each shovelful of earth was lifted as cautiously as though it had been eggs, for fear of striking and breaking some precious specimen. For a depth of four feet I dug, patiently and with expectations at the highest pitch, and then I reached the layer of fine earth and debris which had accumulated while the reservoir still contained water, and a few inches beneath this was the well-cemented rock lining of the basin. My spade had hardly grated upon these stones when it turned up a few fragments of pottery, and mixed with these was one of the rarest of relics—a chisel of copper, highly tempered, so as to be quite as serviceable as our steel implements of to-day. The very next spadeful of earth yielded another [somewhat similar in design. These were the only implements of copper I found. But pottery of all sizes, shapes and conditions came to the surface. Pots, vases, cups, plates, jugs, pipes and articles of doubtful use were uncovered with almost every thrust of the spade, and with these were mixed arrows, spears, scrapers, hammers and drills, and other implements of peace and war. When my back grew tired with the stooping and digging I straightened up and cast a glance around the canon. It sent a thrill of joy through me as my eyes rested here on the crumbling walls of the great building which we were exploring, while beyond, higher on the hillside, rose unsteady columns of stone marking the sites of other buildings; a doorway of large proportions, an arch, perfect in outline and construction, and many additional relics of the work of that forgotten people, showing their perfect acquaintance with many of the higher principles of architecture.

In one of the small rooms I found the floor almost hidden by the finest specimens of pottery I have ever seen. There were exquisitely decorated jars, three feet tall and beautifully proportioned, as perfectly preserved as the china just turned from the hands of modern potters. One of the lost arts rests snugly in the interior lining of these mammoth jars, for they have been glazed and decorated in a manner and by a method which makes the modern potters own themselves worsted. The glazing of these pieces was hard, faultless and beautifully tinted, and as perfect in its preservation as the day it was put on by the hand of the patient workman. Each turn of the hand, each stroke of the spade brought to light something more wonderful and curious than had been seen before.

FOSSIL ELEPHANT.—Prof. Williston has received notice that an immense fossil elephant has been found in the arid region among the sand hills in the western part of Kansas. The measurements show that the animal in life was a monster indeed, and that it was larger than any mammoth remains which have ever been discovered. It is sixteen feet from the sole of the foot to the point of the shoulder, and its length is proportionate with the height. As this is the first mammoth remains which have been found in Kansas it excites much interest among scientists as well as the curiosity of the general public.

ARCHÆOLOGICAL NOTES.

KANSAS HISTORICAL SOCIETY.—This is one of the most flourishing of all the State Historical Societies of the West. Mr. F. G. Adams, the Secretary has the true historic spirit. The manuscripts and books in the library are, some of them, rare and very valuable. At the recent annual meeting, Dr. Peter McVicker president of Washburn College, gave some reminiscences of the school lands on the Osage reservation. The reports show extensive additions. A number of corresponding members were elected, among them the editor of THE AMERICAN ANTIQUARIAN.

ANTHROPOLOGY OF EUROPE.—Dr. Beddoe delivered in Edinburgh, last October, some lectures on the Anthropology of Europe. He discussed the Aryan question, discredited the arguments for their origin in Europe, and called them Scandinavian heresies.

THE SYMBOL OF THE EGG is very common at the East. It has not been identified in America, though the symbol of the suastika, the serpent and the circle have been identified. It was formerly thought that the oval ring which contained the altar in the great serpent in Ohio was the egg being swallowed by the serpent. Mr. W. H. Holmes thinks that the altar represented the heart, the ring was the body, the nose of the serpent was at the end of the cliff. Perhaps the egg may yet be identified. It is a subject of inquiry.

SEX MARKS.—Prof. Lanman, in the May number of the *Proceedings of the Oriental Society*, described the sex marks in the mortuary urns of India. He says that Schliemann found them in Troy. Others have found them in Ecuador. The Hart collection from Brazil, has many such; also the cemetery at Ancon and at Chamboto, Peru, and the burial places of Chiriqui show the same. The pottery pipes of Missouri and Tennessee show the sex marks; not always in the same way, but in a way that is plain. The pipes found at Etowah contained one with the figure of a man, with the head turned back, face upward, and with a pipe in his hands. Another, a woman in the same attitude, with a pottery vase in her hands. This is a very delicate way of exhibiting sex; some of the pottery urns or vases are in contrast, for they are decidedly vulgar.

THE NINTH INTERNATIONAL CONGRESS OF AMERICANITES will be held in Spain, at the Convent of Santa Maria de la Rabida, province of Huelva, from the 7th to the 11th day of October, 1892. On the day of closing, the fourth century after Christopher Colon's immortal discovery will have come to an end, and at la Rabida a monument will be unveiled, on the same day, to commemorate the discovery. Fray Juan Perez, who, by his energy and firmness of character, largely contributed to the success of Colon's enterprise, once was the guardian of that convent. All inquiries concerning the Congress, transportation, tickets for ocean travel, etc., to be addressed to Senor Antonio Maria Fabie, President of the Organization Committee, No. 11 San Mateo Street, Madrid, Spain.

HISTORICAL EXHIBIT.—There will be an exhibit of historical articles and books connected with the discovery of America in Madrid during the year 1892. Americans are invited to send, at the expense of the Spanish Government, such articles as they have. The exhibits will embrace prehistoric relics and such historic relics as would illustrate the times.

NOTES ON BIBLICAL ARCHÆOLOGY.

THE SEMITIC MUSEUM at Harvard contains clay tablets dating between 2200 and 500 B. C; also Babylonian seals of ancient date. Bas-reliefs of Assurnazirpal, Shalmanezar, Tiglath Pileser, Sargon, etc.; also casts of the Siloam inscription, of the stone book, so called, relating to the sun god at Sepharvaim, and a sarcophagus of the king of Sidon, 400 B. C., and many other things of interest.

THE BABYLONIAN COLLECTION in the University of Pennsylvania consists of clay cylinders, tablets, cones, seals, pottery, casts and miscellaneous objects from Babylonia. Casts of the deluge tablet, of the Sippara tablet, of the black stone of Shalmanezar, a statue of Assurnazirpal, similar to those at Harvard. Also a slab representing the religious ceremony of the palm tree, and the celebrated alabaster vase of Xerxes, containing the inscription of the great king, which was purchased in London by Prof R. Harper; pottery lamps from Palmyra, and a small Egyptian collection.

HERCULES AND MELKART.—The Metropolitan Museum has a statuette, which was found at Benevento, Italy, representing Hercules with the lion's skin, bow and club in Archaic Greek style. Prof. Hall speaks of the transformation of the figures of the Syrian Melkart and of the Greek Hercules. These are especially noticeable in Cyprus. The bronze of which it is composed is of the soft kind, seen in the ancient bronze of Cyprus, Phœnicia and Egypt. The patina was ancient and was intact. The coins of the colonies exhibit representations of this deity in mixed shapes. Some of the characteristics can be traced to the Assyrian and Babylonian representation of the god of physical power, but statues in the round are scarce, especially ancient ones like this.

AMORITE POTTERY.—The mound Tell el Hesy has been worked by Mr. F. J. Bliss, and a large quantity of "Amorite pottery" taken out, consisting of thick-brimmed bowls, with ledge handles, comb facing, peculiar spouts or mouth holes, jars, weaver's weights, and other objects. He dug through the ruins of two towns, and reached Mr. F. G. Petrie's "wall of Manasseh". The pottery was found at the lowest depths.

A CANAANITE MASK, somewhat resembling those which are common among the mounds of America, has been found near Ramah, in Palestine. It was in the hands of the natives, but was secured by Dr. T. Chaplain. The mouth is formed by a projecting ring, like the mouth of Tlaloc in Mexico. It is a reddish limestone, the back is hollowed, and the sockets for the eyes deep. Mr. Flinders Petrie thinks it of Canaanite origin.

SOLOMON'S PORCH, OR THE ARCHED PASSAGEWAY.—Robinson's arch has long been known as a fragment of an arch which springs from the temple wall near the Jews' wailing-place, towards the ancient City of David, across the Tyropean Valley. Mr. G. R. Lees has recently discovered two or three ancient arches, which are in a line with the southern side of Robinson's arch, but east of it, under the old temple. One of them springs eastward from a wall bounding the area called "Solomon's Stables". The breadth of the recess and that of Robinson's arch correspond—50 feet. Four points are in a straight line, 922 feet long. This proves that a continuous arcade or series of arches joined the eastern and western walls of the sanctuary at some

earlier period. Their depth is too great for them to be the arches of Solomon's Porch, and yet the discovery is interesting. The measurements of the spring of this arch indicate that the span was about thirteen feet. The rock is in four courses, each about four feet high, the upper course forming the spring of the arch. It projects eastward instead of westward, as does Robinson's arch.

SCULPTURED FIGURES NEAR KANA.—In 1890 Mr. Schumacher discovered near Tyre a large number of human images sculptured out of the solid rock. Some of them were seated, with their hands folded, and covered with drapery. Others were mere blocks, with round knobs for heads, the images represented as standing. They are anterior to the Greek-Roman, and belonged to the Egypto-Phœnician. The place was a very lonely and wild region. The images were hewn out of the ledges of rock, near Kana, and not far from Tyre.

THE SILOAM INSCRIPTION.—This inscription was ruthlessly cut out and carried away. It was feared that it was hopelessly lost, but it has been recovered and is to be placed in the museum at Constantinople. Mr. Henry Gilman, formerly of Detroit, recent consul at Jerusalem, a gentleman who was interested in American archæology before he went to Syria, has furnished the information.

MAHANAIM.—On the newly-issued map, with ancient nomenclature, is the ruin of *Mukmah*, which, Major Condor thinks, marks the place of Mahanaim. It is a fertile district, south of the Jabbok, and about a mile north of the ancient ruin El Baska. The plain is several miles across and is 2,000 feet above the sea level, but there are hills around it from 1,000 to 1,500 feet higher. "The circle of Mahaniam" would be the circle of the hills. Thus we have the Peniel of Jacob and the place of the two bands of angels identified.

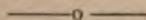
TADMOR OF THE WILDERNESS.—A recent trip to Palmyra (Tadmor) by the Rev. Dr. G. E. Post has brought to light a number of beautiful pieces of sculpture. There are busts which show the features, forms and dress of the ancient inhabitants. These busts exhibit countenances of remarkable symmetry, the features are well rounded, expression refined, drapery graceful, though the statuary is chiseled out of limestone, which does not admit of the finer expression of the Greek statuary. The stone was easily cut and easily defaced. Still the work of the sculptors has preserved the countenances of the people, and they are countenances which correspond well with the character of the ruins. The architecture and the art correspond.

THE HYKSOS KINGS.—There is much curiosity expressed as to the Hyksos Kings. The Minyans were once known as an Asiatic people, but, in the Egyptian records, were dwelling in Assyria, east of Syria. They are supposed to be the race, who, in the Hyksos period, seized upon Egypt, and became the Shepherd Kings. They had been driven out some two hundred years before the date of this letter, and are supposed to be located at this point on the Euphrates river. They were a different race from the ordinary Egyptians, as their statues, which have been discovered, seem to prove. These statues are in very strong contrast with those of Rameses and other Egyptian kings. The Turanian language preceded the Semitic in Babylonia and was quite different. It was allied to the Altaic. The Semitic spread

over the East; but it is uncertain whether the Egyptians were Semitics or not. The contrast between the statues would indicate that whatever the Egyptians were, the Shepherd Kings were Turanians. Thus the linguists and the archaeologists are working together.

A TURANIAN LETTER.—Among the letters which have been found in Egypt and deciphered by Dr. A. H. Sayce, which carry us back to the date 1500 or 1400 B. C., is one written in the Mongol or Turanian dialect, akin to the old Akkadian or ancient Media. This letter was written to Amenophis III., king of Egypt, by Diesratta, king of the Mitani, a city opposite the Hittite city Carchemish and east of the Euphrates. The writing is syllabic, in an old, cuneiform character. The name of Egypt is written "Mizri". This is one of the most interesting documents of antiquity, for it proves the Turanians to have been earlier than the Semites.

CURIOUS DOMESTIC ECONOMY AMONG THE EGYPTIANS.—A curious illustration of the domestic economy of the Egyptians has been met with in the unwinding of the bandages of the mummies. Although whole webs of fine cloth have been most frequently used, in other cases the bandages are fragmentary, and have seams, darns and patches. Old napkins are used, old skirts, pieces of some thing that may have been a shirt, and once a piece of cloth was found with an arm hole in it, with a seam gusset and band finely stitched by fingers themselves long since crumbled and their dust blown to the four winds.—*Harper's Bazaar*.



BOOK REVIEWS.

Schliemann's Excavations. By Dr. C. Schuchhardt. Translated from the German by Eugene Sellers. Illustrated. London: Macmillan & Co.

The appearance of this book so soon after the death of the illustrious excavator makes it seem like a monument to his memory. No more books will be written by him; so this covers the whole period of his labors. The expressive names, Troy, Tiryns, Mycenae indicate the variety of places that were touched by his magic hand, but can hardly express the wonders which he opened to the astonished gaze of the world. The author and publishers have portrayed the treasures as best they can, both by descriptions and by engravings; and yet the book lacks the peculiar charm which there was about Schliemann's own writings. He was an archaeologist who knew what relics were most curious and interesting to other archaeologists, and his enthusiasm over his discoveries added a charm to his descriptions. We miss the spirit of the man, in reading this account of his discoveries written by another hand. Still, as a compilation of what has been written, and as a condensed statement of the discoveries made, the one book will, to many readers, be fully as acceptable as the four or five written by the original hand. Dr. Schuchhardt does not profess to be a champion or a critic, but perhaps is both. In the main, he defends Dr. Schliemann, and can be regarded as an admirer, not fulsome or enthusiastic, but discriminating and careful, as we would expect a German writer to be. The new discoveries are brought out in the book and compared with the old discoveries. It is remarkable that the works of art and the treasures which were discovered last were the most valuable; but the facts disclosed and the archaeological views brought out in the first explorations were the most startling. There

was, however, the air of a conqueror in the whole career. The spade becomes more eloquent than the sword in the hands of this explorer. The charming companion of his toils survives, her head crowned with a diadem that was taken from the tombs of kings and queens of classic stories. She is every inch a queen.

Studies of the Gods of Greece, in Certain Sanctuaries Recently Excavated; being Eight Lectures, given in 1890, at the Lowell Institute. By Louis Dyer, B. A., late Assistant Professor in Harvard University. London: Macmillan & Co.

The key to the classic mythology which we see in the hands of Mr. Dyer, the author of this book, seems very likely to open the door into the mysteries. Many others have taken the system of nature worship as they have imagined it, and have undertaken to explain everything as a personification of the nature powers. Mr. Dyer, on the other hand, makes the divinities to be the embodiment of human traits which are divine, and describes these as they were materialized by classic art and literature. It is the best explanation we have yet seen. If we take this as the clue, we shall be charmed with the book as we pass through its pages, for the writer discloses many things in the niches and chambers of the labyrinth, and yet never loses his way. We have pictures of mysteries, ceremonies, myths, illustrated by the works of art; and the peculiar nature of the Greek mind, which fabricated these, is clearly portrayed. It is a valuable book, and one which will be read with interest by all the lovers of the classic art and archaeology.

The Navajo Belt Weavers. By R. W. Shufeldt, M. D., Washington, 1891. Some Observations on the Havesu Pai Indians. By R. W. Shufeldt. From the United States National Museum. Washington, 1891.

The contrast between these two tribes of Indians is very great. The one dwells in brush huts and were, for the most part, naked. The other dwells in slab houses with doors, wear shoes, shirts and cotton clothing, and are excellent weavers. Dr. Shufeldt has brought out the peculiarities of both tribes.

The Site of Fort George, Erected by Captain George Putnam in 1607. By W. Scott Hill, M. D., President of the Kennebec Natural History and Antiquarian Society. Read January, 1891.

Index to Scribner's. Vol. I-IX. January, 1887, to December, 1891.

This Index will help us find the articles on archaeology contained in this magazine. They are as follows: Archaeological Discoveries in Idaho, by F. G. Wright, Vol. VIII; Babylonian Seals, by Wm. H. Ward, Vol. I; The Cross of Rome, by W. W. Storey, Vol. X; Elephant Myths, by W. B. Scott, Vol. I; Explorations in the Sierra Madre, by Carl Lumboltz, Vol. X; Greek Portraits, by T. S. Perry, Vol. V; Mexican Folk-lore, by Thomas A. Janvier, Vol. V; Egyptian Temple, Vol. IV; Egyptian Pyramids, by Edward L. Wilson, Vol. III; Shaler's Articles, running Vols. II, VI, and VIII; Tadmor of the Wilderness, by F. J. Bliss, Vol. VII; The Greek Vase, Wm. P. Longfellow, Vol. III; The Viking Ship, by R. S. White, Vol. IV; Japanese Art Symbols, by W. E. Griffis, Vol. V. It will be seen that archaeology has been quite prominent and has been a popular study. We recommend *Scribner's Magazine* to our readers.

Bulletin of the American Geographical Society, Dec. 31, 1891.

An illustrated article by W. M. Birdsall, M. D., on the Cliff-dwellers of Mesa Verde occupies thirty-five pages, and is the most valuable article that has appeared on that subject.

The Human Mystery in Hamlet; or An Attempt to Say an Unsaid Word. By Martin W. Cooke. Fords, Howard & Hulbert: New York, 1888.

Such an actual person as Hamlet is impossible. He is not a person; he is a type. This is the true explanation, which is consistent with all the facts. Such is the position of the author in reference to the play. The point is well taken, and much skill is exercised in bringing it out clearly.

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THE GEST TABLET.

THE
American Antiquarian.

VOL. XIV.

MARCH, 1892.

No. 2.

THE MOUND-BUILDERS AND THE MASTODON.

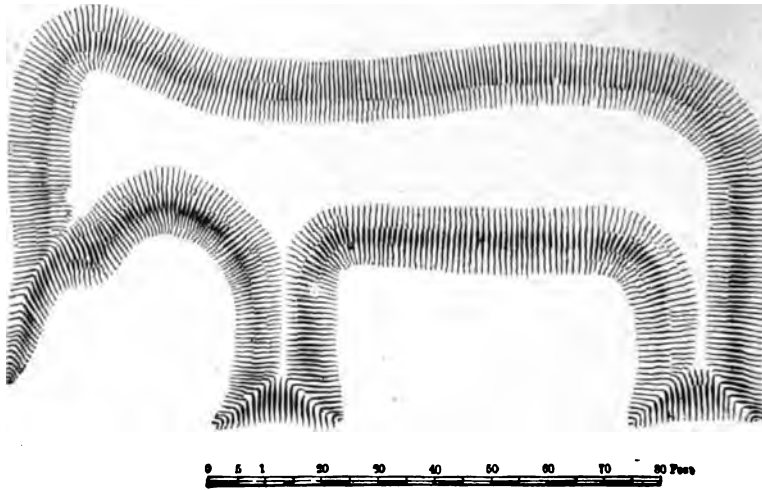
BY STEPHEN D. PEET.

One of the first questions asked of the archaeologists concerning the Mound-builders is, What was their probable age? The question is a very natural one, but, in the form generally given, exhibits a misunderstanding of the general subject. It implies that the Mound-builders were all one people, and that they spread over the continent at a particular and definite time. We have already shown that there were many classes of Mound-builders, and that there were different periods of time—a succession of population being one of the plainest facts brought out by archaeological investigation. The answer to the question is to be secured by the study of the Mound-builders as they appeared at different dates in the mound-building period. The age of the Mound-builders includes not one specific date, but covers many epochs.

We maintain that there was a Mound-builders' age in this country, and that it is as distinctive as was the neolithic age in Europe. The neolithic age was founded on the discovery of a certain class of relics, relics which had a certain degree of polish and finish about them; the material of the relics making the age distinctive. The bronze age was founded on the discovery of bronze relics in the midst of neolithic relics, the material and finish of the relics making them distinctive. So the Mound-builders' age is based on the prevalence of the earth heaps which contain within them the relics of a prehistoric race. The character of the relics as well as the material of which the works were composed, makes the Mound-builders' age distinctive.

I. As to the naming of these periods there is some uncertainty, but the following facts may help us to appreciate it. In Europe the paleolithic age continued after the close of the glacial period.

It began with the gravel beds, and embraced all the relics found in those beds, extended through the period of the cave-dwelling, embraced nearly all the cave contents; it reached up to the time of the kitchen middens, and embraced the relics found in the lower layers. It is divided into various epochs, which are named differently. The English named them after the animals associated with the relics, into the epochs of the cave-bear, mammoth and reindeer. The French named them after the caves in which they were found, making the name of the caves descriptive of the relics.



Scale 34 feet to the inch.

Fig. 1.—*Elephant Effigy.*

The Chellean relics are more easily distinguished than others, and are recognized by some as belonging to a distinct period, a period when the mammoth, rhinoceros and cave-bear prevailed in Europe. These stand alone and belong to an earlier geological period than the rest of the Cave-dwellers' relics. A number of objects discovered at Moustier, at Solutre and at La Madeleine mark a second and a third period of the paleolithic age.

In America the paleolithic age preceded the neolithic, as in Europe. It may be divided into three epochs: 1. The pre-glacial, the epoch in which the relics were deposited in loess. 2. The glacial, an epoch in which the relics were deposited in gravel. 3. The Champlain, an epoch in which the relics were deposited upon the summit of the hills and above the glacial gravels.

The American archæologists name them after the character of the gravels in which they are found, as well as the character of the relics. It may be said that the subdivision of the paleolithic age in America has not been fully established. There seems to be some uncertainty as to the French and English divisions.

Naming the periods after the animals is suitable to America, though the animals would be different from those in Europe.



*Figs. 2 and 3.—Obsidian Arrows from Idaho.**

In Europe the cave-bear, mastodon and the reindeer made three epochs. In America the megatherium found in Brazil, the mastodon found in the gravel beds and peat-bogs, and the buffalo, now almost extinct, mark three different epochs. In Europe, the paleolithic age was contained within the quaternary period,

and came to an end before the beginning of the present geologic period. It was followed by the neolithic age. The characteristic of this age was that polished stone relics, such as hatchets,



Figs. 4, 5, 6 and 7.—Shell Beads from Mounds.

celts and finely-chipped arrows, spear-heads and a fine class of pottery abounded. Another characteristic was that mounds were common. Shell heaps marked its beginning, chambered mounds its end. The bronze age followed the stone age. This began with the lake-dwellings and continued through the time of the rude stone monuments, and up to the historic age. Bronze was the material which characterized the age, a material which was not made in Europe, but was brought from Asia and was re-cast. No less than fifty-seven foundries of bronze have been discovered in France and a large number⁸ in Italy; one at Bologna having no less than 14,000 pieces broken and ready for casting. The hatchets were cast in molds, with wings for holding the handle, and many of them with sockets and eyes by which they could be lashed to



Fig. 8.—Bone Needles.

⁸Prof. E. L. Berthoud discovered a number of obsidian relics on the Upper Madison Fork in Idaho. He says: "I have gathered some very characteristic obsidian implements on Lake Henry and Snake River, which I transmit. I have always understood that the presence of obsidian relics in Kansas, Colorado, Nebraska, Wyoming and Utah was due to the probable intercourse of the Aztec races with the more northern tribes. I am now satisfied that they were derived from the Yellowstone and Snake Rivers, rather than from New and Old Mexico. In the National Park Prof. Hayden found a gorge in the mountains which was almost entirely formed of volcanic glass; they have aptly named it 'Obsidian Canon'."—*Proceedings of Davenport Academy*, Vol. III, Part II.

the handle. The neolithic age in America began with the close of the paleolithic and ended with the historic period. The polished stone relics found in the auriferous gravels of California, such as steatite ollas, mortars and pestles, and those found under the lava beds, belong to this age. They constitute one class of neolithic relics, and may be assigned to one epoch of the neolithic age.

We maintain that the Mound-builders in America represented one epoch, perhaps the earliest of the neolithic age. This age began some time after the glacial period and ended about the time of the advent of the white man, but embraced about all the time which the neolithic age occupied in Europe. Nearly



Fig. 9.—Pottery Vase.

all the relics found in the Mississippi Valley, such as arrow-heads, spear-heads, knives, polished stone axes, celts, carved stone pipes, many specimens of pottery, the shell gorgets and the drinking vessels, the pieces of copper, ornamented and unornamented, the mica plates, many of the bone implements, the needles and awls, the silver ornaments, and the few specimens of gold* and meteoric iron, belong to the Mound-builders. Neolithic relics

are found in the mounds; though some of them, of the ruder class, are found in the fire beds and shelter-caves. Specimens of the neolithic age are picked up indiscriminately upon the surface. The aborigines of America were in this age. The cliff-dwellings and pueblos must be assigned to this age. They constitute a second division, the Mound-builders being assigned to the first. The relics of the Cliff-dwellers are not much in advance of those of the Mound-builders, but their houses show an advanced stage of architecture. A third division of the neolithic age may be recognized among the civilized races of Mexico and Central America, though these are by some archæologists ascribed to the bronze age. It appears that the division of the neolithic age in America corresponded to that in Europe; the Mound-builders, Cliff-dwellers and the civilized races constitute the three parts of that age, as the barrows, the lake-dwellings and the rude stone monuments did in Europe. It may be that two preceding periods should be assigned to the caves and fire beds, which corresponded to the caves and kitchen middens.†

* Mr. Charles Rau describes a gold ornament found in a mound in Florida, representing the bill of an Ivory billed woodpecker, the material of which was made during the second period of Spanish supremacy. It was taken from the center of the mound, and furnishes evidence that Mound-building was continued after the occupation by Europeans. Prof. Jeffries Wyman has, however, spoken of the remains of the great auk in the shell mounds of Maine and the absence of any article which was derived from the white man. See American Naturalist, Vol. I.
 † The caves of the shelter caves and the terraces of Ohio seem to have been occupied by

II. The part which the Mound-builders performed in connection with the neolithic age. The Mound-builders, in a technical sense, are to be confined to the Mississippi Valley. There are, to be sure, many mounds and earth-works on the northwest coast, others in Utah, and still others scattered among the civilized races in Mexico, but the Mound-builders as such were the inhabitants of this valley. We shall see the extent of their territory if we take the mounds of the Red River Valley as one stream and follow the line across the different districts until we reach the mounds of Florida. This is the length of their territory north and south; the breadth could be indicated by the Allegheny mountains upon the east and the foot-hills of the Rocky mountains upon the west, for all this range of territory



Fig. 10.—Hoes from Tennessee.

belonged to the Mound-builders. Within this territory we have the copper mines of Lake Superior,¹ the salt mines of Illinois and Kentucky,² the garden beds of Michigan,³ the pipe-stone quarries of Minnesota,⁴ the extensive potteries of Missouri,⁵ the stone graves of Illinois,⁶ the work-shops, the stone cairns, the stone walls, the ancient roadways, and the old walled towns of Georgia,⁷ the hut rings of Arkansas,⁸ the shelter-caves of Tennessee and Ohio,⁹ the mica mines in South Carolina,¹⁰ the quarries in Flint Ridge in Ohio,¹¹ the ancient hearths of Ohio,¹² the bone beds¹³ and alabaster caves in Indiana,¹⁴ the shell-heaps of Florida,¹⁵ oil wells and ancient mines, and the rock inscriptions¹⁶ which are scattered over the territory everywhere.

We ascribe all of these to the Mound-builders and conclude that they were worked by this people, for the relics from the

a rude people, whose remains are buried in the debris, for layers of ashes have been found having great depths. The fire beds and stone graves have been found at various depths beneath the river bottoms.—*Miami Gazette*, Jan. 20, 1892. See Smithsonian Report, 1874, R. S. Robinson; Peabody Museum, 8th Report, F. W. Putnam. The Mammoth cave and other deep caves have yielded mummies and other remains which may have belonged to this antecedent period.—*Collins' History of Kentucky*.

The great auk, Prof. Wyman says, survived until after the arrival of the Europeans. Pottery is poorly represented; ornamentation is of the rudest kind; the shell heaps yielded few articles of stone; implements of stone are common in Florida. A domesticated animal was found with eatables.

1 See Foster's Prehistoric Races, p. 265. 2 Ibid., p. 249. 3 See American Antiquarian, Vols I and VII. 4 Geol. Rep. of Minnesota, Vol. I, pp. 151 and 555. 5 See Prof. Swallow's article, Peabody Museum, 8th rep., and Arch. of Mo., 1880. 6 See Sm. Rep. 1896. 7 See C. C. Jones and James Mooney's 9th An. Rep. of Eth. Bu., also Am. Anthro., Vol. II, p. 241. See Am. Ant., Vol. XIII No. 6, H. S. Halbert. 8 See Palmer in Eth. Bu., 9th An. Rep. of A. A., Vol. III, p. 271, in Iowa. 9 See Robinson's article, Sm. Rep., 1874, p. 367; A. A., Vol. II, p. 203. 10 See Report by James Mooney, 9th An. Eth. Bu. Rep.; 12th Rep. Pea. Museum. 11 See American Antiquarian, Vol. II, p. 95. 12 Ibid., Vol. VI, p. 101. 13 Ibid., Vol. VIII, p. 63. 14 Ibid., Vol. III. 15 Ibid., Vol. II, p. 257. 16 Ibid., Vol. XI, J. S. Newberry, p. 165.

mines and quarries are found in the mounds. Besides these relics we find others which were received by aboriginal trade; obsidian knives and arrows (see Figs. 2 and 3) from Idaho; jade axes from an unknown source, carved specimens which seem to have come from Mexico; shells* and wampum (Figs. 4 to 7) from the gulf of Mexico; specimens of art which show connection with the northwest coast and carved pipes which show familiarity with animals and birds from the central provinces. The Mound-builders were the chief representatives of the neolithic age, vying with the Cliff-dwellers in a grade of civilization, but having a much more varied culture than they. Their territory extended over more land than any other class of people known to the pre-historic age, and their art presents more variety than any other class.

The cuts represent the character of the relics taken from the mounds. The pottery vase (Fig. 9) is from a mound in Michigan and shows the high stage of art reached there. The hoes

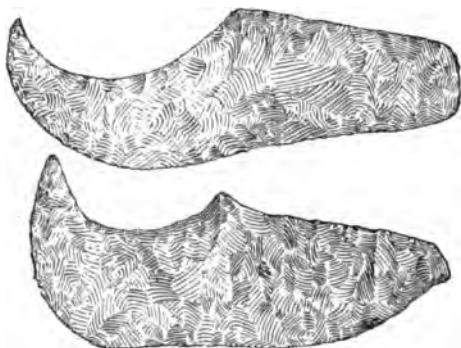


Fig. 11.—Sickles from Tennessee.

and sickles (Figs. 10 and 11) are from mounds in Tennessee and show the agricultural character of the people. The banner stone and silver ornament (Figs. 12, 13 and 14) are from mounds in Florida. A. E. Douglass thinks the silver ornament was modern. We place these cuts alongside of the elephant pipes and other relics to show the length of the age

of the Mound-builders. Some of them were evidently quite ancient and others were very modern.

III. As to the antiquity of the Mound-builders, we may say that dates are always difficult to fix. We can not give them definitely. We imagine that the Mound-builders were the first people who occupied the territory after the close of the glacial period, that they followed hard on to the paleolithic people, that no other race intervened. This is, however, a matter of conjecture. Our reasons for holding this are as follows: 1. The appearance of the mastodon and mammoth. We contend that

*W. H. Pratt has described worked shells from Calhoun County, Illinois, also shell beads from mounds at Albany (Figs. 4, 5 and 6), and wampum from mounds in Florida (Fig. 7), which he thinks were used as currency, giving the idea that wampum existed in the Mound-builders' time; others think wampum was introduced by the white man. The value of the beads was owing more to the work placed upon them than to the rarity of the shells. Copper beads found in the mounds at Davenport contained the cord upon which they were strung. This would indicate that the beads were somewhat recent.

these animals and the Mound-builders were contemporaneous. The only age which intervened between the glacial period and the Mound-builder's period is to be called the mastodon's age. We are ready to acknowledge that a long time must have elapsed between the glacial age and the Mound-builders, but in the absence of proof that any other inhabitants occupied the territory we ascribe the time or period to the mastodon and mammoth. The paleolithic people may indeed have survived the glacial period and been also contemporaneous with the mastodon, the real age of the mammoth and mastodon covering the whole of the paleolithic age and overlapping the Mound-builders, the first being the age in which the mastodon was numerous. Certain writers have denied this, and have argued that so long an interval of time elapsed between the Mound-builders and the close of the glacial age that the mastodon disappeared altogether, that the buffalo was the animal which was distinctive of the Mound-builder's age, and the mastodon was the animal distinctive of the paleolithic age. Their arguments are as follows: The forests which have spread over the northern half of the Mound-builders' territory are in places very dense. During the glacial period this region was covered by a sea of ice, the ground must needs settle and be covered with alluvial before the forests would grow. The forests could only gradually appear, the distribution of seeds and the springing up of the saplings being a slow process. Another argument is taken from analogy. In Europe the period of the gravel beds was supposed to be the same as the glacial period and marked the beginning of the paleolithic age. There were, however, between the gravel beds and the age of the barrows three or four different epochs—the cave-dwellers, the people of the kitchen middens and the lake-dwellers—the progress having been gradual between the periods.* In

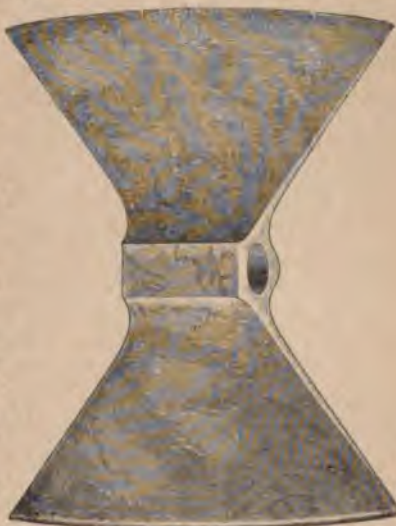


Fig. 12.—Banner Stoue from Florida.

*Col. Whittlesey speak of three periods: The early drift period which belonged to primitive man; the period of the Mound-builders, whose antiquity is from four to five thousand years, with slight evidence of an intervening race between the Mound-builders and primitive man; and the period of the red man. The evidence of man more ancient than the Mound-builders he finds in the fluvial deposits, which were above the fire beds on the Ohio river, to the depth of twelve or fifteen feet. The same evidence is given by Prof. Putnam.—Article read before the American Association in Chicago, 1868.

America the change was more sudden, for the tokens which are found in the auriferous gravels are much more advanced than any found in the gravel beds* of Europe.

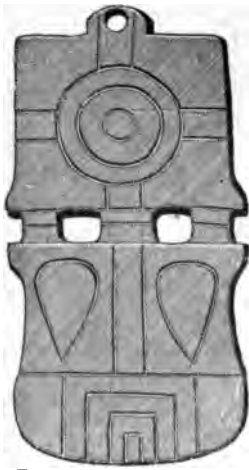


Fig. 13.—Silver Ornament.*

They correspond to the relics of the lake-dwellers and the barrows. The Mound-builders' relics are also much more advanced than those of the gravel beds in the same territory, and the supposition is that there must have been either an intervening period in which mound-building was not practiced, or that there was an immigration of the Mound-builders into this territory from some other part. We acknowledge that there are some facts which favor this supposition or idea that there were inhabitants intervening between the rude paleolithic people and advanced Mound-builders who corresponded to the people of the kitchen middens and to the early lake-dwellers.

Possibly we shall find that the fire beds of the interior and the kitchen middens of the sea coast were deposited during this period, and the divisions of time may be identified by these tokens. We maintain that the close of the glacial period was not so sudden as some imagine. There may have been a littoral class of fishermen who were the occupants before the close of this period. They followed after the ice as it disappeared, leaving their shell heaps on the coast and their fire beds in the interior. In favor of this we may mention the fact that the tooth of a polar bear and the bones of the auk, both of which are animals that occupy the arctic regions and inhabit the ice fields, have been found in a shell heap on the coast of Maine, thus proving that there were inhabitants when the ice reached as far south as that point. The mastodon evidently inhabited the country long before the glacial period. It survived that period and may have existed during the time the land was becoming settled

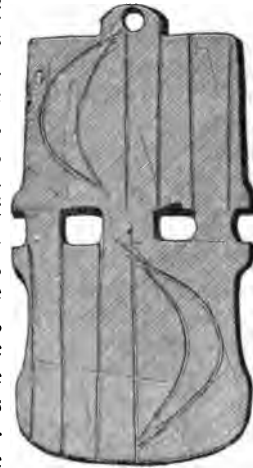


Fig. 14.—Silver Ornament.

*Mr. Geo. F. Kunz has described a gold object resembling a shield, taken from a mound in Florida, an ear disc of silver, a triangular silver ornament, a flat bar of silver, all taken from mounds in Florida. Mr. Douglas has spoken of circular plates from Halifax river; Col. C. C. Jones of silver beads, not European, from Etowah valley. Mr. Douglas thinks that the silver specimens were taken from wrecked vessels after the discovery, and refers to a specimen found on an island near Florida, which has the marks of modern wormanship upon it. The etchings of the cross orbis mundi and the heart may be attributed to the Spanish priests, though the moons on the opposite side were native symbols. He says that the four ornaments described by Mr. Kunz were associated with European manufacture. See American Antiquarian, Vol. IX, page 219.

and until it was covered with forests and became inhabited by wild tribes. During this time the peat beds and the swamps were their favorite resorts; many of them became mired in the swamps and were attacked by the natives. These natives were acquainted with fire, and used rude stone implements—arrows and spear heads. As the mastodon retreated northward the hunters also migrated and became the denizens of the forests of the northern districts. This accounts for the scarcity of images of the elephant and mastodon among the southern Mound-builders, and for the images of the same animals among the northern Mound-builders.

We have mentioned the find of Dr. Koch of the mastodon in the Gasconade swamp of Missouri. This was an important find. Dr. Koch says there were remains of fire stones and arrow-heads near the bones, showing that the animal had been hunted by the



Fig. 15.—Nondescript Animal from the Mounds *

people then living. Dr. Koch made the statement that this animal was capable of feeding itself with its fore-feet, after the manner of the beaver or otter. This statement was doubted at the time, and seemed to cast discredit upon the entire find. It now proves very important. In a late number of the *Scientific American* is a description of the Newberg mastodon, in which this very peculiarity is noticed.† The writer says: "The most important comparison is in the aspect of the fore-limbs. In the elephant the fore-limbs are columnar, as are the hind-limbs. In the mastodon there is a decided aspect, more or less, of prehensile capacity (as it were), that is, the latter have the fore-feet approaching the plantigrade in aspect, and were correspondingly adapted for pronation. Of course this is slight, but it shows the difference in probable habits. The fore-limbs of the mastodon with such development, we should expect, would be able to be thrown over the low foliage or brush-wood, and a crushing effected by the somewhat expanded manus. No such movement could be effected by elephas. As much as we naturally compare

*The animal contained in the cut, with a bill resembling a duck, was found by a farmer while plowing over Mound No 3. It is a natural sandstone concretion fastened upon a thin piece of light-brown flint. The eyes are of quartz, fastened on with some kind of cement. They give a fierce look to the creature.

†See *Scientific American*, January, 1892, article by Dr. J. B. Holden.

the two great creatures, and especially as both have similar nasal development, a near view of both together shows many differences in form."

2. The survival of the mastodon. J. B. Holden says: "In nearly every State west of New England portions of this creature have been disinterred. And every year there are several found, more or less in a state of complete preservation. The circumstance of several skeletons having about them evidence of man's work is extremely interesting.* On one account, it brings the date,



Fig. 16.—Copper Axe.

though greatly indefinite, to man's existence. We are therefore able to say man and mastodon are contemporaneous. We have not determined what sort of man made those stone arrow-heads which struck the life out from the great carcasses and lie among their remains. We have not a knowledge of what sort of man made the charcoal which was found lying among the partly burned bones of a mastodon, but we do know that some man made the arrow-heads. And we know also that no other than man is capable of making charcoal, or even to make fire by which it is formed."

Prof. Barton, of the University of Pennsylvania, discovered the bones of a mastodon at a depth of six feet, and in the stomach of the animal he found a mass of vegetable matter, composed of leaves and branches, among which was a rush, now common in Virginia. Winchell says: "The ancient lakelets of Michigan enclose numerous remains of the mastodon and mammoth, but they are sometimes so near the surface that one could believe them to have been buried within 500 years. The mastodon found near Tecumseh lay but two feet and a half beneath the surface. The Adrian mastodon was buried about three feet. The Newberg (New York) mastodon just beneath the soil in a small pool of water."

Prof. Samuel Lockwood, of Freehold, New Jersey, has spoken of the life range of the mastodon. He has shown that this animal was living at a period well up into the recent geologic time. It came in with the great extinct fossil-beaver, which it outlived, and became contemporary with the modern beaver. It lived to be contemporary with the American aboriginal men and probably melted away before the presence of man. Prof. Lockwood dis-

*The two pipes which have been found and which are now in the Davenport Academy, may represent the two classes of animals; the one Mastodon Giganteus, the Elephas Primigenius, if so, they are all valuable finds.

covered a mastodon in a beat bog, near by a fossil-beaver dam, in such circumstances as led him to suspect that the mastodon had been actually buried by the beavers.*

Prof. Shaler says: "Almost any swampy bit of ground in Ohio or Kentucky contains traces of the mammoth or mastodon. The fragments of wood which one finds beneath their bones seem to be of the common species of existing trees, and the reeds and other swamp-plants which are embedded with their remains are apparently the same as those which now spring in the soil. They fed upon a vegetation not materially different from that now existing in the region.† Prof. Hall says: "Of the very recent existence of this animal there seems to be no doubt. The marl beds and muck swamps, where these remains occur, are the most recent of all superficial accumulations.



Fig. 17.—Elephant Pipe, found in a Corn-field.

Dr. John Collet says that in the summer of 1880 an almost complete skeleton of a mastodon was found in Iroquois County, Illinois, which goes far to settle definitely that it was a recent animal and fed upon the vegetation which prevails to-day. The tusks were nine feet long, twenty-two inches in circumference, and weighed 175 pounds; the lower jaw was nearly fifteen feet long; the teeth weighed four or five pounds; each of the leg bones measured five feet and a half, indicating that the animal was eleven feet high. On inspecting the remains closely, a mass of fibrous matter was found filling the place of the animal's stomach, which proved to be a crushed mass of herbs and grasses similar to those which still grow in the vicinity. A skeleton was found by excavating the canal, embedded in the peat, near Covington, Fountain County, Indiana. When the larger bones were split open the marrow was utilized by the bog-cutters to grease their boots. Chunks of sperm-like substance occupied the place of the kidney fat of the monster.‡

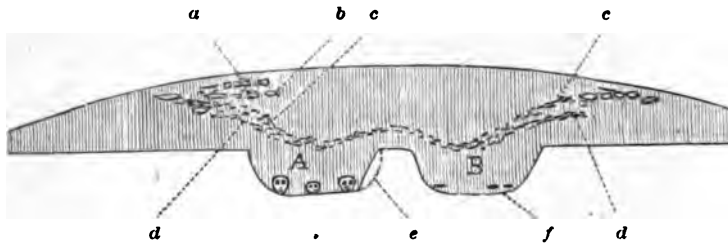
*See Proceedings A. A. A. A., 31st meeting, Montreal, 1882, Part II, p. 265.

†See Amer. Nat., pp. 605-7. Also, Epoch of the Mammoth, by J. C. Southall, p. 103.

‡See Geological Report of Indiana, 1880, p. 384.

These discoveries convince us that the mastodon survived the glacial period, and may have been contemporaneous with the Mound-builders.

IV. Were the Mound-builders contemporaneous with the mastodon? This is a disputed point, and considerable feeling has been raised in the contention. There have been reports of the images of the mastodon and mammoth; but the genuineness of the finds has been disputed, and is still with some a matter of doubt. Were we to discriminate between these, however, accepting some as genuine, others as doubtful, we might reach a safe conclusion. The history of these discoveries is about as follows: In 1874, Mr. Jared Warner found upon the bottom-land of the Mississippi, near Wyalusing, an effigy which was called an elephant. He, in company with a number of gentlemen, measured and platted it, and sent a drawing of it to the Smithsonian Institute.* Mr. Warner says: "It has been known here for the last



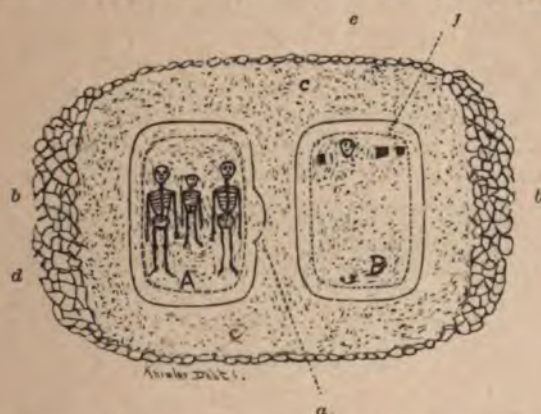
SECTION OF MOUND.—A, first grave; B, second grave; a, limestone one foot below the surface; b, human remains, probably Indians; c, upper shell bed; d, lower shell bed; e, cavity on north side of grave A; f, position of tablets.

Fig. 18.—Section of Mound.

twenty-five years as the elephant mound." "The head is large, and the proportion of the whole so symmetrical that the mound well deserves the name. The mound was in a shallow valley between two sandy ridges, and was only about eight feet above high water." There are many mounds in this section of country in the shape of birds, bears, deer and foxes. We would say that the effigy of the bear, which is very common here, and which was the totem of the clan formerly dwelling here, has exactly the same shape as the so-called elephant, but is not so large and lacks the proboscis. The projection at the nose called the proboscis is not really one, but is the result of the washing of the soil. It was a mere prolongation of the head, had no curve, did not even reach so far as the feet, and can be called a proboscis only by a stretch of imagination. There is no evidence whatever that it was intended to represent a proboscis. The size of this mastodon is as follows: length 135 feet, from hind-feet to back sixty feet, from fore-feet to back sixty-six feet, from end of snout

*The report was published in 1875. The gentlemen who accompanied Mr. Warner were Mr. J. C. Orr and Mr. J. C. Scott.

to neck or throat thirty-one feet, from end of snout to fore-legs thirty-nine feet, between fore-legs and hind-legs fifty-one feet, across the body thirty-six feet. These measurements make the proboscis and snout combined about the same length as the fore-legs; the proboscis alone about half the length of the fore-legs; whereas, had it been a genuine imitation it should have been nearly double the length. The writer has visited the effigy two or three times, but found it more and more obliterated. No other effigy of the elephant could be discovered in the vicinity, and no other has since been discovered. Compare Figs. 1 and 17.



PLAN OF MOUND.—A, first grave; B, second grave; a, cavity on north side of grave A; b, layer of stones at edge of shell bed; c, loam between the graves; d, skeletons in first grave; e, skeletons in second grave; f, position of tablet.

Fig. 19—Plan of Mound.

The history of the second discovery is about as follows. In the year 1874, the Rev. Mr. Gass was engaged in exploring mounds. He came upon a group of mounds situated about a mile below the city of Davenport (see map), on the bank of the Mississippi river, about 250 feet from it and from eight to twelve feet above low water mark, which consisted of ten or twelve mounds. Several of these were excavated, and found to contain a large number of relics, such as sea shells, copper axes, pipes, hemispheres of copper, arrow heads, pieces of galena, pieces of pottery, pieces of mica, stone knives, copper implements shaped like a spool, rondells, showing that trepaning had been practiced. Many of the axes had been wrapped with coarse cloth, which had been preserved by the copper Fig. 16. The pipes were all of Mound-builders' pattern; some of them were carved with effigies of birds and animals. One bird has eyes of copper, another has eyes of pearl, showing much delicacy of manipulation and skill in carving. These relics excited much interest and were put on exhibition before the American Association for the Advancement of Science, at Detroit, in 1875. About

twenty copper pipes were reported at that time, and eleven copper awls and a large number of bones. They were said to have been found at various depths, some of them near skeletons, some near altars, some in ashes, though they were all from the same group on the Cook farm. The mounds on the Cook farm were the most of them stratified. All of them contained bodies and ashes; two or three of them contained altars or round heaps of stone, but with no relics upon the altars. Mound No. 3 was the one in which the tablets were discovered. This was a low mound, about three feet high and sixty feet in diameter. It was a double mound and contained two graves parallel to each other, three or four feet apart, six feet wide and nine or ten feet long.

In making the excavation of the first grave the party found, near the surface, two human skeletons, which were modern Indians, and with them modern relics; such as fire steel, a common clay pipe, a number of glass beads, a silver earring. Below these was a layer of river shells and a large quantity of ashes, which

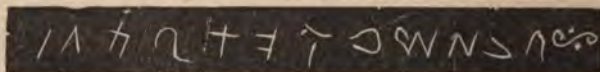


Fig. 20.—Hieroglyphics on Tablets.*

extended two feet below the surface, but which rested upon a stratum of earth twelve inches in depth, under which was a second bed of shells. At the depth of two feet below the second shell bed, $5\frac{1}{2}$ feet below the summit, three skeletons were discovered, lying in a horizontal position at the bottom. With the skeletons were five copper axes, all of which had been wrapped in cloth, a number of small red stones, arranged in the form of a star, two carved stone pipes, several bear's teeth, two pieces of galena, one large broken pot, a lump of yellow ochre, one arrow-head. A child's skeleton was discovered between the two large ones, near which was a large number of copper beads.

The second grave was not opened until the year 1877, about two years after the first. Mr. Gass was attended by a party of seven men, two of whom were students. They found, near the surface, modern relics—a few glass beads and fragments of a brass ring; also a layer of shells twelve or fifteen inches thick; beneath this a second layer five or six inches thick; beneath the second layer a stratum of loose black soil or vegetable mould, eighteen or twenty inches thick, and in the mould fragments of human bones. At the bottom they discovered the two inscribed tablets, lying close together on the hard clay, five and one-half

*The word T O W N will be recognized in the cut, which represents the characters on the left side of the upper arch in their regular order. The first to call attention to this word was Dr. Farquharson, the President of this Association, though at the time he thought that the finding the letters was a pure fancy. The word has often been noticed in the tablet, and has always worked against its genuineness. It has been intimated that the Mormons planted these tablets. The recent find at Mendon, Illinois, of a brass plate or sounding board of a musical instrument, with similar characters, near a house once occupied by Mormons confirms this conjecture.

feet below the surface of the mound; both were encircled by a single row of lime stones. About two and one-half feet east were a copper axe, a few copper beads, fragments of pottery, a piece of mica and a number of bones. These were found at a subsequent exploration, not at the same time as the tablets.

The large tablet is twelve inches long, from eight to ten inches wide, and was made of dark coal slate. Fig. 22. The smaller tablet was about square, seven inches in length, and had holes bored in the upper corners, and is called the calendar stone, as it contained twelve signs with three concentric circles, though the signs do not in the least resemble the Mexican or Maya calendars. The larger tablet contained a picture on either side, one representing a cremation scene, the other a hunting scene. The cremation scene "suggests human sacrifices." A number of bodies are represented as lying upon the back, and the fire is burning upon the summit of the mound, while the so-called Mound-builders are gathered in a ring around the mound. Above



Fig. 21.—Characters Duplicated on the Sandstone Tablet.

the cremation scene is an arch formed by three crescent lines, representing the horizon, and in the crescent and above it are hieroglyphics, some of which resemble the common figures and numbers, and the various letters of the alphabet; there are ninety-eight figures, twenty-four in one, twenty in the other, and fifty-four above the lines. The peculiar features of this picture are these: A rude class of Mound-builders are practicing human sacrifice, while the images of the sun and moon are both in the sky, one containing a face, the other circles and rays. Above these is the arch of the heavens, with Roman numerals and Arabic figures scattered through and above it. The figure eight is repeated three times, the letter O repeated seven times. With these familiar characters are others which resemble letters of ancient alphabets, either Phœnician or Hebrew, and only a few characters such as the natives generally used.

The hunting scene is the one which is supposed to contain the mastodon. In this picture there is a large tree which occupies the foreground, beneath the tree are animals, human beings and fishes scattered indiscriminately about, a few skeletons of trees in the back ground. One of the human figures has a hat on, which resembles a modern hat, for it has a rim. "Of the animal kingdom thirty individuals are represented, divided as follows, viz: Man, eight; bison, four; deer, four; birds, three; hares,

three; big horn or Rocky Mountain goat, one; fish, one; prairie wolf, one; nondescript animals, three. Of these latter one defies recognition, but the other two, apparently of the same species, are the most interesting figures of the whole group. These animals are supposed by different critics to represent the moose, tapers or mastodons." The trunk and tusks are omitted from this animal, and even the shape hardly resembles the elephant, certainly not enough to prove that the Mound-builders were contemporaneous with the mastodon.*

The third discovery is the one the most relied upon. This discovery was also made by the Rev. Mr. Gass, in the spring of 1880, several years after the discovery of the tablets. Mr. Gass was accompanied by Rev. Mr. Bloomer. A group of ten mounds, arranged in irregular rows, was situated along the bluffs overlooking the Mississippi bottoms west of Muscatine Slough. The first mound opened proved to be a sacrificial or cremation mound, situated on the extreme edge of a prominent bluff, having ravines on both sides. It was a flat cone, thirty feet in diameter, elevation three feet. Near the surface was a layer of hard clay, eighteen inches thick; below this a layer of burned red clay, as hard as brick, one foot thick; under this a bed of ashes, thirteen inches deep. In the ashes were found a portion of a carved stone pipe, bird form, by Mr. H. Haas; a very small copper axe by Mr. Gass; a carved stone pipe, entire, representing an elephant, which, Mr. Bloomer says, "was first discovered by myself." The other mounds of the group were explored, and contained ashes and bones, but no relics. Mr. Gass makes no report of finding the elephant pipe, but leaves that to Mr. Bloomer. During the same year he discovered, in the mounds in Mercer County, Illinois, several Mound-builders' pipes—one representing a lizard, one a turtle, another a snake coiled around an upright cylinder and covered with some very thin metallic coating. Mounds on the Illinois side, near Moline, and Copper Creek and Pine Creek, had previously yielded to Mr. Gass carved stone pipes, one of them representing a porcupine, another a howling wolf. The pipes were composed of some dark-colored slate or variety of talc, thus showing that the Mound-builders of the region were in the habit of imitating the animals which they saw, making effigies of them on their pipes. The account of finding this elephant is written in a very straightforward manner; nothing about it shows any intention to deceive.

*Another tablet was found by Mr. Charles Harrison in 1878, who is president of the society, in mound No. 11 of the same group. In the mound was a pile of stones two and one-half by three feet in size, which might be called an altar, about three feet below the surface; the slab fourteen inches square, and beneath the slab was a vault, and in the vault was the tablet, with four flint arrows on the tablet; a shell and a quartz crystal. The figures on this tablet were a circle which represented the sun, a crescent representing the moon, and a human figure astride the circle, colored bright ochre red, all of them very rudely drawn. The figure is supposed to represent the sun god. The figure eight and other hieroglyphics are upon this tablet. Above the hieroglyphics was a bird and an animal, and between them a copper axe. This tablet is as curious as the one discovered by Mr. Gass.

The fourth discovery consisted of a carved stone pipe, also in the shape of an elephant or mastodon. This pipe was picked up in a cornfield by a German farmer named Mare, who gave it away and afterwards moved to Kansas. The pipe came into the hands of the Rev. Mr. Gass, was purchased by the Davenport Academy and is now in their museum. Both pipes have the general

Mound-builder shape,—a curved base. Both pipes are alike in that they represent the animal with a proboscis, but with no tusks. The reason for this may have been that it was difficult to carve the tusks out of stone; if they had been so carved they were liable to break. They are alike also in

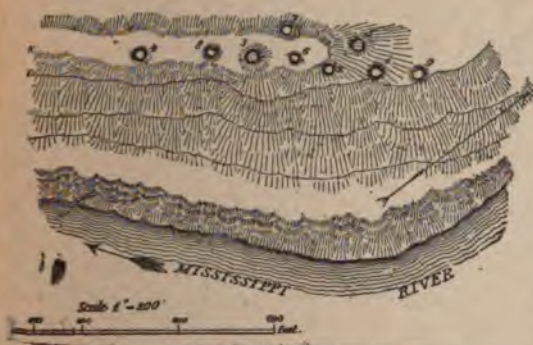


Fig. 22.—Map of the Mounds on the Cook Farm.

representing the eye and ear, mouth, tail, legs and feet of the animal in a very natural way. The main difference between them is that one has the trunk stretched out in front, and the back curved upward, and a heavy body. The other represents the proboscis curved inward, toward the legs; the back is straight and the body slim. Both have the bowl of the pipe between the fore-legs, which are brought out in relief from the cylinder on the sides of the bowl; the hole for smoking is at the rear of the animal. The pipes show much more familiarity with the mastodon than do the effigies. They represent the trunk as nearly twice as long as the fore-legs. These pipes have been discredited by certain writers, especially by Mr. W. H. Henshaw, of the Ethnological Bureau, but they have been defended by Mr. Charles Putnam, the president of the Davenport Academy, and are endorsed by the members of the Academy at the present time.* In favor of the genuineness of the pipes, we



Fig. 23.—Altar Containing Sandstone Tablet.

*The evidence in their favor is certainly as reliable as that which has reference to the rude stone relics which have been described in Wright's Ice Age. Several persons were engaged in exploring and giving testimony in reference to the find. In the case of the stone relics taken from the railroad cut, we have the testimony of only one man who was exploring. Mr. H. T. Cresson's testimony is taken, while in this case the testimony of several men seems to be doubted. See "Ice Age," by F. G. Wright. See Discussion of Mr. H. T. Cresson's veracity, American Antiquarian, Vol. XII, page 181. Discussion over elephant pipes by Mr. W. H. Henshaw. Report of Ethnological Bureau, second annual report, 1880-81. Davenport Academy report Vol. IV, page 256, article by Chas. E. Putnam.

may say that during the same year of the discovery of the elephant pipe, the bones and tusks of an elephant were found in Washington County, Ia., and were reported in the Proceedings of the Davenport Academy. These bones were about six feet below the surface, in the black mud sediment and vegetable mould. They seem to have been quite a recent deposit, and the elephant or mastodon which was buried here may have been the very one which was represented in the pipe.

In this connection we would speak of the location of the mounds which contain the pipes and the tablets. It is the general opinion that those mounds which were erected upon the upper terraces were the older, that those upon the lowland were the later. Some writers have maintained that the first class were erected when the water filled the entire valleys and covered the first terrace. If that were the case, then the earlier Mound-builders must have been acquainted with the mastodon and other animals of that class. This is the opinion of Mr. Colwell in reference to the mounds of Minnesota. The mounds built upon the lower terrace were attended with hearths and were probably

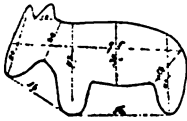


Fig. 24.—Bear.



Fig. 25.—Moose.



Fig. 26.—Elk.

built by the Assiniboines and Dakotas. The mounds on the terraces were built when the flood plain was covered with water and the water reached the base of the bluffs. The writer has discovered the same fact in connection with the effigy mounds. These were universally upon the second terrace. No effigy has been found upon the river bench, though the so-called elephant effigy was situated in a swale not much higher than the river bench and was sometimes reached by the back water which flowed up from the flood plain. The mounds situated on the Cook farm, from which the three tablets were taken, were but eight feet above the high water. See Fig. 22. The mound which contained the elephant pipe was situated upon the bluffs far above the plain. This is significant. It may be, however, on the other hand, that the mounds on the Cook farm belonged to the same age and were built by the same people as those on the bluff, but that the mounds on the Illinois side were erected at a much later date—a date in which the water had retired and the mastodon had disappeared. It may be that the elephant pipe was deposited in this mound on the bluff at a time when Muscatine Slough and Meredosia Slough were lakes, whose waters flowed near the bluffs; also a time when the mastodon was common. This does not quite explain the presence of the tablet, though it might ex-

plain the abundance of copper relics and the presence of many of the pipes, especially those which represent the common wild animals.

V. The association of the Mound-builders with the buffalo in the Mound-builders' territory is another point which we are to consider. The buffalo seems to have extended its range beyond the Mississippi River. The nomadic savages had a habit of setting fire to the prairies. The flame swept into the eastern forests, bringing the open prairie into the midst of the Mound-builders' works, and reaching almost to the Ohio and the Allegheny Rivers. The hunters followed the buffalo to the eastern ranges.* This will account for the disappearance of the Mound-builders. Still, we are to bear in mind that the earlier Mound-builders, those who dwelt in the fortified villages and who were the sun-worshippers, were not acquainted with the buffalo; at least they had no buffalo pipes. There was, however, a race of mound-building Indians subsequent to them, who were hunters when situated in Ohio and were acquainted with the buffalo. Our proof of this is as follows:



Fig. 27—Buffalo and Bear near Prairie du Chien.

1. The effigies of the buffalo are found in Wisconsin. This will be seen from reference to the cuts. In one of these we have the bear (Fig. 24); the moose (Fig. 25); the elk (Fig. 26); the bear and buffalo (Fig. 27), and the buffalo alone. Inscriptions of the buffalo are found in the picture cave at West Salem.† 2. Shoulder bones of the buffalo, according to Squier and Davis, were found in Ohio, but at the summit of the mound and associated with modern Indian relics. 3. The bones of the buffalo, according to Mr. McAdams, were found in the depths of the pyramid mounds not far from Alton, Illinois. 4. The bones of the buffalo were found among the ash heaps near Madisonville, Ohio. 5. Effigies of the buffalo, according to T. H. Lewis, have been recognized in the standing stones of Dakota. 6. Traditions of the buffalo were prevalent among the Chickasaws and the Choctaws of the Gulf States.

*See History of Our Continent, by N. S. Shaler, p. 159.

†The standing stones and the bone paths may have been the work of the Dakota Indians. Mr. McAdams has placed a plaster cast of a buffalo pipe in the museum at Springfield, Ill. It is uncertain whether the cast is of a genuine pipe. If so, it would prove that the pipe-makers with both animals, the mastodon and the buffalo. See Discovery of Mastodon Bones, American Antiquarian, Vol. I, p. 54. First Discovery of Pipe, Ibid., Vol. II, p. 68. Inscriptions in Cave, Ibid., Vol. VI, p. 16 and 122. Bone Paths, Ibid., Vol. VIII, p. 153. Animals Known, Ibid., Vol. IX, pp. 153 and 57. See Emblematic Mounds, pp. 274, 9, 163, 217. The following are the localities: Beloit, Rock County; Blue Mounds, Grant County; Butler's Quarries, Green Lake County; Buffalo Lake, Adams County; Prairie du Chien, Crawford County; Madison, Dane Co.

Traditions of an animal with an arm extending from the fore-shoulder, according to Charlevoix, were prevalent among the Indians of Canada. These discoveries and traditions are important, for they show that the mastodon and buffalo were contemporaneous with the Mound-builders, though the mastodon may have been known to one class and the buffalo to another. It is very uncertain just how early these Mound-builders lived. There are some indications that they were quite ancient. 7. When Ferdinand De Soto and his party landed in Florida they were surprised by the sight of the horns and head of a buffalo, an animal they had never seen before. This was in the hands of the Florida Indians. They afterwards became familiar with the buffalo robes or skins used by the Southern Indians. It appears, then, that at least 350 years ago the buffalo was known as far east as Florida. 8. According to Marquette, the buffalo roamed as far east as the prairies of Illinois in the year 1680, but we can not fix upon the date when the buffalo effigies were erected. Buffalo bones were found at the bottom of the mounds on the



Fig. 28.—Davenport Tablet.*

mounds near Davenport are different from any other mounds. The writer has explored the mounds scattered along the Mississippi River from the state line on the north to Alton on the south, and has found several classes of works in this district. They are as follows: 1. In the north, the effigies of Wisconsin passed over the borders, making one class. 2. Below these are the burial mounds at Albany, Moline and Rock Island, which were explored by the members of the Davenport Academy. These were mainly unstratified, some of which contained relics, such as carved pipes, red ochre, lumps of galena, sheets of mica

Great American bottom, south of the locality where the mastodon pipes were discovered. This would indicate that the buffalo and mastodon were contemporaneous and that the Mound-builders were acquainted with both animals, and that the Moundbuilders' age extended from the time of the mastodon to that of the buffalo.

*The group on the Cook farm is the one in which the three tablets containing hieroglyphics resembling one another, were found. In this group pillars were discovered which differ from any other altars erected by the Mound-builders. The altar and the tablet may have been placed in the mounds by the Mormons or by other parties. The inscriptions on them resemble those on the so-called bells or tinkling brass plates which were found opposite Hannibal and those on the copper sounding-board found near Mendon. Other stone pillars were found in the mounds on the Cook farm, with bodies buried near them. Fig. 29, Nos. 1 and 4. This complicates the problem and makes it difficult to explain the presence of the tablets.

and fragments of pottery. 3. Farther south, near Quincy, the Mound-builders buried their dead without depositing relics. The mounds were not stratified; neither do they contain relics. 4. The fourth class is that which has been very frequently described, consisting of the pyramids, of which Cahokia is a good specimen. 5. The fifth class is that marked by the stone graves. These extend from the mouth of the Illinois River to the state line at Cairo. What is remarkable about the Illinois mounds is that in every locality there seems to have been a large number of tribes, some of which were earlier and some later.

The relics which are in the Davenport Academy are for the most part from the Iowa side, and are unlike the majority of those from the Illinois side, though there are localities in Illinois where similar relics are discovered. The contrast between the mounds at Davenport and others is seen in the cut Fig. 29. The lower part represents a mound in Illinois, the upper a mound in Iowa. These mounds are stratified, have layers of stones at intervals, the altars are pillars or piles of stones and have the bodies by the side. No such altars are found in any other mounds. The symbolism, however, is similar to that found in Ohio. It was the symbolism of the sun-worshippers, as it contained the crescent and circle. Fig. 29, No. 9. It may be that the Davenport Mound-builders

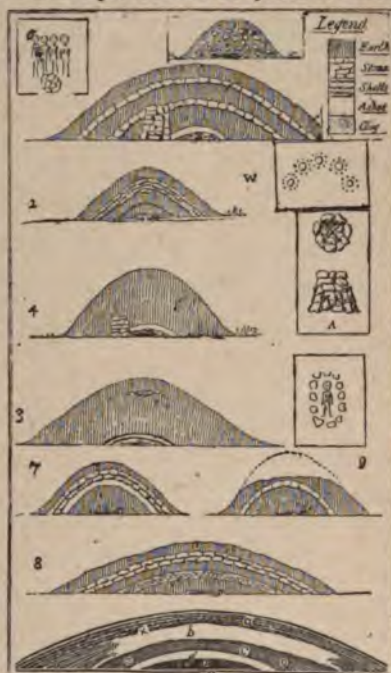


Fig. 29.—Stratified Mounds near Davenport.

should be classed with the sun-worshippers of Ohio, that the pipe-makers of this region were the same people as the pipe-makers of that State, and were older than any other Mound-builders.

VI. The condition of the mounds is the chief evidence of the antiquity of the Mound-builders. It was noticed by Squier and Davis that many of the earth-works when first discovered were dilapidated, especially those upon the summits of the hills and the banks of the rivers. The streams had encroached upon the terraces and had broken down the walls of the villages. In one case, the crossings of Paint Creek, the stream had overflowed the terrace and made a passage-way through a village enclosure,

leaving part of the wall upon one side and part on the other. In another case the large circle had been encroached upon, and the terrace near which, at one time, was the bed of Paint Creek was broken down, leaving the wall of the enclosure; but the creek now runs more than a mile away. See Fig. 30. The same is true of the circle upon the North Fork. See Fig. 31. The enclosure near Dayton also illustrates this. This was situated in the valley of the Miami on land which is even now at times overflowed. It was overlooked by the great mound at Miamisburg and had evidently been occupied. Some maintain that the works had never been finished, but their condition is owing to the wear of the stream. The works at Portsmouth had suffered the same destruction. The Scioto had changed its channel, had encroached upon the eastern terrace and had destroyed a portion



Fig. 30.—Circle and Square near Chillicothe.*

of the covered way. At Piketon the stream had withdrawn from the terrace and had left an old channel, with ponds full of water, near the foot of the covered way, but is now flowing in a new channel half a mile from the covered way. The graded way which ended with the terrace was ten hundred and fifty feet long, two hundred and fifteen feet wide. It may have been used as a canoe landing or levee, for the village was on the summit of the terrace; but the village is gone and many of the works have disappeared. The covered way at Hopeton also ends with the terrace. "The walls are nearly a half mile long, and 150 feet apart. They terminate at the edge of the terrace, at the foot of which it is evident the river once had its course, but between which and the present bed of the stream a broad and fertile bottom now intervenes." This covered way may have been designed as a passage-way to Monnd City on the opposite side of the Scioto. The graded way at Marietta ends with the terrace, but there is now an interval of 700 feet between the end of the way and the river bank. These changes indicate great antiquity in the works of Southern Ohio. The same is true of the southern works. There are old river beds near the pyramids, according to Prof. Eugene Smith, State Geologist. The same is true of the mounds at Mason's plantation. The Savannah River has encroached upon

*This is situated on the Scioto River, one mile south of Chillicothe. A portion of the square has been spoiled by the invasion of the river. The large circle has also been encroached upon. The low bottom at the base of the terrace was evidently at one time the bed of Paint Creek, but has since changed its channel.

the largest tumulus and "performed what it would have taken long days to accomplish." The layer of charcoal, ashes, shells, fragments of pottery and bones, can be traced along the water front of the mounds, showing its construction. These are two feet below the surface; the superincumbent seems to have been heaped upon it to the height of thirty-seven feet above the plain and forty-seven feet above the water line.

The age of the trees growing upon the earth-works is to be noticed here. The forts of Southern Ohio when discovered were generally covered with forests, and trees of large size were found upon the very summits of the walls. Some of them when cut down showed four or five hundred rings, thus indicating that at least five hundred years had elapsed since the fort had been abandoned. Such was the case with the old fort at Newark. Mr.

Isaac Smucker says the trees were growing upon its banks all around the circle, some of them ten feet in circumference. In 1815 a tree was cut down which showed that it had attained the age of 550 years. Squier and Davis speak of the fort in Highland County. They say that "the area was covered with a heavy primitive forest of gigantic trees. An oak stood on



Fig. 31—Circle and Square near Chillicothe.*

the wall, now fallen and much decayed, which measured 23 feet in circumference. All around are scattered the trunks of immense trees in every stage of decay. The entire fort presented the appearance of the greatest antiquity."†

It is remarkable that no buffalo pipes have so far been found in the mounds, though elephant pipes have been, as we have seen. We imagine that the pipe-makers were earlier than the effigy-builders, for the pipes are found in the lowest strata of the mounds and are seldom found upon the surface, while the buffalo bones are often found near the summits of the mounds and were very common upon the surface. Paths were made of the shoulder

*This work is situated on the left bank of the north fork of Paint Creek, 10 miles from Chillicothe. A portion of the large circle has been encroached upon and destroyed by the creek, which has since receded something over a fifth of a mile. There was formerly Shawnee town near this work. Indian graves are marked on the plan. From these relics have been taken—gun-barrels, copper kettles, silver cross and brooches, and many other ornaments which the Indians were accustomed to bury with the dead. The ancient works at Seal Township, at Cedar Banks and at High Banks have also been encroached upon by the river. See section map of 12 miles of the Scioto Valley. The works at Seal Township illustrates the same fact. The works are destroyed by the wasting of the bank. The river now runs at a distance. Its ancient bed is distinctly to be seen at the base of the terrace.

†See "Ancient Monuments," p. 14.

bones of buffalos in Dakota. Agricultural tools made from the bones of the buffalo were found in Ohio. These facts show that the range of the buffalo was formerly farther east. The indications are that the mastodon was known to the earlier Mound-builders and the buffalo to the later, and that the Mound-builders' age extended from the time of the mastodon to the time of the buffalo, and was prolonged through many centuries.

The mounds of habitation are found in the north and south-east part of Vincennes. The north mound has a height of 36 feet, a circumference of 847 feet, and is attended by another 25 feet high and 40 feet in circumference. Prof. Collett speaks of one mound which he calls a temple mound, and says that the temple had two stories. In other words, it was a terraced mound. We have elsewhere expressed the opinion that this group at Vincennes, as well as that near Evansville, belongs to the same class with the Cahokia mounds and may well be called terraced pyramids or terraced platform mounds. They constitute temple mounds of a peculiar type. They are generally grouped in such a way that the terraced mound is in the center. These pyramid mounds were evidently devoted to sun worship, though it is uncertain whether their summits were occupied by temples or by houses of the chiefs. If we take the descriptions given by the early explorers, we should say that the terraced pyramids were perhaps the residences of the chiefs and that they were guarded by warriors who were stationed upon the terraces, the conical mounds in the vicinity being the place where the temple was located. This, however, takes us into a new field. A description of the pyramids has been given elsewhere. We only refer to them here as embodying another type of sun worship, belonging to another class of religious structures.

The contents of the mounds are instructive on this point. The mounds were evidently built at different times and by different classes of people; many of them contained in the stratification the records of different periods. This was especially the case with the burial mounds. There are many burial mounds which have bodies at different depths; some of the bodies having been deposited by later tribes and some by earlier. Those at the bottom of the mounds are generally badly decayed and show signs of age. We find an illustration among the burial mounds. The pyramid at Beardstown, Illinois, is to be noticed. This seems to have been a very old structure, but was occupied at recent date. It was 30 feet high, 150 feet in diameter, and stood immediately upon the bank of the river on land which was surrounded by a slough and which was in reality an island. This island, on account of its favorable position, had been for centuries a camping ground of the aborigines. It was excavated by the city authorities and found to contain upon its summit shallow graves with skeletons of recent Indians, buried with implements of iron and

stone and ornaments of glass and brass. A little deeper remains of Europeans, perhaps followers of La Salle and Tonty; a silver cross was grasped by the skeleton hand and Venetian beads encircled the skeleton waist of a former missionary, a disciple of Layola, who had probably made his grave in this distant wilderness. These were intrusive burials. At the bottom of this mound, on the original sand surface, there was found a series of stone graves or crypts, formed by planting flat stones in the sand and covering them with other flat stones. These tombs of rude cysts were empty. So great was the lapse of time that the bodies had entirely decayed, not a vestige remained. The mound when finished formed an elevated platform, from whose summit was an uninterrupted view of the distant bluffs on both sides of the river for two or three miles above and below. A nest of broad horn stone discs was discovered buried in the sand a short distance above this mound. The nest was composed of five layers of flints, about 1000 in all. They were embedded in the bank of the river, but above the reach of the highest water, four feet below the surface. They had been placed in an ovoid heap or altar, overlapped each other as shingles on a roof. The length of the ovoid was six feet and the width four feet. The relics had an average length of six inches, width four inches; the shape was an ovoid also. They were discolored with a concretion which showed undisturbed repose in the clay, enveloped for a great period of time. It is supposed that they were originally brought from Flint Ridge. They resembled the flint discs found in the Clark's works of Ohio; similar nests have been found near St. Louis, Cassville, on the Illinois river; several places on the Scioto river. The most rational theory in reference to the discs, is that they were deposited in obedience to a superstition or religious idea, which was perhaps related to a water cult. Dr. Snyder mentions a deposit of 3500, near Fredericksville, in Schuyler County, also on the Illinois river. Dr. Charles Rau described a deposit of horn stone discs, circular in shape, near Kaskaskia river, and another deposit of agricultural flint implements near East St. Louis. W. K. Morehead mentions a deposit of 7300 discs discovered in a mound near Clark's works in Ohio. These discs seem to connect the Mound-builders of the Illinois river with those of the Scioto, and convey the idea that the pyramids and the sacred enclosures were built at the same time.

Another mound of this class was found at Mitchell's Station, on the Chicago and Alton Railroad. The mound was 300 feet long and 30 or 40 feet high, and contained near the base of it a skeleton in a wrapping of matting, a large number of copper implements and ornaments, and a portion of the head of a buffalo.

It is to be noticed here that the pottery of this region resembles that found in West Tennessee and in Southeastern Missouri

—a pottery made of very fine material and very highly glazed. The animals imitated by the pottery are very much the same, but the pottery pipes and portrait vases are lacking. There are many human skeletons lying underneath the soil in the vicinity of these platform mounds. In some places layers of them to the depth of eight or nine feet are found. Relic-hunters also find many burials along the sides of the bluffs. Large quantities of agricultural tools are taken out from these burial places. These cemeteries on the bottom lands and on the bluffs indicate that there was an extensive population for a long period of time. We classify the works and relics with those of the Southern Mound-builders, and imagine that they were older than the Northern Mound-builders.

We here refer to the mounds of Kentucky. Sidney Lyons, in speaking of the mounds opposite the mouth of the Wabash, says that they contain three different kinds of burials: 1. Those without works of art near the summit. 2. Those with works of art, the bodies having been laid on the surface. 3. Deep excavations containing badly preserved bones. One mound contained different burials, the urn burial in the middle. With the urns were deposited parcels of paint and iron ore. Another mound contained several copper awls and iron ore; another mound contained the following relics: several copper awls, five inches long, a disc of copper covered with woven fabric, three circular stones with the margin grooved like a pulley, with five small perforations in the margin; in another mound was a layer of clay, beneath the clay a pavement of limestone. The burials above the clay were peculiar: the bodies were placed in circles, lying on the left side, heads inward; the burials below the pavement six feet below the clay; but no relics or works of art were connected with the deep burials. Some of the bodies were covered with slabs of stone, set slanting like a roof, but those below the pavement were merely covered with sandy soil. Another was to dig a deep vault in the form of a circle, placing the bodies against the side of the wall, in a sitting posture, faces inward. These different burials show that there was a succession of races in this region, some of them quite modern, others very early.

Mr. Lyons seems to have come upon burial mounds in which there were successions of races buried, three or four different periods of time being represented. The relics and bones in the deep burials were generally decayed. The relics in the middle series were of primitive kind and seemed to have been made by an unwarlike people. There were extensive cemeteries in Tennessee and Missouri, and grand depositories of bones in the caves of Kentucky and Ohio. These cemeteries and ossuaries may have been earlier or later than the regular Mound-builders; they at least show that there was a succession of races and that all parts of the country were occupied for a long time. In reference to

these caves and cemeteries we have the testimony of Dr. Joseph Jones. A human body was found in 1815 in one of the limestone caverns of Kentucky, covered with deer skin, cloth, finished with feathers, resembling the feather cloaks of the northwest coast, and a wrapping of cloth made of twine doubled and twisted, showing that it was comparatively modern. In a copperas cave in West Tennessee bodies were found, which had been placed in baskets wrapped in doe skin, mats made from the bark of a tree and feathers; and a texture which resembled the coffee sacking. The hair was still remaining upon the heads.

VII. We now come to the question of the relation of the Mound-builders to the modern Indians. There has been a great difference of opinion on this subject, but it would seem as if archæologists were coming nearer to one another, and agreeing that the Indians at one time built mounds, but most of them acknowledging that there was a difference between the two classes. Here we would refer to the fact as to the succession of races. The works on the North Fork of Paint Creek, on the Hopewell farm, illustrate this. Here is a group of mounds, which has been explored by Warren K. Moorehead, under the auspices of the World's Fair. Some remarkable relics have been taken out. One mound was very large, 500 feet long, 190 feet broad, 24 feet high. Near the top of this mound were stone effigies, resembling those in Dakota. At the bottom of the mound were a number of skeletons, lying upon the base line. The ground had been burned hard, and the earth above this was interstratified with sand and gravel. The skeletons were found in dome-shaped cavities, four or five feet in height. One skeleton was called the king; there were wooden horns at his head, in imitation of antlers; thin sheets of copper covered the wood. The horns were attached to a helmet-shaped head-dress or mask, which reached from the upper jaw to the occiput of the skull. Pearl beads, shell beads, bear teeth, bear and eagle claws, copper spools, copper discs, covered the chest and abdomen. A large platform pipe, an agate spear-head, four copper plates, canes from the south covered with copper were at the sides and back.

In the same mound were several skeletons, covered with a large quantity of copper, and adorned with most intricate and beautiful designs. These are classified into anklets, bracelets and wristlets, and ornaments for various parts of the body. The bracelets were solid throughout, and formed by bending a tapering bar of copper into a circle. There were four circular discs, joined in pairs by a thick stem of copper, and four other discs, joined by pivots, and richly ornamented with repousse work. There were thin plates, cut in the form of fishes; others into diamond forms, with geometrical figures inside the rings. Most curious of the whole collection are two pieces of copper representing the Suastika,—the only one that has been found

north of the Ohio River. Beside these, was a flat piece of copper that had thin pieces of cane inside, evidently intended to be worn on the wrist as a protection from the bow. Many of the pieces have attached to them a curious texture, resembling matting, made out of wood fibre; while several were plated with silver, gold and meteoric iron. One piece was evidently a cap for the crown of the head, and had an aperture through which the scalp-lock could protrude, or to which feathers could be attached. There were also with them pieces representing birds and animals, and others, curiously pronged, which were evidently used for combs. The five skeletons were also found lying side by side,—two of which were covered with a flooring of copper, six by eight feet. The copper had been worked into many forms. There were sixty-six copper belts, ranging in size from one and one half inches to twenty-two and one half inches in length. A large thick copper ax weighed forty-one pounds. This exceeds any specimen ever found in the United States. There were traces of gold on it. The cutting edge is seven inches broad and is very sharp. A number of smaller copper axes attended this. Thirty copper plates, with Mound-builders' cloth on them, overlapped the axes. The average size of the plate was ten by six inches. A great copper eagle, twenty inches in diameter, wings outspread, beak open, tail and wing feathers neatly stamped upon the copper surface, etc., covered the knees of one of the skeletons. This is one of the most artistic designs ever found in copper.

Remains of a copper stool, about a foot in length and several inches in height, lay near one of the skeletons. The stool was made out of wood, and has been covered with sheet copper.

Here, then, we have the Mound-builders in their rudeness, and, at the same time, we have certain barbaric magnificence that might be compared to that of the early inhabitants of Great Britain,—the symbols of sun-worship wrought into copper and placed upon the bodies. We have no doubt that the persons who were buried here, and who carried such massive axes and wore such heavy helmets and elaborate coats of mail, were sun-worshippers. We should not hesitate to say that they would be ready as warriors to sacrifice the prisoners that were taken captive in war, as victims to the sun. The find confirms the theories which we have advanced; there is nothing contradictory in the evidence furnished.

PRE-COLUMBIAN DISCOVERY OF AMERICA.

BY J. P. MACLEAN.

SECOND PAPER.—THE SAGAS.

It appears that Iceland had long been inhabited by a small colony of Irish monks, representing the Culdee form of the Christian religion. About 874 A. D. a stream of emigration set in, composed of Scandinavians, which continued for a period of sixty years, during which time some four thousand homesteads were established around the habitable fringe along the great bays and firths. The first authentic successful settlement was made under Ingolf, a Norwegian, who, after a fruitless attempt on the south coast in 870, established himself at Reikiavik in 874. This tide of emigration was caused by the changes introduced in Norway by Harald Haarfager, for such people as could not endure them left for other countries, particularly to the habitable coast districts of Iceland. In the immigrations into Iceland three distinct streams are traced. The first was that of four noblemen from Norway—Ingolf, Ketil Hæng, Skalla-Grim, and Thorolf, who, with their dependents, settled in the southwest from 870 to 890. The second was that of Aud, widow of Olaf the White, king of Dublin, who came from the Western Islands of Scotland, followed by a number of her kinsmen, many, like herself, being Christians, and settled the best land in the west, northwest and north, and there founded families that long swayed its destinies, which occurred between 890 and 900. The third was a few more newcomers direct from Norway, which took place between 900 and 930. These completed the settlement of the south, northeast and southeast. In 1100 the population numbered about 50,000 souls, quite a proportion of which was of Irish blood. The government at first, in the times of paganism, was hierarchic and aristocratic. Christianity was not formally introduced until the year 1002, or about one hundred and twenty-eight years after the first settlement and not even then without much opposition. Schools were then founded, and two bishoprics in Holar and Skalholt. Old Icelandic possesses only forty runic monuments, all of them practically worthless from a philological point of view, the oldest of which is an inscription on a church door, dating no farther back than the thirteenth century, and therefore later than some

of the manuscripts. Hence one author was moved to declare, "There are no runic inscriptions in Iceland."^{*}

The most flourishing period of their literature and commerce was from the middle of the twelfth to the close of the thirteenth century, when, on account of domestic broils, Haco V. of Norway, in 1262, succeeded in reducing the whole island under his sway. From this time a declension began, which was not arrested until the outbreak of the Reformation, when the influence of the latter was felt in Iceland as early as 1540, but not established until 1551. Unfortunately its necessary complement—a social and political revolution—never came to Iceland.

Notwithstanding its boasted literature, Iceland has never produced a poet of the highest order. This has been accounted for on the assumption that their energy was lavished upon the saga, a prose epic. Their poems lack the qualities of high imagination, deep pathos, fresh love of nature, passionate dramatic power and noble simplicity of language, so characteristic of the Western Isles of Scotland.

The saga represents the real strength and power of Icelandic literature, some thirty-five or forty of which still remain, none of them dating earlier than the twelfth century.

The father of Icelandic history was Ari Frode, and nearly all that is now known of the heathen commonwealth may be traced to him. He secured and put in order the fragmentary traditions that had begun to die out. He fixed the style in which Icelandic history should be composed. Some of his writings have entirely disappeared, and those that remain are only preserved in the writings of later compilers. Ari was born in 1066 and died in the year 1148. The most eminent of Icelandic historians, and the most prominent man that country ever produced, was Snorri Sturlasson, born in 1178. Having married Herdis, a daughter of a rich priest living at Borg, he thereby laid the foundation of a large fortune. His methods of acquiring wealth are more than hinted at as not being legal. The promises he had made in Norway he did not trouble himself about fulfilling. He quarreled with his brother, his son, his nephew, his son-in-law, and his wife, and was continually in a broil. He wanted to marry Solveig, and promised to increase her wealth. He married, in 1224, Halveig, a widow, although his wife was still living. By the Thing he was appointed an expounder of the laws of Iceland, but disregarded the same laws when they affected himself. His quarrels and feuds affected the greater part of Iceland, and in 1232 broke out into civil war. This continued until about 1259, when his sons-in-law sent back his daughters, the cause of their quarrel being that their marriage portions were not paid. He was driven out of the country by his brother Sighvat, but returned in 1239. He quarreled with the sons of

^{*}Vicary's "Saga Times," p. 163.

his wife Halveig about their mother's property. On the night of September 22d, 1241, he was assassinated by Gissur Thorvaldsson, accompanied by seventy men, all of whom had sworn to kill Snorri Sturlasson, his own friends and kinsmen being the murderers. In this atmosphere of strife he found time to write his history and traditions. The prominent features of his character were cunning, ambition and avarice, combined with want of courage and aversion to effort.

The first sagas were written down on separate scrolls in the generation succeeding that of Ari, or from about 1140 to 1220. Then they passed through different phases, edited and compounded from 1220 to 1260. After this they were padded and amplified (from 1260 to 1300), and during the fourteenth century were collected in large manuscripts. The sagas grew up in the milder days that immediately succeeded the change of faith, when the deeds of the principal families were still cherished, and their exploits narrated by the firesides during the long winters. At all feasts and gatherings there were those particularly adapted to the reciting of the occurrences of the past, and who wove their recitations into such a form as would most readily appeal to the imagination. Each reciter improvised his own comments and injected such statements as best suited his imagination. The artistic features of the story were carefully elaborated and the appropriate finishing touches supplied. The Irish characteristics greatly predominated in the sagas of the west. The best compositions belong to the west, and the name of nearly every classic writer belongs there—or in the place where there is the greatest admixture of Irish blood. But in all the Icelandic sagas there is the same keen grasp of character, the love of action, and that intense delight in blood, which almost assumes the garb of religious passion. The romancing spirit of the south had entered distant Iceland, and the fireside stories became impregnated more or less by its influence. Horn has very justly observed that "some of the sagas were doubtless originally based on facts, but the telling and retelling have changed them into pure myths."*

In speaking of "dreams of the Sagas," Vicary remarks: "The sagas are often so full of periphrase, and the figurative meaning so dark, and taken at so great a distance from its original sense that more thought must have been suggested to the mind than the skald had conceived. This, no doubt, led the imaginations of people in the saga time to dwell on the nature and importance of dreams, with the result that we have the stories, if not the histories, of the dreams of persons who lived eight or ten centuries since. Their strong points are that they are graphic and with decided color. . . . The real criticism is that the period of the sagas is short relatively, and, however

*Winsor's "Narrative and Critical History," Vol. I, p. 88.

wonderful for the time, their narration is more poetical than accurate; while, in comparison, the experience of common sense is long."^{*}

The sagas delight more or less in the improbable. The Ynglinga saga contains a description of King Jörund's custom of harrying the coasts of his neighbors. His son On pursued the same occupation. At the age of sixty the latter sacrificed his eldest son to Odin, who therefore extended his lease of life for another sixty years. He therefore sacrificed other sons, and for each son was granted ten more years of life, until he reached two hundred years, and would have offered up his remaining son had not his subjects interferred.

Accounts are also given of the *Bærsærk* (supposed to mean "bare-shirt," and called in Icelandic *Ulfrhedin*, or wolf-skin); a class of men who fought without armor, and wearing only a shirt of skins, or at times naked. They were of unusual physical development and savagery, and were liable to a state of excitement in which they displayed superhuman strength, and they spared neither friend nor foe. They could swallow fire, go through it naked and fling their bodies on the edges of weapons without injury. They would perform prodigies of valor, would roar and howl like savage beasts, were the pests of society, but were occasionally useful for deeds of blood. In the Kristnisaga, that narrates the introduction of Christianity into Iceland, it is stated that there were two Bærsærks, who were brothers, and who were unusually savage; would howl like wolves, run with bare feet through the fire, and pretended that swords could not cut them. Bishop Fredrik, who had come to Iceland from North Germany, was a very holy and sensible man. He blessed the fire and the sword, with the result that the Bærsærks were burnt like other people; and when they fell upon the points of the swords, to their surprise, they were killed like other people under similar circumstances. It is also related that King Olav sent Tangbrand from Norway to Iceland to extend Christianity in the latter country. He was challenged to a duel by a fierce Bærsærk, who made the usual boast that he could pass harmless through fire and no sword could pierce his skin. Tangbrand suggested that he make his word good. The Bærsærk fell on his sword, and to the astonishment of all it penetrated him and he died in consequence. This was owing to the fact that Tangbrand had made a cross on the sword, which interfered with the protection afforded by the devil.

It was taught that after an attack of frenzy the superhuman spirit left the Bærsærk's body, with the result that great exhaustion followed. In the Eyrbyggjasaga, an Icelander named Vernund obtained two Bærsærks of Swedish extraction, one called Halle and the other Leikner. They were larger and

^{*}Saga Times, p. 16.

stronger than other men, and when not under the influence were tolerably tractable; but otherwise were dangerous, sparing neither friend nor foe, man, woman nor child; would howl like beasts, bite their shields, fall upon sharp weapons and eat fire. Before leaving for Iceland, they compelled Vernund to bind himself to supply them with everything they asked for, in return for their services. They came to Iceland the same year that Erik the Red sailed for Greenland. Soon after their arrival Halle demanded of Vernund to procure him a wife of good Icelandic family. Knowing that no respectable woman would desire such a husband, Vernund temporized with him, which Halle's impatient nature brooked only for a short time, and then gave Vernund sufficient cause to regret that he had brought them to Iceland. Knowing his brother Styr had a blood feud in which he wanted to take action he contrived to hand over to him the two Bærsærks, who proved of great service to him. Halle made love to Styr's daughter Asdis, who was a proud, strong and manlike woman. She entertained no thought of marrying a person of Halle's type. Styr strongly disapproved of the suit. Halle threatened to carry her off by force, when, in order to temporize with him, Styr promised he should marry her provided he and Leikner should make a road through the lava to Björnshavn, and build a fence between the lava and his lands, and also make an enclosure inside the lava. This work was at once performed by the exercise of unusual strength. When it was finished Asdis put on her best dress and met the Bærsærks on their return home, saying nothing to them, but simply walked by their side. They were in a state of great exhaustion as a consequence of the Bærsærkegang, or excitement, having just left them. Styr advised them to have a hot bath, which he heated to such a pitch that the Bærsærks burst the door open, when he speared them as they came out.

Sorcery and witchcraft are also important features in some of the narratives.

In treating of the sagas the extent of those forged must also be considered, and how far those remaining have been tampered with. Some of the Icelandic sagas are known to have been forged. They appear as early as the thirteenth century. All are quite poor, and appear to be wholly apocryphal or else worked up on hints given in genuine stories. Some of these apocryphal writings have been composed within the present century.

That some of the sagas have been worked over by later writers, and others interpolated, there is no room for doubt. As an instance of the former the Nialsaga may serve as an illustration. In style, contents, legal and historical weight, it is the foremost of all sagas. It deals especially with law, and contains the pith and the moral of all early Icelandic history. Its hero is Nial, a type of the good lawyer, placed in contrast with

Mord, a villain, the example of cunning, trickery and wrongdoing. A great part of the saga is taken up with the three cases and suits of the divorce, the death of Hoskuld, and the burning of Nial, given with great minuteness and care. The whole story is an ideal saga-plot, and appears to have been written by a lawyer, and according to internal evidence it was composed about 1250. It has been worked over by a later editor about 1300, who has inserted many spurious verses.

Perhaps no one could be found hardy enough to dispute the fact that Peringskiöld, in his edition of the *Heimskringla*, edited in 1697, interpolated eight chapters relating to the so-called Vinland voyages, which were afterwards discovered to have been taken from *Codex Flatoyensis*. It was this that Robertson, in his "History of America," relied upon as evidence of the Norse discovery of America, although he naively remarked, it "is a very rude, confused tale."* In America this has served more to spread the tale of this purported discovery than any other one source. It thereby gained a foothold in American history, and later compilers, for the most part, have received and adopted it without inquiry into the facts; just the same as other purported evidences have been added without critical inquiry.

DeCosta, although affirming that "those who imagine that these manuscripts have been tampered with and interpolated show that they have not the faintest conception of the state of the question,"† is forced to admit that Smith, in his "Dialogues,"‡ has suppressed the term "six," and substituted "by a number of days' sail unknown," in the "Landnama-bok" where it speaks of Ireland the Great lying opposite of Vinland, six days' sail west of Ireland.

Such manuscripts as have been preserved might tell a wondrous tale of changes and perversions should they fall under the eye of an expert, accustomed to detect, with such glosses as many an old writing has been subjected to. Until such detections have been made it is but just to receive them as they are, with such light as circumstances have surrounded them.

The sagas need not be solely depended upon to prove that the Norsemen were a hardy band of sea-rovers—or pirates, as they would have been designated had they lived in more modern times. Their roving propensities led them to the discovery of Iceland—as above intimated—in the year 850, and Greenland was first seen in 876, by Gunnbiörn, who had been driven out to sea by a storm, but a landing was not effected until about 986, when Erik the Red settled there. This Erik was born in Norway, but was banished from that country on account of the crime of murder. He retired to Iceland, where he was again

*Page 241.

†Pre-Columbian Discovery, p. 40.

‡Ibid., p. 161

outlawed on account of manslaughter. Having heard of the land to the west, he, with some of his followers, embarked for that region.

It required courage to sail in those days from Norway to Iceland, without a compass and in frail boats. Although Iceland is but six hundred miles distant from Norway and five hundred miles from the north of Scotland, yet often the voyage required months; nevertheless it was frequently undertaken with no other motive than that of restlessness. Greenland, two hundred and fifty miles distant from Iceland, was also reached, as is witnessed by the Norse remains still to be observed there.

The ships used by the Vikings have an especial interest. Descriptions are not only preserved, but their remains have been found. Owing to the sea-roving propensities and the great desire to pillage other lands, ship-building was regarded as an honorable handicraft, and a great amount of time and



A VIKING SHIP.

thought were given to the subject. Some of the results must be regarded as extraordinary. These vessels had a good bow, a clean run aft, and the midship section was like a duck's breast. Oars were used as well as sails. According to the saga of Olaf Tryggvesson, that king had a ship built that was long and broad, with huge sails and strongly timbered. It was called the Long Serpent, was shaped like a dragon, and had thirty-four benches for rowers. The head and arched tail were both gilt, and the bulwarks were as high as in sea-going ships. It was declared to have been the best and most costly of any ever built in Norway. Knud the Great had a dragon ship, with a dragon's head at the bow, and a dragon's tail at the stern. In the construction of these ancient vessels the rudder was placed aft, over the starboard side, and not in a line with the keel, and thus did not interfere with the dragon's tail. In the time of Erling Skakke, about 1100, two benches of rowers were intro-

duced. The vessels were built a little higher aft than amidships, in order to allow the man at the helm to see well forward. In a sea-fight the sterns of the ships were lashed together, so that no ship could be attacked singly, in consequence of which the fighting was hottest forward of the bows. The sides and rigging were decorated with shields. The sail used was square, made of woolen cloth, and often striped with broad rows of color. The mast was stepped in the best place for it, and as far forward as would admit of the sail doing its work.

Several years ago two ancient vessels were found in Denmark, embedded in the sand, one of which was seventy-two feet long and nine feet wide amidships, and the other forty-two feet long, containing two eight-sided spars, twenty-four feet long.

It must be accorded to the Vikings that they possessed some nautical skill, and to some extent could calculate the course of the sun and moon, with some knowledge of measuring time by the stars. Their methods were necessarily crude, and at times must have proved very faulty. As the mariner's compass was unknown in Europe till late in the twelfth century, it could not have been used among the Scandinavians until some time later.

NEW DISCOVERIES IN TENNESSEE.

BY G. P. THRUSTON.

Within the past few years a number of discoveries of much archæological value have been made within the territory occupied by the mound-building tribes of American aborigines. The systematic explorations made by the agents of the Bureau of Ethnology, by Prof. Putnam of the Peabody Museum and his assistants, and by others, have contributed a vast fund of new information. By comparison of relics and types found in various sections we are now able to approximate the truth upon a number of subjects relating to the mound tribes, heretofore involved in much confusion. The recent excavations of Warren K. Moorehead and his co-workers in Ross County, Ohio, have brought to light very interesting objects of copper. Tennessee has also added to its list of valuable archæological contributions.

One of the peculiar burial mounds of this State, in Sumner County, not far north of Nashville, was recently carefully explored by Mr. W. E. Myer, of Carthage, Tennessee. It contained from ninety-five to one hundred graves. About two thirds of them were made of stone slabs; the balance were constructed of wood or wooden logs. Less pottery was found than usually been discovered in similar burial mounds in Middle Tennessee, and much of it was broken by the settling of the graves. A number of fine copper relics were found, and several engraved shell gorgets or breast ornaments; but the most important object discovered was a gorget of shell, upon which is engraved the figure of an ancient chief or priest of the interesting race of people who once held sway in the valley of the Cumberland.

When, a few years since, two copper plates engraved with mythological figures of the human form were discovered in a stone grave by Mr. Rogan, one of the agents of the Bureau of Ethnology, in an ancient mound of the Etowah group, near Cartersville, in Northwest Georgia, they at once attracted the attention of archæologists. They are remarkable relics. They seemed to indicate a culture foreign to the section in which they were discovered, and to give evidence of a state of society somewhat more advanced than was supposed to have existed in pre-historic Georgia. It was difficult to realize that the incised figures engraved with so much skill, upon these copper plates, were typical of the aboriginal culture of that section and of the Mississippi Valley.

Indeed, they seemed to offer testimony so directly in conflict

with the views of Dr. Cyrus Thomas, of the Ethnological Bureau, then in charge of mound explorations, that in his report upon them he expressed the opinion that the mound in which they were discovered must have been constructed after the time of De Soto, and that the copper figures showed indisputable evidence of having been cut with comparatively modern metallic tools.*



Fig. 1.—Copper Plate, Etowah Mound, Georgia.†

One of these copper plate figures is illustrated. See Fig. 1. The designs upon the two plates are very similar, and a single illustration is sufficient for our purpose.

New discoveries are, however, constantly confirming the evidence of these interesting antiques from the Georgia mound and establishing the fact that they are not modern or exotics, but

*Fifth Annual Report Bureau of Ethnology, pp. 105-6.

†Antiquities of Tennessee, Fig. 242. Fifth Rep. Bureau of Ethnology, Fig. 43.

genuine aboriginal relics, typical of the advanced tribes of the Mound-builders. In the "Antiquities of Tennessee," recently published, the writer presented a number of illustrations of shell gorgets or breast ornaments, and of relics of copper, of undoubted genuineness, discovered in Missouri, Tennessee and Illinois, that fully confirm the authenticity of the engraved plates from the Georgia mound.*



Fig. 2.—Shell Gorget, Sumner County, Tennessee.

If further confirmation were needed, the well-preserved shell gorgets recently discovered by Mr. Myer in the Sumner County burial mound will furnish it. This interesting relic is illustrated by Fig. 2 (natural size). The figure is engraved upon the concave surface of a large piece of conch shell, about four inches in diameter. No attempt has been made to present the exact present appearance of the gorget, or the marks of age upon it, but the design is well and faithfully copied from the shell. The art

*Antiquities of Tennessee, Figs. 240, 241, 242, 243, 245, and Plate XVII. Most of the illustrations are reproduced from the Reports of the Bureau of Ethnology.

of the copiest, as shown by the sketch, is in fact scarcely up to the standard of the good engraving work done by the aboriginal engraver.

Fortunately, it had been carefully wrapped with three other gorgets and placed in the grave, and when discovered all were in excellent condition, though showing some of the unmistakable evidences of age. Two of them were of the well-known bird-head and square-scroll design, and the fourth was of the circle or scalloped-rim pattern, both familiar types of the Nashville mound district. All were finely engraved.

As the latter gorget is carved in open work, and is unique in that respect, it is also illustrated. See Fig. 3.



Fig. 3.—Shell Gorget, Sumner County, Tennessee.

The shell disc engraved with the human figure is a valuable contribution to our knowledge of the Mound-builders. It adds another good portrait to our small collection of prehistoric engravings. It tells us something of the appearance, dress and manners of a lost race, of whose history so little is known. The similarity, in several of its details, to the design of the copper plate figure illustrated is most striking.

Observe the peculiar ornaments upon both heads, the aprons or appendages from the waist, the two heads or masks, the two implements in the hands, the ear ornaments, the wristlets, the garters. The engraved shell figure doubtless represents a chief or priest of the stone grave race arrayed in martial attire, holding in one hand the head of a victim of war or sacrifice, and in the other a mace of authority. An almost exact duplicate in copper of the elaborate ornament fastened to the hair at the back of the head was found by Mr. Rogan in the Etowah mound, and is

illustrated in the Fifth Annual Report of the Bureau of Ethnology, Fig. 44. The ancient chieftain represented upon this gorget doubtless wore a similar ornament of burnished copper. The mace or emblem of authority held in his left hand is not unlike some of the large and peculiar flint implements found in Middle Tennessee and illustrated in Plate XIV of the "Antiquities of Tennessee". The design of the figure in several particulars also resembles the designs upon the gorgets of the Douglass and the Potter collections.* The two holes in the rim of the shell were for the string or necklace by which it was suspended upon the breast.

Castalian Springs, in Sumner County, Tennessee, where this interesting gorget was discovered, was in ancient times the center of a very large aboriginal population. There are a number of extensive earth-works and cemeteries there. The large tablet of stone in the collection of the Tennessee Historical Society, and upon which "a group of Mound-builders" is fairly well engraved, was discovered near these ancient works.†

In a letter to the writer Mr. Myer, a most reliable gentleman and an enthusiastic collector and explorer, reports the following facts regarding his discovery: "The burial mound at Castalian Springs, in which the gorget was obtained, is 120 feet in diameter and 8 feet high. Body No. 34 had broken gorget (broken by me in digging) on breast near throat, bead wristlets, and four new gorgets and nearly a pint of beads were found between the feet. The gorgets last mentioned seem to be little, if any, worn, and were placed in a pile one on top of the other. Mingled with the beads in this pile were fourteen pearls, very well preserved. Body of adult, buried with cedar logs on each side, no logs on top or ends. Dirt was placed directly on the wrappings of the body when first buried. Found near the center of the mound, 7½ feet below present surface of the mound at center. Body extended full length, hands at side of body, arms extended full length; bead anklets; found June, 1891. Beside my workman, Mr. J. S. Angel and several others were present when the grave was opened."

Mr. Myer also kindly brought to the writer for examination a number of other objects discovered in the same mound. He found ear ornaments, exactly like those on the engraved figure, in a child's grave. They were placed on each side of the head, leaving no doubt of the purpose for which they were used. They were not spoon-shaped copper ornaments, such as are sometimes found in Ohio and Tennessee, but were made of discs of mica, with a smaller disc of shell fastened to the centers, and on the center of the shell disc there was a wooden button, covered with

*Antiquities of Tennessee, pp. 346-350.

†Antiquities of Tennessee, Plate II.

a thin plating of copper. When burnished they must have been handsome ornaments. Similar disc ear rings or ornaments can be seen upon all the ancient gorgets and plates engraved with the human figure. They usually appear in more elaborate forms upon the figures cut upon the ancient Central American tablets and upon the images and idols from Mexico.

In the old stone grave cemeteries near Nashville a number of circular ear or breast or hair ornaments of wood, well plated with copper, have recently been discovered and are now in the writer's collection. They are of excellent workmanship, and the copper plating is well preserved upon some of them.

In the mound at Castalian Springs Mr. Myer also found a coiled serpent of wood, covered with a thin plating of copper. It was about three inches high, but unfortunately it crumbled into fragments from age. Its form can still be easily recognized. The pearls found in grave No. 34 with the fine engraved gorgets are beautiful and well shaped. Most of them still show their original lustre. They average about a quarter of an inch or more in diameter. They have been carefully pierced, and any modern belle might be proud to wear such a necklace.

No one can examine these interesting aboriginal relics without the conviction that they represent a state of society somewhat in advance of that found existing among the Indian tribes of the Mississippi Valley at the date of early white settlement.

The art in the copper plates and fine gorgets, at first view, seems to suggest a Mexican or southwestern origin, but no duplicates of them are found in the picture writings or manuscripts of Mexico. The art is evidently of original and independent growth, the product of the north, and must be accredited to the interesting race of stone grave builders and pottery makers, who erected the ancient monuments in Georgia, in Tennessee and in Missouri.

RECENT BOOKS ON EARLY ART.

BY BARR FERRE.*

A rather unusual activity has recently been manifested in the publishing of books relating to primitive forms of art or concerned with questions suggested by early or undeveloped art. Prof. Conway's study of the origin of art in antiquity is an unpretentious book† on an important subject, and which, while not being intended as complete at all, is a valuable contribution to the literature of early art phases, a value that is not lessened by its serving as a capital introduction to the popularization of the special topic of which it treats. An introductory chapter on the "Succession of Ideals" is followed by others on art in the stone age, the invention of bronze, the art of Egypt and of Chaldæa, and the successors of the Chaldæans, and a sketch of the Cats of Egypt, which really bears very little relation to the other parts of the book. While there is much to commend in the manner in which Prof. Conway handles his subject, he undoubtedly attempts too much in looking for the beginnings of art in the art of Egypt. He does not, it is true, expect to find it in the historical records, but argues backwards that there must have been another people living in some other locality from whom the Egyptians learned the art of making bronze, and with this absorbed their ideas of art and architecture. With this little fault can be found, were it not for the futility of looking for art beginnings in Egypt so far as our present knowledge extends. The ancient world offers more archaic forms of art than are to be found in the valley of the Nile—forms that exhibit earlier mental phases than anything Egypt has yet revealed to us. This fact would seem to be so obvious that it was scarcely needful to write a book to tell us it was so. The author lays rather unusual stress on the influence of Chaldæa on the history of art, finding its origin in, perhaps, the same hypothetical race from whom the Egyptians gained their germs of civilization. It is quite likely that Chaldæan art did influence later forms more than has generally been admitted, but, even more than is the case with Egypt, our knowledge is scarcely advanced enough to permit any accurate information on this point. The influence of the Phœnicians in distributing ideas and art forms are under-

*Mr. Ferre is Editor of the Department of Comparative Art.—EDITOR.

†Dawn of Art in the Ancient World. By Wm. Martin Conway. New York: 1891.

rated in about the proportion the Chaldæans are over-rated. Yet the book is an interesting one and is well argued, though, as might be expected from the subject, given more to theorizing than the presentation of matters of fact.

Mr. Lethaby's book on architecture and mysticism* is of a very different class. The author has undertaken the important task of gathering every possible architectural legend of all times and races. The subject is a fascinating one, and if properly handled would be highly interesting, but the present treatment is extremely unsatisfactory. It is quite true, as the author says, that long practice in any craft or art gives a certain instinct of insight not possessed by mere outsiders, though never so learned, but an architect who views architecture as interpreting building "not for satisfaction of the simple needs of the body, but for the complex ones of the intellect," or, to quote further, "as the pigments are but the vehicle of painting, so is building but the vehicle of architecture, which is the thought behind form, embodied and realized for the purpose of its manifestation and transmission," can not impress one as realizing, even in an elementary degree, the true nature and import of the art he sets forth to illustrate. This is the more to be regretted since a vast quantity of architectural legends and myths are collected in this volume, which, though limited in size, is really a veritable storehouse of mythical architectural lore. The myths are chronicled, rather than explained and properly arranged, and the author moves from one stage of civilization to another, from one country to another and back again, and then forward, in a manner that is both confusing and wearying. A book that might be both interesting and valuable is thus rendered nearly worthless for a lack of due arrangement and a want of appreciation of what might have been done with the materials gathered. Legends referring to certain well-defined groups are placed together, but no attempt is made to bring order out of chaos, nor, which is perhaps more important, to distinguish between those survivals which have long lost their primitive meanings and acquired fresh ones that have no relation to the former forms. In a book of this kind one looks for more than a simple chronicle of myth, but demands an attempted explanation and co-ordination of facts, even if unsuccessful. Though the author refers to some recent works on comparative mythology, it does not seem to have occurred to him that this science might explain some of the many curious things he has brought together. There is a vast amount of information in the book, but undigested and in unfit shape. There is unquestionably room for a good book on the subject of architectural myths, but it needs to be composed in a very different manner than that Mr. Lethaby has employed.

*Architecture, Mysticism and Myth. By W. R. Lethaby. New York: 1892.

Signor Cattaneo's book,* which treats of what may truly be termed the darkest ages of Italy, testifies to much arduous labor on the part of its author. He has gathered here the results of extended travels in Italy and laborious work among the most uninteresting of materials. The period of Italian history following the invasion of the barbarians, and the consequent collapse of the Western Empire was not artistic nor was it one in which art in any way could flourish. The distractions of war, of famine, of fire, the endless tribulations from which Italy has suffered for fully fourteen centuries have not dwelt kindly with even the rude remains of the earlier epochs, and both the archaeologist and the artist have found little to reward them in the study of the time covered in this book. The author had a double task, not only of studying fragmentary remains, but of combating received opinions on his period. He has gathered much new material, and his researches in some districts have been very thorough. He has not failed, at the same time, to advance his own views, and on many points differs with Cordero, Riccio, Hübsch, Dartin, Salvatico, Garrucci, Mothes and Rohault de Fleury, all of whom have treated of the early history of Italian architecture with varying degrees of completeness and authority. It is true it is sometimes a little hard to follow Signor Cattaneo in all his reasoning. His ingenuity stops at no difficulty and his arguments that rest upon reasoning alone, apart from ascertained and ascertainable facts, are not always convincing, but as he aims especially to present a record of early Italian art rather than an argumentative or descriptive summary, he may be pardoned if in the earnestness of his work his inclinations get the better of his judgment in a few cases.

Signor Cattaneo protests against the early development of the Lombard architecture in Italy, and in fact his book is almost wholly an exposition of the Byzantine influences operating upon Italian art in this time. Greek and Byzantine workers, he claims, were responsible for most of the early work that has survived, a fact demonstrable not only by the known records of the presence of Byzantine workers in Italy, but by a comparison of Italian remains with those in Greece and Constantinople. He distinguishes several styles of work which were characteristic of different periods. First is the Latin-barbaric architecture during the Lombard domination, and under which head he catalogues all the remains that can unhesitatingly be attributed to the Lombard epoch. Next comes the Byzantine-barbaric style, which he terms the second influence of the Byzantine art on Italian. Then comes the Italian-Byzantine, flourishing from the end of the eighth to the eleventh century, in which Italian workers became more prominent than foreign-

**L'Architecture en Italie du VI au XI siècle. Recherches historiques et critiques.* Par Raphael Cattaneo. Traduction par M. Le Monnier, Venise: 1890.

ers, though still working in the foreign style. In addition to these three chief subjects, there are important chapters on architecture in Venetia from the commencement of the ninth century to the year 976. Under each town the author chronicles the remains belonging to each epoch, and though the list forms rather formidable reading it is only the record of fragments. Sometimes it is an altar front, perhaps a sarcophagus, an ambon, a parapet or piece of balustrade, pieces of ciboria or, most likely of all, a capital of a column. In this whole period of five centuries there are few buildings that date from even the later part of it that have survived intact to our day. If the remains are more numerous than capitals and columns it is not apt to be more than some pieces of wall. Many churches of this time that were built in the early period were rebuilt in the later, a circumstance that has been the cause of much archæological misunderstanding, and it very frequently happened that what was thought to be the earlier edifice was a rebuilding. But the meagreness of the remains does not render them uninteresting, notwithstanding their crudeness and want of thought and skill. Many of the illustrations are original and are fine studies in the development of Christian ornament. It is a misfortune that many of the plans of churches have no scale attached.

EXCAVATIONS AT TELL-HESY.

THE LATEST WORK OF THE PALESTINE EXPLORATION FUND.

BY THEODORE F. WRIGHT.

For two years the attention of the officers of the Palestine Exploration Fund has been fixed upon a mound called Tell-Hesy, lying about twenty-five miles southwest of Jerusalem. This hill rises about sixty feet above a small stream, which has been gradually cutting it down on the eastern side and facilitating excavation by man. The hill is about two hundred feet square, and goes by the name of Tell-Hesy. This name resembles the ancient name Lachish, which belonged to one of the cities—Jebus, Eglon, Garmouth, Lachish and Hebron—which combined against Israel and were defeated in the battle of Ajalon: Joshua, X. We read that Joshua then went and destroyed these cities in turn.

It was in the hope that the ruins of a city which was in existence before Israel took possession of Palestine might be laid bare that permission to dig at Tell-Hesy was sought for from the Turkish government. After the usual long delay, a firman to dig six weeks was granted. The Fund had already secured the services of Mr. Flinders Petrie as manager of the work, and he went there and awaited the arrival of the Turkish official who would inspect the work, in order to confiscate any valuable objects which might be found. This official so delayed his little journey from Jerusalem that only one week remained after he had arrived.

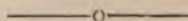
The results of that week's work were, however, highly encouraging. With his workman Mr. Petrie uncovered a wall no less than twenty-eight feet thick, which reminds us of the saying about "cities great and walled up to heaven". He found an immense amount of pottery, which he classified into several epochs, coming to the general conclusion that the place had been occupied as early as B. C. 1700, and had been rebuilt by the Jews and destroyed again, and so on. The early walls had been built of bricks which measured 22x12x4 inches, and were dried in the sun. In his estimate the hill had risen by the accumulation of debris about five feet in a century, and the top of the mound was about twelve hundred years younger than the bottom.

The most interesting objects were a block found in the entrance to the city wall in the side of the doorway and which is entirely unique. This volute suggests that the "horn of the altar" may

have been of this character rather than what has generally been understood. It is cut in relief upon the face of the stone. The square opening at the right is meant for the bolt which secured the city gate.

A second object which led to much study is a bit of pottery with an inscription upon it. While all do not agree as to the reading there is reason for believing that it means "to your health," being a piece of Amorite courtesy put upon a drinking vessel.

His first experience with robbers and other troubles was so severe that Mr. Petrie determined that it should be his last. Some other must therefore be found, and the Fund was so fortunate as to engage Mr. F. J. Bliss, son of the president of the Syrian College at Beyrout. Under the care of this American the work has been carried on under a new firman, and reports appear in each issue of the Quarterly Statements which are sent to subscribers to the Fund. It is too early as yet to determine finally about Tell-Hesi, but thorough work will be done there.



LIGHT ON ETRUSCAN DARKNESS.

BY PROF. JAMES D. BUTLER.

For ages the Etruscan language has been one of the most notable philological puzzlers. We read in standard authorities of vain attempts to connect it with other linguistic families, as the Aryan or Turanian. Again, it is altogether likely, as many hold, to be finally recognized, like the Basque, as an isolated, unrelated fragment. An Aryan relationship was long maintained by scholars of high rank, but, according to the latest views, the Etruscan tongue, if related to others at all, belongs to the Ural-Altaic linguistic stock, and to the Pinno-Ugric or to the Turko-Mongolic division of that stock.

We are in the dark regarding the Etruscan language, because its extant fragments are so scanty. They have, as thus far discovered, amounted only to about two hundred lines of brief inscriptions. Small chance has there been of a base for founding philological theories. Students could not deduce meanings from the *usus loquendi*, for few words were found often or in different connections. They were in the plight of the founders of the light-house on Minot's ledge, who in a whole year of watching saw the rock left bare by the waves and ready for their drills during no more than a hundred hours. No opportunity for a wrestler's fair hold, nor even for a burglar's catch; no kep-hole for dynamite. Hence, aside from numerals and proper names, the whole list of Etruscan words whose meaning has been ascertained with tolerable certainty aggregates no more than forty-

one. But the unexpected happens. Light, so long sought vainly in Etruria, now seems dawning from Egypt, a land we associate with darkness rather than with light.

For the last century all museums in Chrisendom have been despoiling Egypt and gathering its relics into their own bosoms. In this way an Austrian provincial town—Agram, 160 south of Vienna—enriched its museum with Egyptian antiquities as early as the year 1849. While stripping off the bandages which shrouded a mummy it was noticed that they were covered with peculiar characters. They were not Greek nor Coptic, and experts in hieroglyphics declared they were not hieroglyphical, save in the sense of unintelligible. For four decades the manuscript was a Sphinx to all decipherers, as the hand-writing on the wall of Belshazzar was to the astrologers, Chaldeans and soothsayers of Babylon. But, as Daniel then appeared, a man of his make has now arisen for solving the Etruscan riddle. This man—Prof. Kraal, his senses being exercised to discover by poring over Etruscan fragments—recognized old friends in the strange letters from the Nile and pronounced the mummy band in every line—and the lines are two hundred—an Etruscan roll.

The words in this new find are about twelve hundred. They more than double the vocabulary as hitherto known in all the world of ancient Etruria. They must afford a better key than has in the past been hoped for to a language which became dead before Rome rose to empire. They broaden the foot-hold on the Minot's ledge where our scholars would establish a light-house, which, from its towering height, shall flash very far over land and sea cheering and guiding rays upon explorers of the prehistoric ages, who hitherto have been groping in a darkness that might be felt.

Correspondence.

"STRANGE FACE ON A PEBBLE."

Editor American Antiquarian:

I notice an item from *The Baltimore Sun* concerning a "strange face in a pebble." The Ober-Ammergau stone, one of the most curious freaks of nature that has ever been found. It was accidentally found in a small fragment of red limestone, which was taken from the roadway leading to the cross on the summit of Kofelspitze mountain, overhanging the village from which the stone is named. The manner of its finding is thus told by Mrs. Oliver T. Bacon: "The day after witnessing the 'Passion Play' at Ober-Ammergau, September 30, 1880, with a friend, I climbed almost to the symbol of our Savior's suffering. As a memento, I picked up two small pebbles, which remained for two weeks in my pocket. With pieces of carved wood and curios these rocks were labeled and intended for the Young Men's Library at Atlanta, Georgia. In re-labeling, November 13, 1888, this stone chanced to be turned in a certain angle. Instantly a face, full of sorrow, was revealed. During my recent travels in France, Norway, Russia and other places, many artists were impressed with the phenomenon, though no thought occurred of exhibiting it. To assist in paying for the organ of a summer church it was first placed before the public." Since then it has been exhibited in New York and a number of other places, creating wide-spread interest and wonderment. Noted geologists have examined the pebble, and have declared its singular formation to be result purely of natural fracture and abrasion, a "dew-wrought" face, as the owner has characterized it, and a most remarkable example of accidental resemblance. The material is limestone, veined with chert, and the pebble is about an inch in length. Many of those who have seen it say that they have found in it a touching reproduction of their conception of the face of Christ, and this, combined with the curious circumstances connected with its finding, has added to the interest of the strange bit of stone. The Board of Lady Managers of the World's Columbian Commission have communicated with Mrs. Bacon with a view to having the pebble exhibited at the great fair.

The above strange freak brings to my mind that I have a similar curio in my cabinet, found near this place. It is an unfinished piece of chert, that the Mound-builder had lost or cast away, one side of which is discolored a dark brown, so common in that class of stone, but the peculiarity about it is that the dark part forms the head, shoulders and features of an apparently large, strong, bearded African. The face is strikingly

plain, and is readily seen without turning the specimen to any peculiar angle. The outlines were, no doubt, the work of nature, but the chipping of the "ancients" has certainly brought them out much plainer. Do you know of any other such?

J. R. SUTTER.

Edwardsville, Ill., February 22, 1892.

Editorial.

HUMAN TREE IMAGES.

The human tree images seem to contain the same symbolism as do the so-called fighting figures in the State of Tennessee.

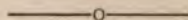


Human Tree Image.

They are not exactly the same in shape, but they are based upon the same thought, and may have had the same significance. These human tree-figures may have come in between the system of sun-worship and that of image-worship and may have arisen in the process of development from one to another, and so would be by some pronounced aboriginal. The singular fact about them is that they are so similar to the tree images of the East. They are, to be sure, mainly found in that part of the

Mound-builders' territory where sun-worship reached its greatest height, but where image-worship did not appear; namely, in Southern Ohio. Image worship prevailed among the pyramid-builders; and stone images or idols have been found among the pyramid mounds along the Mississippi River. Two such idols were discovered by Mr. L. M. Perrine, near Anna, in Illinois, in

mounds which are situated on the great American bottom. The mounds situated at this place are about thirty feet high; some of them conical, situated near enclosures, on the borders of lakes, which indicate that settlements had continued a long time. The relics are generally rude, resembling the relics of the Mound-builders. The idols are more finished, show more skill and indicate an advanced state. One of them is composed of white porphyry of forty-five pounds' weight. It is in a sitting posture with the left leg drawn under the body, the right leg drawn up, the right hand resting on the knee. The face is expressive and finely chiseled and has a resemblance to the Sphynx. It is true in proportions and perfect in its parts. The other was made of pottery and represents a woman with the arms folded across the abdomen; it is hollow and holds half a pint. The distinctions of sex can be recognized in these idols. The human tree-images differ from these. They are not idols at all; they are tablets, exhibiting repousse work images. The stone is cut away from around the image, leaving the grotesque figure in the centre of the tablets. The peculiarity of the figure is that there is a combination of human form with the vegetable kingdom. The head and eyes, arms and legs are present; but the features of the face are in the shape of leaves or branches; the arms are twisted about like branches; the hands in the shape of flowers, with twigs or stamens projecting from the wrist. There is a central column representing the body, and figures in the column which may have been intended for the internal organs. The image, such as it is, stands upon a base which is very similar to that of the sacred groves of the East. The resemblance to the sacred groves is otherwise slight, and yet there is the same symbolism.



MIRACULOUS PORTRAITS.

An item given in the Correspondence of this number refers to the dew-wrought portrait of Oberammergau, which has been connected with the Passion Play and represented as almost a miracle. Such miraculous faces were very common among the aborigines. They are found on the nodules of specular iron, on gnarled knots of wood and on rough pebbles. Many of them are grotesque, and yet they resemble human faces. Some of them have been touched up by native art. These resemble Indian faces and are surrounded by ornaments which were peculiar to Indians. They are not frauds, but are natural miracles. The natives regarded them with great superstition. Their animistic faith led them to think that every such specimen, whether in wood, stone or iron, really contained a human spirit. They considered it a Manitou, and sometimes made an idol of it. The

same is true of animal shapes. The Zunis have many fetiches, which they worship as prey gods, which are nothing more nor less than rude concretions resembling animals; the ruder the stones are the more reverence they have for them. Sometimes specimens are found which are of a doubtful character. These are generally ascribed to the white man. To illustrate: In 1863 a sculptured stone, representing a human face, which very much resembles the face of George Washington, with the wig on the back of his head, was discovered in New Brunswick, Canada. This sculptured stone was found near St. George by a man who was looking for stone for building purposes. It was said to be lying on the surface and covered with moss; had been subject to long-continued action of water, and had a worn appearance. It was in an unfrequented locality, just as nearly all remarkable finds are. This stone is so doubtful that it has not even been mentioned by archæologists. Portraits of human faces, which are somewhat common, must be distinguished, however, from the carved and sculptured images found on shell gorgets and stone tablets, for they seem to have been wrought by a ruder people and do not contain any symbolism in them. If we were to make any distinction, we would ascribe one to the Indians and the other to the Mound-builders. Still, it is noticeable that on the northwest coast, among the Thlinkets, there are many images which contain a mixture of the animal and human faces and forms. In some of them the legs and arms are doubled up very much as they are in these tablets, and the faces have queer looking eyes. It may be that this was owing to a conventional form of art, for the bear totem assumes a conventional form and is sometimes so modified as to be almost beyond recognition.

CLIFF-DWELLERS' RELICS.

Rev. C. H. Green, lately of Durango, N. M., has quite a large collection of Cliff-dwellers' relics on exhibition in Chicago, with the expectation that they will be purchased and kept there. These relics consist of about five hundred woven and worn sandals; a large quantity of woven garments, with belts and fringes, some of them of a fine texture, but dishevelled and torn; a large number of pottery vessels, some large and some small; several mummies, showing the form of the skull and skeleton; a number of wooden agricultural implements in the shape of sharp-pointed sticks; a few stone knives fastened to wooden handles; one flint drill, similar to those found in the Mound-builders' territory, but fastened into a wooden drill, with the cord and bow still attached to the "mill," and several other objects of interest. The collection was gathered in a remote part of Grand Gulch, in Utah, some two hundred miles from any railroad, and

has cost the present owner a great deal of money. The value of the collection consists mainly in the fact that the articles are undoubtedly prehistoric and present scarcely any evidence of contact with white men. It is impossible to tell how old they are. The pottery and stone relics might have been made thousands of years ago, and the mummies might have been preserved many hundreds of years. When, however, we come to look at the delicate textile fabrics, and especially at the corn, the impression as to their antiquity receives a set-back. Still we have been informed by Dr. Birdsall, of New York, who has visited and photographed many of the buildings and relics, that the corn is so old that it will not sprout, and that textile fabrics might last in that dry climate and in the shelter caves for many years, though he could not say that they belonged to the "oldest inhabitants" in America. The collection is one of a few—only three of any size having been collected in the country, one of them being the Wetherill collection, now in Denver, Colorado. We hope that this collection of Mr. Green's may be purchased and kept in the country.

NEW DISCOVERIES.

THE ETRUSCANS IN EGYPT.—In the year 1849 the mummy of a woman was brought from Egypt by Michael Baric and deposited in the museum at Agram (Zagrab). Some time during the winter of 1868-69 Prof. Heinrich Brugsch found one end of the mummy-cloth, forty-six feet long, to be entirely covered with characters which proved to be completely unintelligible to him. Finally the director of the provincial museum apprised Prof. Krall at Vienna, of this remarkable inscription which had baffled so learned a scholar, and sent the mummy-band to him for further investigation. Dr. Krall applied himself to the task, and after eleven months' study, discovers the inscription to be Etruscan, and not only so, but the longest one that has come down to us from antiquity, the longest one hitherto being that of the Perugian cippus, containing one hundred and twenty-five words. The Etruscan mummy-cloth bears no less than twelve hundred words, in about two hundred lines, divided into at least twelve columns, after the fashion of writing on papyri in Egypt. The mummy-cloth is of undoubted ancient Egyptian manufacture, and the ink exhibits the same composition and shade as that of ordinary writing on mummies. The best Etruscan scholars, Bucheler, Deecke and Pauli, agree that there can be no question as to the authenticity of the text; and therefore, if the real relic of antiquity could be successfully and assuredly read, our knowledge of Etruscan would be finally complete. In communicating to the Academy at Vienna the results of his examination thus far, Prof. Krall offered a tentative reading, restoring the text somewhat, and adding a list of all the words occurring therein; to this, additions and explanations were contributed by Dr. Deecke. The Messrs. Eder are said to have succeeded in taking satisfactory photographs of this text, only with great difficulty. Thus far, Prof. Krall and his

assistants have not ventured to publish their results, and only those who listened to their reports are apprised of their nature. In this connection, however, it is natural to recall the fact that a quarter of a century ago De Rouge recognized the Tuscans or Etruscans as one among European tribes (the others being Achæans, Sardinians, Sicilians and Libyans) who invaded Lower Egypt during the reign of Menephtah, the Pharaoh of the Exodus, of the nineteenth dynasty.—*The Independent*, March 3.

AMONG the latest discoveries at Mycenæ, terra-cottas of the earliest period and style have been reported, together with two tablets of Egyptian earthenware bearing hieroglyphic inscriptions. Although these inscriptions have not as yet been wholly read, Prof. Erman, of Berlin, has recognized in the legend the name of a Pharaoh Amenophis, who was almost certainly Amenophis III, inasmuch as his cartouch has already been found elsewhere on antiquities of the Mycenaean age. The reign of this ruler of Egypt having occurred about 1430 B. C., these hieroglyphic inscriptions determine approximately the date of early Mycenaean culture—it might have been somewhat later, but it could not have been earlier than about B. C. 1400. Thus intercourse and relations between Egypt and Greece at the Mycenaean epoch are demonstrated, and Egypt is proved to have exerted a direct influence on Mycenaean art. The revelation is significant, Mycenaean art being the earliest effort, the very beginning of Greek art, and hitherto acknowledged to be prehistoric. In other words, the lions that guarded the gateway at Mycenæ were contemporary with the Recumbent Lion of Amenophis III. And this was subsequent to the masterpieces of statuary and architecture executed by Thothmes III, along with other works of the eighteenth dynasty; between two and three centuries later than Hyksos sphinxes at Tanis; five hundred years later than the statue of Sebek-hotep III, of the thirteenth dynasty; sixteen hundred years later than the statue of Khufu of the fourth dynasty, the lifelike statues of Rahotep and his wife, Nefert, the Cross-legged Scribe, the Shaikh el-Beled, the Panels of Hosi; and quite likely two thousand years posterior to the statues of Sepa and Nesa, as well as the reliefs of Se-nefer-u, in the peninsula of Sinai, of the third dynasty. Greek art was an infant in the old age of Egyptian skill.—*Independent*, March 3.

FLOWERS AMONG THE MOUND-BUILDERS.—William McAdams, while digging for relics in a small mound about 500 yards north of the celebrated Monks Mound in St. Clair County, at the depth of eighteen feet he found a bundle of fossilized vegetation neatly tied together with a stout cord, or small rope. All were in a fine state of preservation. Near by were various kinds of seeds, probably of some species of pumpkin. Part of a corn-cob was also found, together with some of the grain. Earthenware was also found, which goes to prove some of the habits of these Mound-builders.

LOST COLONISTS.—It is said that Lieut. Peary has discovered two hundred descendants of the lost colonists of Norsemen who went to Greenland some six hundred years ago. They were dwelling in an ice-bound basin. The sagas mention them as lost to civilization in the thirteenth century, but the exploration of the nineteenth century finds them shut away from the rest of the world by frozen barriers along the coast and by ice cliffs over which there was no passage.

LITERARY NOTES.

OUR CONTRIBUTORS.—Another of our contributors has written a book which has been recently published. We refer to the Rev. O. D. Miller. The book is called *Har-Moad*. It was through *THE AMERICAN ANTIQUARIAN* that Dr. Miller's writing came to light, and he began to be known as a scholar. We take pride in that. Many other contributors to our pages have written books. Every few months a subscriber also will come forth as an author. This is gratifying, for we take pride in our subscribers and are glad to recognize their ability. We would say that we feel ourselves honored when any of our subscribers, after taking the magazine for a number of years and quietly reading it, come out with a book, for it seems to us very much as if he was one of the family. It seems to have been our privilege to welcome many such to the honorable circle. Gentlemen of this class always appreciate the difficulty of sustaining a journal devoted to a specialty, and are always ready to assist in increasing its circulation.

COLLECTORS AS CORRESPONDENTS.—We have for several years been sending out circulars to the various collectors situated in the different parts of the country, asking for correspondence. Our object has been to introduce collectors to one another, and to make known the specimens which are stored in the private cabinets, unknown except to a few in the locality. We have lately received letters consenting to furnish such correspondence, provided we would send the magazine *free*. It goes without saying that such offers are respectfully declined. The publication of a single letter in *THE ANTIQUARIAN* may add a thousand dollars to the value of a collection, and prove a grand advertisement. During the next two years there will be a rare opportunity of bringing collections before the public. The attention which is given to pre-Columbian relics is rapidly increasing. Collectors may become known through the medium of this journal, if they desire it. They are always welcome to the circle of correspondents, but can hardly expect us to pay for the privilege of introducing them.

BOOKS BY COLLECTORS.—Two new books are in our hands prepared and published by gentlemen who have long been subscribers to *THE AMERICAN ANTIQUARIAN*, and whose tastes were cultivated by the study of books as well as by collecting relics. One of these is a *Plea for Bibliomania*, a Monograph on Privately Illustrated Books, by Daniel M. Tredwell, Flatbush, L. I. It is a volume of 501 pages, elegantly printed. The other is entitled "*Tracts for Archaeologists*," being reprints from various periodicals, by T. H. Lewis, First Series, from 1880 to 1891. This is a small volume of 125 pages and contains twenty-five tracts upon mounds, effigies, fire-beds, incised boulders, rock inscriptions, standing stones, cave drawings, copper mines, copper relics, cup stones, etc. Mr. Lewis is well known to our readers as a great explorer and collector, as well as an intelligent writer. Both gentlemen have given the results of their studies in volumes prepared at their own expense. This shows a devotion to science which is commendable. Collecting books and relics is a fascinating pursuit. It sometimes results

in narrowing down a man to his own private cabinet, and, with some, ends with an unbounded passion for hoarding, but it may be a means of culture. Where gentlemen give to the public the fruits of their toil, either in a published book or in the shape of a rare collection of books and relics, they may be called public benefactors.

INTAGLIOS.—The Numismatic Society of New York, Mr. Herbert Valentine, curator of archaeology, has had recently on exhibition two beautiful *Intaglios*—one of the “Venus Callypigus,” and the other the “Hippo-Centaur Chirod teaching Achilles,” by the Greek sculptor Apollonidon. These belong to Mr. Isaac Myers, of New York. Fifty-six volumes on the coins of France, Germany and Russia have been added to the library.

MUSEUMS OF THE FUTURE.—Mr. G. Brown Goode delivered an address before the Brooklyn Institute in 1889, which has just been published in the Smithsonian Report and the re-print forwarded to us. This is timely, for the effort will soon be made to establish a museum in Chicago. If this pamphlet could be circulated extensively it might be a good thing.

LOCAL SOCIETIES.—A society at Sioux City has been organized for the purpose of making a record of the picture writings and rock inscriptions of the Dakotas. If this society could become tributary to some central organization which would publish the results of its labors, it would be of permanent benefit; but the danger is that the society will be wiped out sooner than the inscriptions themselves. We would suggest to the gentlemen who have undertaken this work that they make *THE AMERICAN ANTIQUARIAN* the medium of their publication. Kansas City has courageously made the effort to sustain a society and to publish the results, but even in that city, as public spirited as they are, it is found impossible to sustain any journal. First *The Kansas City Review*, next *The Naturalist*, and then *The Scientist* succumbed. Some excellent things were done by members of the Academy and these publications have made a record of them; but it seems very likely that the record itself will go into obscurity. Librarians do not get hold of these short-lived local journals. The names of them do not appear in any index. Private individuals seldom hear of them. *Sic gloria mundi transit*. Is it not better for local societies to combine into one central organization, or in the absence of that, use one central, well-known magazine as their organ, and make that a permanent success? *THE AMERICAN ANTIQUARIAN* has no local ambition and no local jealousy. We offer it to members of local societies, and ask the archaeologists who are doing such excellent work throughout the country to make it their organ.

The Grammar of the Lotus is the name of a history of Egyptian sun-worship in its relations to the symbolic art of India, Assyria and Greece, by an American archaeologist, Mr. William H. Goodyear. The volume contains 1,200 illustrations, and is published by Dodd, Mead & Co. at \$15.

BOOK REVIEWS.

Sketch of the Norse Discovery of America. Read at the Festival of the Scandinavian Societies, assembled in Boston, May 18, 1891, on the occasion of presenting a testimonial to Eben Norton Horsford.

The Landfall of Leif Eriksen, A. D., 1000, and the Site of his House in Vineland. By Eben Norton Horsford. Published by Danniell & Upham, Boston, 1892.

Prof. Horsford is following up his special studies in reference to the landing place of the Norsemen and is presenting to the public some very interesting and finely illustrated books. The history of his efforts is as follows: In 1887 he made an address on the unveiling of the statue to Leif Eriksen in Boston, sketched the evidence that Vinland of the Northmen was in southeastern New England. In 1889 he wrote a letter to the Geographical Society of New York, on the Problem of the Northmen, in which he gave an outline of a discovery of the site of Leif's houses and the ancient city of Norumbega, and still later on the defenses of Norumbega.

In 1891 he made an address at the festival of the Scandinavian societies assembled in Boston, to present a testimonial in recognition of finding the landfall. This was published with a photograph of the tablet. The last work is the one before us now and bears the date of 1892. This is in folio form, beautifully and abundantly furnished with maps and photograph insets. We have the scenery of New England, especially that about Boston, brought before us in a very charming way. The argument which Prof. Horsford makes is somewhat as follows: He takes the journals of the Norsemen and follows them from Iceland to Newfoundland, and from Newfoundland to Cape Cod, and from Cape Cod to the Back Bay, identifying the places by the natural scenery as described by them; mountains in one place, the flat rocks in another, a point of land in another, the fresh water lake in still another. The opening of the bay toward the north, and the bend of the point of land and various other circumstances furnish good evidence, to his mind, that Vinland was near Boston rather than Martha's Vinyard, as other authors have maintained. Following up the subject, he thinks he has discovered the site of Leif's houses near the landing at Cambridge and the landing place of Thorfinn, on the Charles River, above Back Bay. Thorfinn's long house was on a line of stream not far from Auburn cemetery. A pit in the hill side and a line of stones in the midst of brushwood mark the site of Leif's house, and terrace in front of it. The pictures of the dam and boom at Watertown and opposite are given in the book. These mark the site of Norumbega. The book contains a number of modern maps, such as maps of Boston, Cambridge, Cape Cod, Massachusetts Bay, Barnstable Bay, and a number of ancient maps of Greenland, the North-east coast (the coast of Labrador) and the New England coast. The ancient maps are the most valuable, as they give the localities and the names as they were known to the geography of the time. They are as follows: That

of Ruysch, 1507; Verazano, 1524: a French map, 1543; Tracing of De Testie; Mercator, 1569; Solis, 1598; Debry, 1597; Wytfliet, 1597; Champlain, 1612; Stephanus, 1576. The best map for the reader is the one prepared for the book by civil engineer George Davis, as this has the modern names and the ancient names placed together in such a way as to show the exact spot where the writer would place Norumbega. It is west of Cambridge, east of Waltham, north of Newton, south of Medford, on the Charles River and not very far from Boston and Albany and Boston and Pittsburg railroads, between the two roads. The argument from geography is very plain and forcible, though to an archæologist there seems to be a great deal of uncertainty about the finds, for in a region which has been settled so long as that about Boston, the sites of old houses which were built after the arrival of the Puritans, might be easily mistaken for those more ancient; those which belonged to the Norsemen. The geographical evidence is better than the archæological evidence, though that to the author seems also strong.

Har-Moad; or, the Mountain of the Assembly. A series of Archæological Studies chiefly from the Standpoint of the Cuneiform Inscriptions. By Rev. O. D. Miller, D. D. Published by Stephen M. Whipple, North Adams, Mass.

The author of this book has a friendly feeling towards the ancient religions of the East, and speaks favorably of those who are outside of the Jewish church. He is really on the Abrahamic ground, giving tithes to Melchisedec. It is a question whether he is not right in his attitude. From his standpoint it could not be otherwise. He holds to a primitive revelation to all and maintains that there was a warm and fatherly spirit in the ancient divinities; that the divinity furnished a home for all worshippers. He does not reject the heathen, or those whom we would call heathen at the present time, from this early family of God. He makes out that God was the father of all, and made His abode with all, but was a "divinity of the hearth" to all. Enoch represented the artificer of the ancients—the Mercury of the Cabiri, the Vulcan of the Latins, the Thoth of the Egyptians, and the Hephestus of the Greeks. The temple craft was the parent of the metal craft. The workers in stone who preceded the metal workers were also devout people, and the stone cube was the primitive altar. He maintains that letters or hieroglyphics existed before the time of the deluge; that the inscribed columns or tablets of stone were hidden by Xisuthrus, and that they were well known by the Babylonians. The Mosaic and Babylonian cosmogony came from the people who lived before the deluge; Larsam, the modern Senkereh, was the home of Xisuthrus, and the tablets of Larsam were long sought for and were found in the Barrel of the East after protracted labors by Mabunahid, at Sippara. He sees in the cosmogony a resemblance to the history of creation contained in Genesis—the same that Mr. G. Smith has shown, but it comes from the transmission of knowledge over the deluge. Dr. Miller is not troubled with doubts as to the deluge, or the truthfulness of the Scripture narrative, but is very charitable to the ancient beliefs. The theory that the Aryans were the descendants of the paleolithic people of Europe did not prevail when he wrote the book. Perhaps if it had he would not have used it in making up his story. There is one thing, however, about this book—it carries us back to an earlier time for the origin of civilization than any other book. He ascribes this

civilization to an ancient people who preceded the Cushites or Hamites, in Shinar, and long preceded the Semites. The Accadians and the Sumerians are somewhat confounded in his mind, for the early ethnology of that region was not as well known a few years ago as it is now. Dr. Sayce says that Cush embraced not only Ethiopia, but the southwest Arabia; that the sons of Ham were not black skinned but belonged to the white race; that the Chaldeans belonged to the Semitic race, but preceded the Semites, but in Babylonia there was a Turanian race whose language was agglutinative, and who were allied to the Chinese, to whom the origin of Chaldean culture and civilization were due. There were two provinces in Babylonia; Accad in the north and Sumer in the south, and Accad was the first to rise. Sargon, the great king, was an Accadian; this clears up the mystery which puzzled Dr. Miller in his first chapter. If the book had been edited by some suitable person, these points would have been brought out in notes; this is a great deficiency. Mr. S. M. Whipple, the publisher, was a personal friend and published the book as a monument. He preferred to have the manuscript published as it came from the pen of his friend. The person who reads the book will stumble over the obscure places, but he will come to solid ground and become interested and surprised at the wonderful products. The author was like Robinson Crusoe, isolated from his fellow men, but he was a strong man and cultivated well the field which he chose.

The title, *Har-Moad*, needs to be explained: It is taken from Isaiah XII, 14, and signifies the Sacred Mountain, or Mount of Assembly, or Mountain of Paradise. Dr. Miller maintains that the most ancient seat of population—Paradise or the Garden of Eden—was upon the mountains of Pamir, and that the most ancient conception of God's throne was that He dwelt above the mountains in the sides of the north in the heights of the clouds, His throne above the stars. There were five peaks, four and a central peak, four rivers as well as four points of the compass in this primitive Eden, making eight regions. The seven stars of the great dipper tend to connect the primitive Chinese tradition with the Meru of the Hindoos and Persians, and these with the Eden of Genesis. The back of the tortoise bore the images of eight celestial regions, as the Mountains of Paradise were divided into eight parts by the four peaks and four rivers, according to the Hindoos. These were the same as the Garden of Eden out of which flowed four sacred streams, though in Isaiah the figure is changed and the chariot of the stars rolls around the fixed point in the northern hemisphere. According to Mr. Obry, the firmament was a garden of delights, tapestried with brilliant stars like stones of fire; the radiance of the snow capped mountains mingled with the azure of the etherial space. In the ancient art monuments a rocky ascent, or stair case, or mystical ladder exhibited seven stages. The caves of mystery comprised seven degrees of initiation. The pyramid temples had seven terraces, the sanctuary or shrine was upon the eighth. Possibly Jacob saw the mountain in his dream, and Isaiah perpetuated the figure and made it a picture of the future Paradise. Dr. Miller does not undertake to identify "Paradise" with any specific mountain north or south, but makes the philosophy of the East to spring from the mythology, and claims that in the mythology the mountains were an essential and important object. This is plausible, for the mythology in the Sandwich Islands embraces pictures of the volcano, the streams of lava and storms,

and transforms them into divinities. The theory of Dr. Warren does not find support in this book. The Mountain of Assembly was in the sides of the north, but not at the north pole.

The Races of the Old Testament. By A. H. Sayce, LL. D. Religious Tract Society, 1891. From F. H. Revell.

This is a charming book, written in an easy style, contains clear thought and a vast amount of information. The complicated problem of the division of the race seems in a fair way of solution. The key to the whole problem is found in the position that the bible is describing different members of the white race and does not undertake to embrace the black race, or the yellow or the red race, which are now Nubians and Turanians.

The division is geographical. Cush was the name of a district; the sons of Japheth were the people of the north; the sons of Ham the people of the south; the sons of Shem were the people in the center. The three zones of the region bounded by the Caspian, the Black Sea, the Mediterranean Sea and the Indian Ocean were occupied by three classes of white people. The geography of Genesis starts from the north; the Medes were an Aryan people on the shore of the Caspian, found also in Europe and India. Javan is the Ionian Greek; Kittim was in Cyprus, a Phœnician colony. Lubal and Meshech survive in the Georgians. Misraim is the Hebrew name of Egypt. Caphtoi is the home of the Philistines. Canaan and Sidon belong to the same people. The children of Shem were settled in Shushan, in Assyria, and Babylonia. The Chaldeans belonged to the Semitic race. The Turanian race is the most interesting. They, according to Dr. Sayce, preceded the white race and were the earliest inhabitants of Babylonia; they were allied to the Mongols, Chinese, Finns, possibly North Americans. They were civilized and gave their civilization to the Accadians and Sumerians. The Hittites were Turanians; their faces are preserved in the monuments of Egypt, and are remarkable faces; they have retreating foreheads, sharp, "snouty" noses, high cheek bones, are beardless and scrawny; Tompkins says they have three locks or plaited tails falling on the shoulders; were probably yellow skinned. Prof. John Campbell says the Hittites were the Mound-builders of this country; but there are no Hittite faces among the Mound-builders. The Shepherd Kings of Egypt are supposed to have been Turanians. They had better faces, wore beards and bushy hair, large eyes, less retreating foreheads. The language of the Turanians was agglutinative and the religion was nature worship. The map of the world of Genesis was the cradle of culture; it was a limited world, all outside was darkness and barbarism. In the valleys of the Nile and Euphrates the first civilization of the world arose. Dr. Sayce does not state whether the civilization came from beyond the flood or whether the Turanians or Semitics were the originators. The Shepherd Kings intruded upon the middle empire in Egypt and were not so civilized as those of the earlier dynasties. The Assyrians were Semitics. The later Egyptians may have also been Semitics. The faces of the Pharaohs Amenophis and Rameses are not given, but we have become familiar with them. They differ from the Assyrians upon one side and the Hittites upon the other. From the XVIII dynasty the princes seem to have been partly of Nubian descent. They drove out the Hyksos Kings and established another empire. Their type of face is European rather than Egyptian. It seems likely that they had

Hyksos blood in their veins. The kings were tall, slender, straight-faced, while the earlier kings had faces more like the face of the Sphinx—broad, with thick lips and nose. We commend this book to our readers for the instruction it gives.

The Admiral of the Ocean-Sea. By Charles Paul Mackie. Published by A. C. McClurg & Co., Chicago.

This book begins as a novel, but it ends with the narrative of the first voyage of Columbus. This may have a tendency to draw the attention of readers to the times; but we are not sure whether it presents any better picture of the times than pure history would. The story of Columbus and his voyages is fascinating enough without adulterating it with novel-like conversation. The book, however, may be regarded as an offset to the critical, severe and dry book written by Justin Winsor, for it shows the religious faith of Colon and his companions—a faith which was strong enough in that day to inspire men to great exploits. The publishers have put the book in a very beautiful shape—gilt top and back, with figured side, rough edges, thick paper, good type, ornamented chapter headings, and made it a gem of the book-makers' art.

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BOOKS RECEIVED.

The Klamath Indians of Southwest Oregon. By A. S. Gatschet. Vols. I and II of U. S. Geological and Geographical Survey.

The Cegiha Language. By Rev. J. O. Dorsey. Contributions. Vol. VI of U. S. Geological and Geographical Survey.

Buried Cities and Bible Countries. By George St. Clair. Published by Thos. Whitaker, New York.

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PAMPHLETS RECEIVED.

A Mythic Tale of the Isletta Indians of New Mexico. By A. S. Gatchet. From the Proceedings of the American Philosophical Society.

Teuton Folk-lore Notes. By Rev. J. O. Dorsey.

Omaha Ponka Myths. By Rev. J. O. Dorsey.

Gentile System of Siletz Tribes. By Rev. J. O. Dorsey.

Collection of Stone Implements from the District of Columbia. By S. V. Proudfit. From National Museum, Vol. XIII.

The Stone Hammer and Its Uses. By J. D. McGuire. American Anthropologist, Vol. IV.

Collection of Cliff-Dwellers' Relics. By Rev. C. H. Green.

Bronze Buddha. By Charles DeKay. From Report of National Museum, 1888-89.

The Progress of Anthropology. By Marquis de Nadaillac.

Grammar of the Language of the Mosquitos. By Lucien Adam.

The Transformation of the Animal Cranium to the Human Cranium. By Paul Topinard. With nine figures. From Revue de Anthropologie.

Catalogue of Prehistoric Works East of the Rocky Mountains. By Cyrus Thomas. Report of Bureau of Ethnology.

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THE CLIFF-DWELLINGS OF THE CANONS OF THE
MESA VERDE.

BY W. R. BIRDSALL, M. D.

[Reprinted from the Bulletin of the American Geographical Society.]

The Mesa Verde, in whose canon cliffs and caves an ancient race have left their architectural remains, is a plateau in southwestern Colorado and New Mexico. Its boundaries are roughly defined on the east by a ridge or so-called "hog's-back," which slopes toward Cherry Creek and the Rio La Plata, on the south by the erosion valley of the Rio San Juan, on the west by the erosion district beyond Aztec Spring Creek, and on the north by the Montezuma valley, or plain; properly, the McElmo valley. It rises from 1,000 to 2,000 feet above its base, which has an altitude above the sea of from 7,000 to 8,000 feet. The canon of the Rio Mancos completely divides this plateau into two unequal portions, as it extends first southward, then southwestward, and finally in a more westerly direction, leaving to the southwest an irregular quadrangle, whose area is probably about 300 square miles. It is to this portion that special attention is called, as it was here that the writer's observations on cliff-dwellings were chiefly made. Its drainage is toward the Mancos, and erosion has produced such an extensive system of canons through it, that it is now the mere skeleton of a mesa and a perfect labyrinth of gorges. Each of these lateral canons of the Mancos has its branches and their subdivisions, which extend in many cases almost to the great northern wall of the mesa that faces the Montezuma plain; so that the whole interior consists of a series of tongues of flat-topped mesa, green with scrub-oak, pinon and cedar, running out from a rim or base upon its northern border, forming partition walls of varying width between

canons of enormous depth, whose yellow sides rise perpendicularly from the steep-sloped talus at the base. Huge promontories of rock jut boldly out where canons subdivide, some carved into strange fantastic forms, others squarely built as if abutments for giant bridges to span the chasms which they limit. The views seen in journeying through these canons, while ever varying in minor details, soon become monotonous from the continued repetition of the greater features. We pass promontory after promontory, canon after canon, which so much resemble each other that the mind, failing to keep the preceding variations before it, becomes bewildered and fatigued. Again, the mesa, to the uninitiated, is a perfect maze; so great are the resemblances between the different branches of the canons and between the promontories that separate them. From some point of view whence a great area of the mesa can be overlooked, it appears as if the earth had been split into innumerable fissures, as the eye courses over the indistinct outlines of canon beyond canon in the distance.

These canons are all the work of erosion in horizontally stratified rocks of cretaceous formation, chiefly sandstone. The upper strata form an escarpment of yellowish sandstone, harder than the lower strata and about 200 feet in thickness. Directly below it are much softer sandstones and shales which have eroded more rapidly in some places than in others, giving rise to shallow caverns or galleries formed by the overhanging cliff of harder rock as a roof; while lower strata, that have also been resistant, form the floor, which is usually much narrower than the roof, varying from a few feet up to fifty or sixty, while the overhanging cliff may project from a few feet to more than a hundred beyond the back wall of the gallery. Below, the wall of rock drops off abruptly, or by an irregular series of narrow ledges, for hundreds of feet down to the talus slope. The height of the galleries above the bottom of the valley varies from 500 to 1,500 feet. They vary in size from mere niches of a few cubic feet capacity to galleries more than a thousand feet in length and fifty feet in height and width.

On these narrow ledges, at these dizzy heights, under these overhanging walls, the cliff-dwellers fastened their houses of stone to the rocks like so many swallows' nests. The question is often asked: Why did they build so high? They built where they found caverns in which to build. Although lower strata exhibit many of these caverns, they are far less numerous and extensive than those under the great escarpment rock.

The canon bottoms are cut up with the "wash" of former streams, benches have been excavated in the talus, and innumerable lateral *arroyos* intersect the longitudinal stream-beds. Partially disintegrated masses of rock add roughness to the view. Tall, coarse grasses, rushes, sage-brush, tangled vines, willow

and cotton-wood, make up, chiefly, the vegetation of these bottoms; while upon the higher slopes and ledges, the scrub-oak grows in such profusion that some of these canon walls at a distance appear richly clad in verdure. Indeed, it is this bright-leaved oak, rather than the darker pinon and cedar of the mesa proper, that give it the verdant appearance which must have suggested the name "Mesa Verde."

These canons end mostly in amphitheatres which were favorite sites for cliff-towns. In some, the mesa level was reached by a series of benches and intervening slopes, while others slope gradually to the mesa, or produce a valley in it. Some of these valleys extend so far to the north that they give to the northern face of the mesa a serrated appearance. Few canons have water in them except after showers or the melting of snow. The waters of the few permanent streams are alkaline and usually unfit for man or beast to drink. A spring is a treasure rarely found in the canons, but hollows worn in the rocks become filled by rain or melted snow and furnish the chief supply to the travellers upon the mesa. Some of these rock excavations are quite large and receive the name of "tanks."

It was the writer's good fortune to visit the region thus briefly described under the guidance of Richard, Alfred and John Wetherill during the summer of 1891, for recreation rather than for the purpose of systematic archæological study. For several years these men have devoted a great deal of time to the exploration of this region in search of cliff-houses and the relics they contain; although not professed archæologists, they have amassed a very large collection of the remains of the cliff-dwellers and are in possession of a vast number of observations and facts concerning them. Indeed, no one knows this part of the Mesa Verde as they do. The upper end of the Mancos Canon is the usual place which tourists visit to see a few examples of cliff-houses, and the hospitable Wetherill ranch is the proper outfitting place.

Jackson and Holmes, whose contributions constitute almost the only attempt at scientific literature on the subject of cliff-dwellings, described the ruins in the Mancos Canon, but their observations did not extend to the interior region described in this article. In these branch canons of the Mancos, however, the ruins are far more numerous than in the main canon; a discovery of the Wetherills, who informed me that they have examined between 200 and 300 villages or separate groups of houses, in an area of less than twenty by forty square miles. The greater part of these are in the lateral canons. This region, now so desolate, was once a well-peopled area. While journeying in the saddle through the Mancos Canon or its wider branches occasionally mounds are met with, many strewn with pits of pottery, others exhibiting, upon slight excavation, the remains of

adobe or stone walls, some quadrangular, some circular. The base of a distant cliff may reveal a small water-worn recess, showing the remains of a wall of stone which closed it in front—the so-called “cave houses”. Looking along the high canon walls in search of cliff-houses, the inexperienced observer is apt to look in vain. He sees every variety of shade and color in the great yellow and brown rocks, projecting masses of every form, shadows of overhanging cliffs and the dark recesses below them; but until he has become familiar with the somewhat paler yellow of the artificial walls and their rectangularly notched appearance he is apt to pass them by even after a careful search. On spying one of these structures a thousand feet or more above, the problem asserts itself: How did the occupants get up to them? It is finally resolved by the answer: They did not, they came down to them from above. The level mesa top was within one or two hundred feet of them; the canon bottom perhaps more than a thousand feet below, hundreds of which might be perpendicular or unsurmountable. When built at lower levels, or at the end of a canon where the slopes permitted, paths and steps leading below are occasionally found, but in most instances the path and steps lead from the house up to the mesa, not down to the bottom. The explorer must adopt the same method if he would work to advantage. He must reach the mesa somehow, and establish himself there as his base for operations. It is only at a few favored points that it is possible to reach the top from the canon below; such places may have been known to the ancient cliff-dwellers, they certainly are known to the Navajoes and Utes, whose trails here and there serve to indicate a way to the top. Some broken down promontory usually affords the conditions. Zigzagging across the talus slope, the ledges are finally reached, and the horseman is glad to leave the saddle and lead or drive his pony over the rough and nearly upright path, around bold promontories with but a narrow ledge for a footing and across great fissures, forcing him to jump from ledge to ledge. The top reached, the saddle resumed, then comes a ride across the level or rolling mesa at better speed. Dodging under and around the branches of low pinon and cedar trees which form a sparse forest, clattering every now and then over mounds strewn with pottery—the mesa burial grounds—in time a place for camping is reached. It must be where water can be had. A natural excavation in the rock, to which led a gullied slope that directed water when it rained, held a few barrels of muddy liquid and served us at one of our camps. Leading down to it were well-worn steps cut in the solid rock.

In hunting for cliff-houses from the mesa, some projecting point will furnish an outlook up or down the canon and may expose to view some group of houses. To find the way down to them is a matter, often, of careful searching. Usually at some

point of depression where the ledges are broken, a narrow way will be found. Yet there are instances where a broad and royal path sweeps down around the half circle of an amphitheater to the ledges on which the town was built. Though steps and niches cut in the solid rock are frequent, examples of a regularly laid stairway are rare; we observed one, however, consisting of fifty or sixty steps, each formed of a heavy block of stone, so well placed that they have resisted the ravages of time better than the walls of the large cliff-town to which they led, now almost completely demolished. Sometimes the houses are absolutely inaccessible; portions of the cliff have fallen, ledges have crumbled away, cutting off all access to what may have once been an easily reached dwelling. Ropes and poles are useful accessories to the explorer if he has the courage and the skill to use them. Fragments of notched poles and other ladder like arrangements have occasionally been found, which probably made many places accessible that are now out of reach. Sometimes it is necessary to let one's self down for a considerable distance through great fissures. In the side walls, niches are often found to facilitate the descent and ascent. Again, the only way is over the sloping or rounded face of some smooth rock; here also hitches for the hands and feet are not unfrequently seen. They are not deep, perhaps the rock has worn and left them shallower than when first cut, yet they give a foothold, though it be a perilous one. The path may be continued by narrow ledges a few inches in width where the side wall must be closely hugged to maintain equilibrium. Then, possibly a succession of giant steps to lower ledges intervene, and, finally, as we round a point, a great cliff curves upward and under its deep shadow, on the ledges below, rise the ruins of a cliff-town.

No description of a single cliff-house can give a correct idea of them as a class, so greatly do they vary in size, form and location. As in every community we have many grades of architecture, from the hovel to the palace, so here we find a great range in the different features of construction; from the little "cubby-hole" walled up in a corner of the rocks to the remains of what appears to have been a stately tower or an extensive communal house. Yet they all have certain features in common. They are built of blocks of sandstone, broken or cut in regular shapes, laid in a cement of adobe and chinked with small fragments of stone. The rock material used was that of the adjoining cliffs, large masses of which fallen from above were usually at hand and sufficiently soft and fragile to have been easily worked with the stone implements found in the houses. The blocks of stone vary greatly in size, though many walls are faced up with stones about a foot long, eight wide inches and six thick; others are double or triple this size; some are cubical in shape, while in many of the inferior structures the pieces of

stone are irregular, of many sizes and shapes, with adobe plastered into the interstices to fill out the deficiencies. In the more perfect and substantial buildings, however, the walls exhibit great regularity of form and compactness of construction with as true a face as is shown by many of our modern stone buildings. The lines are usually plumb, the corners are turned at perfect right angles in squarely built houses, while in round structures the circles are quite perfect. A remarkable degree of skill is shown by the manner in which the shapes of the buildings were adapted to the limitations of space which the galleries presented and in the utilization of every available surface. Many of the walls of large buildings rise directly from the extreme edge of the ledge, sometimes even when the slope to the front was considerable, yet, so thoroughly were they laid, that many of them stand to-day, on these apparently unstable foundations in a good state of preservation. Where curves in the gallery existed, the walls were also curved or angled to utilize all the space.

In some of the more spacious caverns a continuous corridor was left in the extreme rear, allowing communication between the separate apartments. On narrow ledges the partitions were carried directly back to the cliff walls and up to the roof of the cavern, provided the latter was not too high. Four stories upward from a single ledge was the highest that came under the writer's observation. As the stories are low, from three to six feet, it is not usual to find walls running higher than twenty or twenty-five feet; ordinarily they are not so high. When a lower ledge existed in front of the main gallery ledge, it was often built upon and the walls carried up to the level of the latter and sometimes above. As these outer structures have not stood as well as the inner ones, it is not possible to say from their ruins how high they were built. When supplementary ledges existed high above the main floor, these narrow projections were often utilized, small compartments being built upon them, too diminutive for human occupation and possibly were used for storage. Fig. 1 exhibits such structures built on narrow sloping surfaces below.

The openings in the walls consist of peep-holes a few inches square, windows and doors. The windows are not numerous, many rooms being entirely without them, while sometimes they are absent from the front walls of an entire village. They vary in size and shape, 18x24 inches being a large size, 12x14 inches a more common proportion. The sill consists of a single flat stone, the lintel of stone or of one or two small cedar poles to give support to the wall of stone above. The doors have similar lintels, but the door sill is frequently absent. The size of the door is also quite variable; they are almost always small, many requiring one to enter on hands and knees, and being barely

wide enough to admit an adult person. Not an uncommon size is 2x3 feet. Yet doors five or six feet in height and of ample width are met with in some houses. Some rooms have neither doors nor windows in the side walls, being entered through a hole in the roof—or floor of the next story. These roofs and floors are formed of cedar or pinon poles two to four inches in diameter, some of which were allowed to project a foot or two beyond the outer wall. They show that they were cut off with some blunt instrument, probably the stone axe. These larger poles were covered with smaller cross sticks, which were in turn



Fig. 1.

covered with adobe cement; sometimes cornstalks and strips of bark were pressed into the adobe while it was yet soft, as these articles are still found imbedded in it. Over this vegetable matter a series of layers of brown and black dirt is often found; whether originally placed there or the accumulated filth from long occupation is uncertain.

The floors between stories have usually fallen in, leaving the broken poles or the holes in the wall through which they protruded. The main walls of the buildings are from one to two feet in thickness, the partition walls somewhat thinner. The size and shape of the rooms vary greatly. They are usually small, 8x10 feet being a large room, 6x6 feet a more common size, while great numbers of little compartments about 3x4 feet are met with; sometimes they are nooks and corners left in completing the larger outlines of the building. The diminutive

height of the rooms is also noticeable, four feet being a not unusual height. In the shape of the inner rooms less care is shown in their proportions than in the outer walls; the partitions being frequently out of parallel. The inner surfaces of the walls, in some cases, were simply chinked and the interstices plastered like the outer wall; many of the rooms, however, are smoothly plastered within, and impressions of the fingers and the palmar surface of the hand are occasionally visible. Finger marks are often found in the cement on the outer walls, and their small size has led some to infer that this was woman's work. The plastered



Fig. 2.

walls have in some instances been smeared over with tinted clay of either a brownish or a pinkish hue. Mural decorations are exceedingly rare. A band in black around the upper part of the room has been observed, and occasionally rude attempts at sketching the human figure. Pegs of wood and staples of bent willow or reed let into the wall are frequently found; and probably served as projections on which to hang things. A special description is required of the circular rooms called "estufas," from their resemblance to the circular chambers of this name found in the Pueblo towns. One or more of these structures are to be found in almost every collection of houses. They vary a good deal in size and manner of construction, but are always circular, with somewhat heavier walls than those of the

adjoining buildings. They have few apertures. A diameter of eight or ten feet is not unusual; much larger ones have been described, but still smaller ones are met with.

Fig. 2 exhibits the ruins of one of these structures, showing a projecting ledge or seat interrupted by a solid mass of masonry. Frequently rectangular recesses exist at intervals in the wall large enough to contain a person sitting with bent knees; smaller recesses are also found. Fig. 3 shows one of them, and also exhibits a smoother portion of the wall covered with plaster, as well as surfaces from which it has scaled. These estufas were



Fig. 3.

usually more perfectly plastered and tinted than the other class of rooms.

In the center of the floor a shallow circular basin of baked clay from one to two feet in diameter, forming a solid part of the floor, represents a fire-place; at least fragments and dust of charcoal are found in these basins. Some of the estufas have an aperture about a foot square, opening on the outer wall, and screened within by a little wall of masonry built up from the floor about a foot or two from the wall; whether this was to prevent persons outside from looking in, or for the purpose of distributing the draught, on account of the central fire-place, is uncertain. The interior walls of estufas are usually much blacker from smoke than are the other rooms. The entrance to these apartments is sometimes difficult to discover; narrow subterranean galleries have been described by some writers, but

roof openings and apertures high up in the walls were more common. A form of wall construction should be mentioned in which the wall is continued upward upon a few tiers of stone by wicker work, heavily plastered inside and outside with adobe. Concerning the number and grouping of the rooms in different villages as indicated by the ground plan, it may be said that they range from small collections of half a dozen compartments to those with more than a hundred. Richard Wetherill discovered



Fig. 4.

an unusually large group of buildings which he named "The Cliff Palace," in which the ground plan showed more than one hundred compartments, covering an area over four hundred feet in length and eighty feet in depth in the wider portion. Usually the buildings are continuous where the configuration of the cliffs permitted such construction. Many towns present the appearance of having been added to from time to time, as the wants of the community increased. This is suggested by the different degrees of perfection in the masonry of adjoining buildings and by the better or poorer construction of upper stories. Isolated buildings are occasionally met with. Some of these, situated on spurs or promontories which overlook the valleys, have been regarded as towers of defence or points of lookout. The valley

ruins also exhibit the remains of large isolated round structures, sometimes with a double circular wall, and in the broad valleys are ruins with larger groups of apartments than those in the cliffs, showing a greater resemblance to the Pueblo towns. They probably represent different periods of architecture and were possibly the work of different tribes.

Within the cliff-houses, under the debris of fallen walls and in the refuse heaps about them, various articles have been found which throw further light upon the habits of the cliff-dweller. They may be enumerated and classified in the following manner. Those marked with an asterisk did not come under the writer's observation or verification. For their description and identification Mr. John Wetherill is the informant, and his careful observations may be regarded as trustworthy.

1. Implements for war and the chase.—Bows of wood;* sinew bow strings;* arrows of wood and of reed; flint and bone arrow-points; flint and bone spear-points; flint and bone knives of various sizes; buckskin quiver with arrows;* snow shoes.* Bows and arrows were found by the Wetherills in a sealed room beside the skeleton of a man dressed in a suit of fringed and tanned skins.

2. Tools for building.—Stone axes, polished and unpolished, of various sizes, shapes and materials, chiefly of igneous rock, Fig. 4 exhibits one with polished edge, 6x3 inches; stone hammers, large and small. Both axes and hammers are frequently found with a short handle of wood bound to the stone by strips of yucca.

3. Implements for the manufacture of domestic articles.—Sticks about three feet long, knobbed at one end and worked into a blade at the other, supposed to have been used in beating and preparing the yucca fibre, as they have been found in rooms with bundles of yucca in different stages of preparation.* Awls of turkey bone; bone needles;* flat and rounded stones for shaping pottery, clay for pottery;* flat hide scrapers; sharp sticks and paddle-shaped pieces of wood thought to be agricultural implements; sticks supposed to be part of a loom.*

4. Household utensils.—Knives and spoons of bone; stones for grinding corn (metate stones); hoppers of woven yucca; stone pestles; sharp-pointed sticks for starting a fire;* tinder of bark and of grass; baskets and fragments of basket work made of grass, yucca, rushes, reeds and willow. Baskets shaped for the back have been found with a harness of yucca rope and hide.* Matting of rushes (see Fig. 5) and matting made of willow osiers, perforated at short intervals by small awl holes, through which yucca strings pass, holding them together and parallel. Rings of yucca and of rushes to support unstable pottery; the yucca plant in different stages of preparation for fibre; yucca rope, both twisted and braided forms, cordage,

twine and thread; flat boards, supposed to be "baby boards." One was found with a bed of corn tops on it.* Small bundles of stiff grasses tied in the middle and cut off squarely at both ends; said to be used to-day by the Moquis as hair-brushes or combs.

5. Dress and ornamentation.—Fragments of tanned hides bound with cordage of yucca fibre; fringed buckskin garments; leggings and cloth made of human hair; cotton cloth; cotton



Fig. 5.

cord; yucca fibre cloth; finely woven bands of yucca fibre; socks made of yucca fibre; sandals of yucca with various styles of finish. Fig. 5 shows one exhibiting the heel and toe bands. Some sandals have an in-sole of corn-husks or of soft bark fibre. Feather cloth: this peculiar textile was made by splitting off the downy part of feathers and wrapping the thin layer of quill around a yucca string; a feather cord as large as one's finger is thus formed, and this interlaced and tied together answered for a mantle, such garments having been found as a wrapping for the dead. Bone beads; snail shells perforated for stringing; jet and stone ornaments have been found.

6. Pottery—Large jars holding from one to several gallons, the so-called corrugated ware (indented ware, coiled ware). Fig. 5

exhibits in the largest fragment a specimen of this peculiar pottery; small jars are made of the same material, and their shapes vary. Much speculation has been indulged in as to how they were made, some maintaining that they consist of strips of clay coiled spirally and indented with the finger nail; others think that this effect is due entirely to nail indentation. As proof that the nail was used for indenting this ware, the writer has a fragment on which the delicate lines of the skin have been perfectly impressed below the nail marks. The inner surface is smooth. These jars are usually blackened from smoke, as if used for cooking utensils. They are of a coarser material than the smooth pottery, but comparatively thin, considering the size of the jar. Of smooth pottery a great variety has been found; jars large and small, jars with rims for lids, jar lids, jars with side handles, jugs, large and small, pitchers, bowls, mugs, ladles (see handle of ladle, Fig. 4); peculiar little pieces of pottery in which cotton wicking has been found, supposed to be lamps.* Some of the pottery is unglazed and undecorated. The surface of the decorated pottery has a slight glaze upon it, which is in some specimens slightly absorbent. Figs. 4 and 5 show a variety of patterns on fragments. As they are evidently hand designs, the variations are very great.

Tons of fragments of this ancient pottery are scattered over the mesa and in the valleys, as well as in and around the cliff-houses. Either the makers were indefatigable potters, or else the race dwelt long in the land. In truth, we do not know whether they represent different periods, or whether the makers were of different races. That many of the designs are at least as old as the buildings is proved by the fragments, occasionally found imbedded in the abode as chinking material. Less common are fragments of a red pottery without decorations, except peculiar streaks of black through it on the inner surface, and on the outer, indistinct patches of a dull greenish tint. Sometimes a mottled effect is evident. Holes have been drilled through the pottery in some instances, apparently after baking, and broken pottery was mended by tying a string through holes drilled in the fragments.

7. Food supply.—Maize or Indian corn; the stalks, husks, tassels, silk, cob and kernel are frequently found. That some of this material is as old as the building is proved by the fact that the stalks were used in the construction of the floors, being actually imbedded in the adobe; cobs being also used to chink the walls with, an impression of the cob in the now hard adobe being found on detaching one from its bed. Corn husks on the cob, knotted or braided and bunched much as the Eastern farmer treats his seed-corn, are not uncommon. As already mentioned, the husks were used as in-soling for sandals and for the padding of other articles. The corn itself was small, a yellow variety,

some kernels showing a small dent. The cob was also small and short, usually about three inches in length. Jars of shelled corn have been found, but when the kernels are obtained from refuse heaps or open vessels the softer part has generally been gnawed away by some rodent, leaving only the hard outer rim. Efforts to sprout the complete kernels, it is said, have thus far proved unsuccessful. Reddish-brown beans of fair size are frequently found. The stems, rind and seed of gourd-like vegetables of different kinds are abundant; some thin like a gourd, others squash-like, and another kind resembling the pumpkin. A kind of walnut has also been found. The American turkey was evidently an important factor in the domestic economy of the cliff-dweller. His feathers and quills were used for ornament and dress, his bones were worked up into useful household utensils, such as awls and needles, and we can hardly doubt but that his flesh formed an important article of animal diet, if we may judge from the broken bones in the refuse heaps. That this people did not merely hunt the wild turkey, but succeeded in domesticating it seems probable from the abundance of droppings, particularly in certain small compartments, with which are mixed the down and feathers of this fowl. The droppings of smaller birds and different rodents are numerous under the cliffs, the accumulation of ages, but the arrangement, appearances and situation serve to distinguish them in many cases from the deposits just referred to. Deer bones, buckskins, sinews and horn show that one or more varieties of the cervidæ supplied these people with material for food, dress and utensils. The question will naturally arise in the mind of every reader of this list of articles found: How do we know that they belonged to the original builders and occupants of the cliff-dwellings and not to modern tribes, as so many of the articles resemble those known to be in use by Indian tribes? The truth is that in many cases we can not feel sure, yet examples of most of the articles described have been found in situations or under conditions which show most conclusively that they are not recent, but as old as some parts of some of the buildings; as in the instance cited of articles found imbedded in the mortar or under the ancient floors. Again, the uniformity of the findings over widely distant regions, wherever this class of buildings has been carefully examined, is strong confirmatory evidence; yet too much care can not be taken in reaching conclusions in this sort of work.

8. Human remains.—The burial mounds on the mesa contain the decayed remains of human skeletons in abundance, and many in a fair state of preservation, yet nothing but the bones remain except pieces of pottery buried with the body, these usually in fragments. When the attitude can be determined it is usually the flexed position, the body having been laid on the side. Skel-

etons are also found buried among the ledges, where occasionally under the protection of some large mass of rock sufficient earth has been retained in which a shallow grave could be excavated. The best preserved human remains are found in the dry material under the cliffs. An occasional place of burial was on or under the floor of some room in the building. Sometimes the body was simply laid away in the dry dust, the room being sealed; in other cases the earthen floor covering the body shows the accumulation and effect of use after burial. Where absolute protection from moisture has occurred, mummified remains have been found with the wrappings of the dead, in a more or less complete state of preservation. Although comparatively few have been found, the uniformity of method in dress and attitude shows what was their favorite method of burial. The outer wrapping consists of the willow matting already described. It was a kind of burial case. Beneath this is usually a covering of rush matting, and next to the skin a wrapping of fibre cloth or a mantle of the feather cloth already described. The flexed position on the side is the usual one. The hair of the head has been found partly preserved on some mummies. It is said to be of fine texture, not coarse like Indian hair, and varying in color from shades of yellowish-brown to reddish-brown and black. The writer was not able to verify this by personal observation, as no mummies were exhumed during the trip, but the facts are vouched for by many observers. The Wetherills exhumed one mummy having a short brownish beard. It is possible that a bleaching process may account for the change in color, though this is doubtful; it certainly will not account for the soft, fine texture of the hair. If this observation is corroborated in future findings, as they have been up to the present, an important ethnological fact will be established. A theory prevails in Colorado, which the writer was unable to trace to its originator, that three distinct races inhabited the land, the mesa-dwellers with perfect skulls, the cliff-dwellers with skulls having a perpendicular occipital flattening and the valley-dwellers with skulls having an oblique occipital flattening. The theory is based on the fact that different shaped skulls have been found at these different situations. The number of skulls examined under the writer's observation were not sufficient to establish much; yet he saw skulls removed from the mesa mounds which, contrary to the theory, were both horizontal and oblique flattening. The cliff-house skulls were perpendicularly flattened, and all these flattened skulls were symmetrical. The angle and plane of flattening vary in different skulls, so that it may be readily conceived that in a large number of skulls we might find intermediate grades from the perpendicular to the oblique forms. While the theory advanced may be correct, the objection to accepting it is, that it rests on the examination of

too few crania. While there is no doubt of the preponderance of perpendicular flattening in the cliff-dwellers' skulls, we are not justified in concluding that they were necessarily a different race from the valley peoples who flattened their skulls differently. Localities may be found to differ, and the question should be left undecided until a larger number of skulls have been examined and proper craniometric observations made upon them. The specimens of crania seen do not usually impress one as of extremely low grade. They are brachycephalic, but this is in great part due to the occipital flattening. The vault is well rounded, not sloping laterally like the crania of many Indian tribes. The teeth of adults are generally worn flat on the crown. The skeletons, while not exhibiting signs of unusual muscular development, as indicated by the rough points for the attachment of muscles and the curvature of the long bones, were yet well developed and of good stature. The mummy of a man found by the Wetherills measured 5 feet 10 inches, and that of a woman 5 feet 6 inches.

9. Rock marking.—Attention has been called to the almost total absence of figures, decorative or otherwise, on the walls of the buildings. Rude characters, inscriptions and pictures are also very rare in the canons of the Mesa Verde. A line cut in a spiral was the only object of the sort that came under the writer's observation; a photograph of this was lost by a faulty exposure. Their entire absence in so many of these more isolated villages should make us doubtful about the origin of those found on the valley walls, along lines of travel which modern tribes have used,

Grooves in the sandstone, where stone implements have been ground and sharpened, may be seen on the ledges about almost every dwelling; broad, hollow grooves that would fit the larger axes, narrow lines where probably a bone awl was ground, or other sharp implement.

At certain levels, in some canons, bituminous shales and thin seams of coal appear. John Wetherill states that he has found coal cinders in the ash heaps and fire basins of cliff-towns near such outcroppings, and regards this as proof that they recognized the value of coal as fuel and utilized it.

PRE-COLUMBIAN DISCOVERY OF AMERICA.

By J. P. MacLean.

III.—THE SAGAS AND AMERICA.

The manuscript in which are the narrations of the discovery of Vinland—or, as some would have it, America—is known as the Codex Flatoyensis, written about the year 1400; certainly not earlier than 1394, because annals are brought down to that time. The year when Leif Erikson is said to have discovered America is variously given; but from the various narrations the time may be approximately fixed at 1000. It would then appear that the event remained one solely of tradition for a period of four hundred years, kept alive by being repeated during the long winter nights by not less than twelve generations of men.

The Codex Flatoyensis was unknown until the seventeenth century, when it was found in the possession of John Finsson, who dwelt in Flatey, in Breidafirth, and who stated he had obtained it from his grandfather. It is claimed that the writing is the work of two priests, John Thordsson and Magnus Thordhallsson. It contains a large number of sagas, poems, and stories, thrown together in strange confusion and wholly without criticism. No other manuscript confuses things on so vast a scale. In this codex is the saga of Olaf Tryggvesson, wherein the voyages of Leif Erikson are described. The saga of Erik the Red, one of the chief narratives depended upon by the advocates of the Norse discovery, is in the same codex. The other principal saga on this subject is that of Thorfinn Karlsefne, which goes over the same ground covered by that of Erik the Red.

The accounts of these voyages as given in the originals, or even in the translations, are too numerous and prolix to be reproduced in this place. In order to present a clear understanding, an abstract of some of the sagas will be necessary.

According to the Codex Flatoyensis, one of Erik's companions was Heriult Bardson, who had a son Biarne. This Biarne was absent in Norway at the time his father went to Greenland with Erik. When he returned to Iceland he resolved to spend the following winter with his father, and to that end set sail for Greenland. As neither himself nor any of his companions had ever navigated these seas before, he became lost in the fog that had set in. When the weather cleared up they found them-

selves in sight of a strange land to larboard. They again sighted land after two days' sail; and three days still later they came in sight of land that proved to be an island. They bore away, and in three days' sailing reached Greenland. The news of this discovery having come to the ears of Leif, son of Erik the Red, he determined to explore this newly-found land; so he purchased Biarne's vessel, and, with thirty-two men, sailed in the direction that had been indicated. The first land sighted was that which Biarne had seen last, and here they landed and called it Helluland. To them it appeared to have no advantages, for in the up-country were large snowy mountains, and from there down to the sea was one field of snow. They then put to sea, and soon came to another land, which was flat and overgrown with wood. This they called Markland. They put to sea again, with the wind from the northeast, and after two days made land. They landed upon an island, where they found the dew upon the grass was sweeter than anything they had ever tasted. Next they sailed into a sound that was between the island and a ness that went out northward from the land, and sailed westward, and thence went on shore at a place where a river, issuing from a lake, fell into the sea. They brought their ship into the lake, and resolved to winter there; and for that purpose erected a large house on the shore. With them was a south countryman named Tyrker, who had a high forehead, sharp eyes, with a small face, and was little in size, and ugly. This man found grapes during the winter. With this they loaded their boat, and having loaded the vessel with wood, they returned to Greenland when spring arrived. The last land visited they called Vinland.

It will be observed that the narration of this, the first voyage of Leif, is exceedingly indefinite. To tell what land was referred to would be an utter impossibility. Practically there is no description of the coast. The time occupied in the voyage between Greenland and the first point of landing is not given. The distance between Cape Farewell, the most southerly point of Greenland, and Newfoundland is about six hundred miles. According to the saga of Erik the Red twenty-five ships started for Greenland from Iceland, only fourteen of which reached that country; the rest were either lost or driven back. No account of the voyage out or the return is given in this expedition of Leif. Even if only the coast of Labrador was reached, there was enough there to be seen, with the experience of the voyage, to have aroused necessary recitations. One might as well search for Gulliver's Luggnagg. As to the matter of grapes, these Icelanders did not know what grapes were, for they had never seen a grape-vine. As to Tyrker, the very description of him indicates that it was a character thrown in to assist the tale. Calling the country Vinland, or Wine-land, was no proof of wine, for Erik the Red boasted that he so named Greenland

that the people would think it was a good land, and hence would have a desire to remove there. The sweet dew upon the grass and the frosts and snows are somewhat incongruous.

The saga contradicts its first narrative by affirming that Leif discovered Vinland the Good at the time King Olaf sent him to Greenland to proclaim Christianity, and during his passage from Iceland to Greenland.

After Leif's return his brother Thorwald, with thirty men, set out for Vinland. Nothing is related of the voyage until they came to the booths put up by Leif in Vinland. Here they wintered. When the spring opened Thorwald sent the long-boat westward along the coast. They found many islands, but no abode for man and beast, "but on an island far towards the west they found a corn barn, constructed of wood. They found no other traces of human work." The next spring the ship proceeded eastward and towards the north, when it was driven upon the land and broke the keel. While here they killed eight natives at one time. "Then a great drowsiness came upon them and they could not keep themselves awake, but all of them fell asleep. A sudden scream came to them, and they all awoke; and mixed with the scream they thought they heard the words: 'Awake, Thorwald, with all thy comrades, if ye will save thy lives. Go on board your ship as fast as you can, and leave this land without delay.'" They were attacked by innumerable Skrællings, who succeeded in killing Thorwald with an arrow. The following spring they returned to Greenland.

In this narrative it will be noticed that they had no difficulty in finding the booths of Leif. Having found them, they went *westward* and came upon a "corn barn constructed of wood." Whence came this barn? Our ingenious annotators are ready with an answer: "A building of this character would point to Europeans, who, according to minor narratives, preceded the Icelanders to America."*

Thorstein, third son of Erik the Red, set out in the same ship for Vinland, to bring back his brother's body. He was accompanied by his wife Gudrid and twenty five men, but after being tossed about on the ocean the whole summer without knowing where they were, they finally landed in Greenland, in the western settlements. In the continuation of the story of Thorstein we have a narrative of the miraculous. Thorstein dies in the house of Thorstein Black. "Now Thorstein Erickson's illness increased upon him, and he died, which Gudrid, his wife, took with great grief. They were all in the room, and Gudrid had set herself upon a stool before the bench on which her husband Thorstein's body lay. Now Thorstein the Goodman took Gudrid from the stool in his arms, and set himself with her upon a

*Pre-Columbian Discovery, p. 108.

bench just opposite to Thorstein's body, and spoke much with her. He consoled her, and promised to go with her in summer to Eriksfiord, with her husband Thorstein's corpse, and those of his crew. 'And,' said he, 'I shall take with me many servants to console and assist.' She thanked him for this. Thorstein Ericson then raised himself up and said, 'Where is Gudrid?' And thrice he said this; but she was silent. Then she said to Thorstein the Goodman, 'Shall I give answer or not?' He told her not to answer. Then went Thorstein the Goodman across the room and sat down in a chair, and Gudrid set herself on his knee; and Thorstein the Goodman said, 'What wilt thou make known?' After awhile the corpse replies: 'I wish to tell Gudrid her fate beforehand, that she may be the better able to bear my death; for I have come to a blessed resting place. This I have now to tell thee, Gudrid, that thou wilt be married to an Iceland man, and ye will live long together, and from you will descend many men—brave, gallant and wise, and a well-pleasing race of posterity. Ye shall go from Greenland to Norway, and from thence to Iceland, where ye shall dwell. Long will ye live together, but thou will survive him; and then thou shalt go abroad, and so southward, and shall return to thy home in Iceland. And there must a church be built, and thou must remain there and be consecrated a nun, and there end thy days.'" All of which came to pass. The face of the story shows it to be a monkish fiction.

The next voyage to Vinland was made by Thorfinn Karlsefne, a trader. In the summer of 1006 he fitted out his ship in Iceland for a voyage to Greenland, attended by Snorre Thorbrandson and a crew of forty men. At the same time another ship was fitted out for the same destination by Bjarne Grimolfson and Thorhall Gamlason, also with a crew of forty men. In the autumn of the same year both ships arrived safely at Eriksfiord, in Greenland. Here Thorfinn fell in love with Gudrid, widow of Thorstein, and with Leif's consent married her that winter. In the spring of 1007 three ships were fitted out for an expedition to Vinland. Thorfinn fitted out his, and Bjarne Grimolfson and Thorhall Gamlason put their ships into shape, and the third was commanded by Thorward, on board of which was an attache of Erik named Thorhall. As this voyage is recognized to have been the most important of all the Norse voyages to Vinland, and as the narrative is the most complete, it is here given in full. In order to be wholly impartial in this quotation, I have given it as found in De Costa's "Pre-Columbian Discovery."

"They sailed to the west district and thence to Biarney; hence they sailed south a night and a day. Then land was seen, and they launched a boat and explored the land; they found great flat stones, many of which were twelve ells broad. There were a great number of foxes there. They called the land

Helluland. Then they sailed a day and a night in a southerly course, and came to a land covered with woods, in which there were many wild animals. Beyond this land, to the southeast, lay an island, on which they slew a bear. They called the island Bear Island, and the land Markland. Thence they sailed long south by the land and came to a cape. The land lay on the right side of the ship, and there were long shores of sand. They came to land, and found on the cape the keel of a ship, from which they called the place Kiarlarness, and the shores Wonderstrand, because it seemed so long sailing by. Then the land became indented with coves, and they ran the ship into a bay, whither they directed their course. King Olaf Trygvesson had given Leif two Scots, a man named Haki and a woman named Hekia; they were swifter of foot than wild animals. These were in Karlsefne's ship. When they had passed beyond Wonderstrand, they put these Scots ashore, and told them to run over the land to the southwest three days, and discover the nature of the land, and then return. They had a kind of garment that they called *Kiafal*, that was so made that a hat was on top, and it was open at the sides, and no arms; fastened between the legs with a button and strap; otherwise they were naked. When they returned one had in his hand a bunch of grapes, and the other a spear of wheat. They went on board, and afterward the course was obstructed by another bay. Beyond this bay was an island, on each side of which was a rapid current, that they called the Isle of Currents. There was so great a number of eider ducks there that they could hardly step without treading on their eggs. They called this place Stream Bay. Here they brought their ships to land, and prepared to stay. They had with them all kinds of cattle. The situation of the place was pleasant, but they did not care for anything except to explore the land. Here they wintered without sufficient food. The next summer, failing to catch fish, they began to want food. Then Thorhall the hunter disappeared. They found Thorhall, whom they sought three days, on the top of a rock, where he lay breathing, blowing through his nose and mouth, and muttering. They asked why he had gone there. He replied that this was nothing that concerned them. They said that he should go home with them, which he did. Afterward a whale was cast ashore in that place; and they assembled and cut it up, not knowing what kind of a whale it was. They boiled it with water and ate it, and were taken sick. Then Thorhall said: 'Now you see that Thor is more prompt to give aid than your Christ. This was cast ashore as a reward for the hymn which I composed to my patron Thor, who rarely forsakes me.' When they knew this, they cast all the remains of the whale into the sea, and commended their affairs to God. After which the air became milder, and opportunities were given for fishing. From that time there was an abundance of

food; and there were beasts on the land, eggs in the island and fish in the sea.

"They say that Thorhall desired to go northward around Wonderstrand to explore Vinland, but Karlsefne wished to go along the shore south. Then Thorhall prepared himself at the island, but did not have more than nine men in his whole company, and all the others went in the company of Karlsefne. Thorhall sailed north to go around Wonderstrand and Kiarlarness, but when he wished to sail westward, they were met by a storm from the west and driven to Ireland, where they were beaten and made slaves. As merchants reported, there Thorhall died. It is said that Karlsefne, with Snorre and Biarne and his comrades, sailed along the coast south. They sailed long until they came to a river flowing down from the land through a lake into the sea, where there were sandy shoals, where it was impossible to pass up, except with the highest tide. Karlsefne sailed up to the mouth of the river with his folk, and called the place Hop. Having come to the land, they saw that where it was low corn grew; and where it was higher, vines were found. Every river was full of fish. They dug pits where the land began, and where the land was higher; and when the tide went down there were sacred fish in the pits. There were a great number of all kinds of wild beasts in the woods. They stayed there half a month and enjoyed themselves, and did not notice anything; they had their cattle with them. Early one morning, when they looked around, they saw a great many skin boats, and poles were swung upon them, and it sounded like reeds shaken by the wind, and they pointed to the sun. Then said Karlsefne, 'What may this mean?' Snorre Thorbrandson replied, 'It may be that this is a sign of peace, so let us take a white shield and hold it toward them.' They did so. Thereupon they rowed toward them, wondering at them, and came to land. These people were swarthy and fierce, and had bushy hair upon their heads; they had very large eyes and broad cheeks. They staid there for a time, and gazed upon those they met, and afterward rowed away southward around the ness.

"Karlsefne and his people had made their houses above the lake, and some of their houses were near the lake, and others more distant. They wintered there, and there was no snow, and all their cattle fed themselves on the grass. But when spring came they saw, early one morning, that a number of canoes rowed from the south around the ness; so many, as if the sea were sown with coal; poles were also swung on each boat. Karlsefne and his people then raised up the shield, and when they came together they began to trade. These people would rather have red cloth; for this they offered skins and real furs. They would also buy swords and spears, but this Karlsefne and Snorre forbade. For a whole fur skin, the

Skrællings took a piece of red cloth a span long, and bound it round their heads. Thus went on their traffic for a time. Next the cloth began to be scarce with Karlsefne and his people, and they cut it up into small pieces, which were not wider than a finger's breadth, and yet the Skrællings gave just as much as before, and more. It happened that a bull which Karlsefne had ran out of the wood and roared aloud; this frightened the Skrællings, and they rushed to their canoes and rowed away toward the south. After that they were not seen for three whole weeks. But at the end of that time a great number of Skrællings' ships were seen coming from the south like a rushing torrent, all the poles turned from the sun, and they all yelled very loud. Then Karlsefne took a red shield and held it toward them. The Skrællings leaped out of their vessels, and after this they went against each other and fought. There was a hot shower of weapons, because the Skrællings had slings. Karlsefne's people saw that they raised upon a pole a very large ball, something like a sheep's paunch, and of a blue color; this they swung from the pole over Karlsefne's men upon the ground, and it made a great noise as it fell down. This caused great fear with Karlsefne and his men, so that they only thought of running away; and they retreated along the river, for it seemed to them that the Skrællings pressed them on all sides. They did not stop until they came to some rocks, where they made a bold stand. Freydis came out and saw that Karlsefne's people fell back, and she cried out, 'Why do you run, strong men as you are, before those miserable creatures whom I thought you would knock down like cattle? If I had arms, methinks I could fight better than you.' They gave no heed to her words. Freydis would go with them, but she was slower because she was pregnant; still she followed after them in the woods. She found a dead man in the woods; it was Thorbrand Snorreson, and there stood a flat stone stuck in his head; the sword lay naked by his side. This she took up and made ready to defend herself. Then came the Skrællings toward her; she drew out her breasts from under her clothes, and dashed them against the naked sword. By this the Skrællings became frightened, and ran off to their ships and rowed away. Karlsefne and his men then came up and praised her courage. Two men tell on Karlsefne's side, but a number of the Skrællings. Karlsefne's band was overmatched. Next they went home to their dwellings and bound up their wounds, and considered what crowd that was that pressed upon them from the land side. It now seemed to them that it could have hardly been real people from the ships, but that there must have been optical illusions. The Skrællings also found a dead man, and an axe lay by him; one of them took up the axe and cut wood with it, and then one after another did the same, and thought it was a fine thing and cut well. After that, one took it and cut at a stone, so that

the axe broke, and then they thought that the axe was of no use, because it would not cut a stone, and they cast it away. Karlsefne and his people now thought they saw that, although the land had many good qualities, they still would always be exposed to the fear of attacks from the original dwellers. They decided, therefore, to go away and to return to their own land. They sailed northward along the shore, and found five Skrælings, clad in skins, sleeping near the sea. They had with them vessels containing animal marrow mixed with blood. Karlsefne's people thought that these men had been banished from the land; they killed them. After that they came to a ness, and many wild beasts were there, and the ness was covered all over with dung from the beasts, which had lain there during the night. Now they came back to Straumfiord, and there was a plenty of everything that they wanted to have. [It is thus that some men say that Biarne and Gudrid stayed behind, and one hundred men with them, and did not go farther; but that Karlsefne and Snorre went southward, and forty men with them, and were no longer in Hop than barely two months, and the same summer came back.] Karlsefne then went with one ship to seek Thorhall the hunter, but the rest remained behind, and they sailed northward past Kiarlarness, and thence westward, and the land was upon their larboard hand. There were wild woods over all, as far as the eye could see, and scarcely any open places. When they had sailed long a river ran out of the land east and west. They sailed into the mouth of the river and lay by its bank.

"It chanced one morning that Karlsefne and his people saw opposite, in an open place in the woods, a speck which glittered in their sight, and they called out towards it, and it was a Uniped, which thereupon hurried down to the bank of the river where they lay. Thorwald Erikson stood at the helm, and the Uniped shot an arrow into his bowels. Thorwald drew out the arrow and said: 'It has killed me! To a rich land we have come, but hardly shall we enjoy any benefit from it.' Thorwald soon after died of his wound. Upon this the Uniped ran away to the northward. Karlsefne and his people went after him, and saw him now and then, and the last time they saw him he ran into a bay. They drew off to the northward, and saw the country of the Unipeds, but they would not then expose their men any longer. They looked upon the mountain range that was at Hop and that which they now found as all one, and it also appeared to be of equal length from Straumfiord to both places. The third winter they were in Straumfiord. They now became much divided by party feeling, and the women were the cause of it, for those who were unmarried would injure those who were married, and hence arose great disturbance. There was born the first autumn, Snorre, Karlsefne's son, and he was three years old when they went away. When they sailed from Vin-

land they had a south wind, and then came to Markland, and found there five Skrællings, and one was bearded; two were females and two were boys; they took the boys, but the others escaped, and the Skrællings sank down in the ground. These boys they took with them; they taught them the language, and they were baptized. They called their mother Vathelldi, and their father Uvæge. They said that two kings ruled over the Skrællings, and that one was named Avalldania, but the other Valldidia. They said that no houses were there. People lived in caves or in holes. They said there was a land on the other side, just opposite their country, where people lived who wore white clothes and carried poles before them, and to these were fastened flags; and they shouted loud, and the people think that this was White-man's land, or Great Ireland.

"Biarne Grimolfson was driven with his ship into the Irish ocean, and they came into a worm sea, and soon the ship began to sink under them. They had a boat which was smeared with sea oil, for the worms* do not attack that. They went into the boat, and then saw that it would not hold them all. Then said Biarne: 'As the boat will not hold more than half of our men, it is my counsel that lots should be drawn for those to go in the boat, for it shall not be according to rank.' This they all thought so generous an offer that no one would oppose it. They then did so, that lots were drawn, and it fell to Biarne to go in the boat, and the half of the men with him, for the boat had not room for more. But when they had gotten into the boat, an Icelandic man that was in the ship, and had come with Biarne from Iceland said: 'Dost thou mean, Biarne, to leave me here?' Biarne said: 'So it seems.' Then said the other: 'Very different was the promise to my father when I went with thee from Iceland, than thus to leave me, for thou said that we should both share the same fate.' Biarne said: 'It shall not be thus; go down into the boat, and I will go up into the ship, since I see that thou art so anxious to live.' Then Biarne went up into the ship and this man down into the boat, and after that they went on their voyage until they came to Dublin, in Ireland, and there told these things; but it is most people's belief that Biarne and his companions were lost in the worm sea, for nothing was heard of them after that time."†

Another account of this expedition differs somewhat from the one just given. According to the second, the expedition, carrying one hundred and forty men, first sailed to Westbygd and Biarney Isle. They left the latter place with a north wind, and after a day and a night came to Helluland. After another day

*It is but just here to remark that Vicary uses the word snakes, and says: "The story of Biarne sailing into a sea on the coast of Ireland so full of snakes that the ship sank, while half the people on board the ship were saved in a small boat, is not credible".—*Saga Times*, p. 201.

†Pp. 121-137.

and a nights' sail they reached Bear Island. Another sail, occupying the same length of time, brought them to Kiarlarness, and called the shore Wonderstrand; and here they put the two Scots—Hake and Hekia—and told them to run southward and explore the country. Three days later they returned with a vine and self-sown wheat. Thence the ships proceeded to Straumfiord, where they landed and prepared habitations, and here they wintered. They were in want of food, and failed to catch fish, as the winter was severe. They sailed over the island, hoping to obtain subsistence, but only found little better fare. They prayed to God to send food, without answer. Then Thorhall disappeared, but after three days was found by Karlsefne and Biarne lying on top of a rock, and having asked him to go home with them he complied. After that a whale was cast up, and they partook of it, and all were made sick. Thorhall boasted the whale was given in answer to a hymn he had composed to Thor. When they heard this they would not partake any more, but threw what was left from the rock and committed themselves to God; then there was no lack of food. The company now parted, Thorhall, with nine men, going northward to explore Vinland, and Karlsefne, with the rest, went south. "Thereupon Thorhall sailed northward around Wonderstrand and Kiarlarness, but when they wished to cruise westward a storm came against them and drove them to Ireland, where they were beaten and made slaves. There Thorhall passed his life." Karlsefne and his party sailed south. "They sailed long until they came to a river which flowed from the land through a lake, and passed into the sea. Before the mouth of the river were great islands, and they were not able to enter the river except at the highest tide." They called the land Hop, and there found wild corn and vines. Here they spent the winter, when no snow fell. Here they caught the two Skrælling boys. Thence they went to Greenland and passed the winter with Leif Erikson.

In this second account the distance from Greenland to Vinland is definitely given as three days' sail. While the two accounts are substantially the same, yet there is some material difference. The winter they were pressed for food, the second account narrates, "they sailed over the island, hoping that they might find means of subsistence," while in the first this important event is entirely omitted. The battle with the Skrællings, the most striking of all the events in the three narratives, is entirely omitted in the second and differs materially in the third. That no snow should fall in the Eastern United States would be a remarkable event. A like occurrence is not mentioned since the landing of the Pilgrims. It must have been very striking even to a Norsemen, and yet entirely omitted in the first and third narratives. The second account declares that Biarne was carried into the Greenland Sea, where he came into the "worm

sea," but does not state where the ship's crew landed, but allows us to suppose they landed in Greenland.

The third narrative does not mention Biarne and Thorhall, but says that Karlsefne was persuaded by Gudrid and others, and the expedition set out with sixty men and five women, with the agreement that all should share alike in what they gained. "They put to sea and came to Leif's houses safe and carried up their goods." Soon after a whale was driven ashore, and they had plenty of food. No account of its having made them sick is given. No account of their starving is given. The Skrællings came, and when they saw the milk and dairy products they would buy nothing else, and the trade was such that the Skrællings "carried away their winnings in their stomachs." When they became frightened at the bellowing of the bull they sought refuge in the houses, but were prevented entering by Karlsefne. The house was now strengthened for defense by building around it a strong fence. In the beginning of the following winter the Skrællings, in greater numbers, returned and threw their bundles over the fence, for which they received the same as before. While Gudrid sat in the door, "there came a shadow to the door, and a woman went in with a black kirtle on, rather short, with a snood around her head; clear, yellow hair; pale, with large eyes, so large that none ever saw such eyes in a human head. She went to where Gudrid was sitting, and said: 'What art thou called?' 'I am called Gudrid; and what art thou called?' 'I am called Gudrid,' said she. Then the good wife Gudrid put out her hand to her, that she might sit down beside her. At the same time Gudrid heard a great noise, and the woman had vanished." No one else saw this strange woman. At the same time one of Karlsefne's men killed one of the Skrællings. Soon after they had a battle, in which many of the Skrællings fell. Here Karlsefne stayed the whole winter, and in the spring returned to Greenland. In this narrative the third year of their stay is entirely omitted.

In addition to the above it should be remarked that the following items must appear to be conspicuous in the narratives of Karlsefne's expedition: *a.* There is that same indefiniteness about the coast and description of the land characteristic of all the other narratives, and which might apply almost as well to one country as another. It is an exhibition of fictitious land, intended to help out the picture which the reciter finds necessary to create, not intended to be located or regarded as veritable history. *b.* The number of men engaged in the expedition in one account is given at one hundred and forty, and in the third it is reduced to sixty. So the ships fall off from three to one. *c.* The time of sailing in the first narrative—not regarding the modern punctuation—is given at one day and a night to Helluland, the same to Markland; but the time to Wonderstrand is that "they

sailed long south by the land." In the second account the whole time occupied in sailing is but three days. The last version does not give the time, showing that the distance must have been considered to be insignificant. *d.* The first account declares that Thorwald Erikson was slain by an arrow shot by a Uniped. The same Codex Flatoyensis declares that Thorwald was killed by a Skrælling in a previous expedition. As both accounts give battles with the Skrællings, it is probable these stories were gradually evolved out and developed from the same source. *e.* The story of the Uniped, and the yellow-haired woman visiting Gudrid, belong to the mythological and miraculous. *f.* The account of the five Skrællings in Markland is very doubtful. The boys were seized and taken to Greenland, but the bearded man and two women sank into the earth and disappeared. The names of the boys' father and mother—Vathelldi, or Vethilde, and Uvæge—are decidedly Northern, while the kings' names—Avalldania and Valldidia, or Valdidida—are fragments of Northern names thrown together to constitute fictitious ones. Why these Skrællings should have white neighbors, who carried banners on sticks, must be left solely to the creative fancy of the reciter. That it was borrowed from the European nations no one would desire to question. The names of the Scots—Haki and Hekia—are by no means Gaelic, but are decidedly Scandinavian. *g.* The story makes the eider-duck lay eggs where, during the same week, the grapes ripen and intoxicate when fresh, and the wheat forms in the ear; an incongruity which could only happen among a people not familiar with the things treated. *h.* The story of the punishing of Thorhall the hunter for his impiety, and the rewarding of Karlsefne for throwing away the meat of the whale brought thither by the god Thor, indicates that the first legend had passed through monkish hands. It is exceedingly crude, and perhaps told to show the inferiority of the Norse god. *i.* The ship driven into Dublin, Ireland, with no account of the sail, proves that the story of Vinland is laid at no great distance from Ireland. But why they were driven upon the east instead of the west coast must remain an inexplicable mystery.

The next voyage in the series relied on to establish the Norse theory is the so-called narrative of Freydis, Helge and Finboge. It starts out by declaring "the conversation began again to turn upon a Vinland voyage, as the expedition was both gainful and honorable." In the summer of 1010 two brothers, Helge and Finboge arrived in Greenland from Norway. Freydis, she who had so successfully frightened the Skrællings in Vinland, proposed to these brothers that they should make a voyage to Vinland, and offered to go with them on condition that an equal share should be allowed her; which was agreed to. It was further agreed that each should have thirty fighting men, besides women. Freydis secretly brought away five more than the al-

lotted number. Having spent the winter in Vinland, Freydis prevailed upon her husband to slay Helge and Finboge, with all their men; the women with them she killed with her own hand. She returned to Greenland in the ship owned by the two brothers with all the goods the vessel could carry.

This story says nothing of the voyage from Greenland to Vinland, nor any account of the country; but apparently had no difficulty in finding the houses erected by Leif Erikson. They left Vinland in the spring, but what time is not stated, although the ship was made ready early in the spring. They "had a good voyage and the ship came early in the summer to Eriksfiord."

Human credulity, in many cases, can not be overtaxed. It has been gravely put forth* that in the year 1312 Bishop Arne, of Gardar, preached the crusades, not only in Iceland and Greenland, but also in America! That a ship arrived from Greenland in 1325, bringing "the tithes from the American colonies, consisting of one hundred and twenty-seven pounds of walrus-teeth, which were sold to Jean du Pre, a Flemish merchant, who paid for them twelve livres and fourteen sous." As the narrations do not record any permanent settlements in Vinland, just what particular object the worthy bishop hoped to obtain, it would be difficult to conjecture. The donation of two dollars and thirty-five cents' worth of walrus-teeth, and that given after a delay of thirteen years, would appear to be an ironical appreciation of the energies of the bishop. As the habitat of the walrus is confined to the northern circumpolar regions of the globe, and as the contribution consisted in the remains of this animal, it would be but fair to conclude that it was the principal product, and hence Vinland must be sought in the far north.¹

Having presented the special character of the sagas, and given something of a detailed account, in the next place the general features must attract our attention.

As has already been observed, the evidence of the reputed Norse discovery of America rests solely on the statement of the *Codex Flatoynensis*. A discovery so great would have found its way into the other sagas, and yet they are silent on the subject. In the *Heimskringla*, Snorri Sturlason is made to say, "Leif also found Vinland the good." If Leif had made a discovery of a continent like that of America it is not probable that Snorri would have dismissed the subject in so abrupt a manner. He would have seized upon it, and magnified the achievement, and graced it with the power of his pen, as has been exhibited in his *Edda*. We would have been treated to other Thucydidean speeches, similar to those that mark his productions.

As a constant communication was kept up between Iceland

*John B. Shipley's "English Rediscovery of America," p. 6.

and Ireland, it would be but reasonable to infer that the national records of the Irish would contain some account of the important discovery. The Irish annals have been relied on so much to solve historical problems, and have been of untold advantage, yet they are entirely silent upon this subject; although the Irish character entered into the very life of the western sagamen.

Saxo-Grammaticus, the most celebrated of early Danish chroniclers, who, according to his own statement, derived his knowledge of the remoter period of Danish history from old songs, runic inscriptions and the historical narratives and traditions of the Icelanders, makes no mention of this story, although he lived as late as the year 1204.

Although the Codex Flatoyensis gives a graphic and terrible picture of shipwrecked colonists in Greenland, yet is utterly silent on what must have been the sufferings of Biarne Grimolfson and his companions when driven from the coast of America to Dublin. And yet that stormy passage of nearly three thousand miles was made as though it was but a pleasant day's sail.

The ease with which the houses of Leif in Vinland were found on each succeeding voyage must be a matter of surprise to every one who has read the narratives. The ships seem to have been attracted to the spot as readily as the needle points to the pole.

Why so much space in the sagas should be taken up with endless genealogies, and the discovery of a vast continent passed over without description—vague, it is true, is given, uncertain, indefinite—as to surface, coast line, climate, or the wonders in the wilderness, must serve to dumbfound even its most voluble advocates. The animal life that existed in the forests of Massachusetts, Maine and Connecticut did not call forth any notice. True, they saw a bear, but its color or size elicited no attention, though they must have seen the polar and the Norwegian bears. Can it be possible that they were so dumb to nature as to allow its wonders to escape their attention? Minute the sagas are in minor things, is it possible the greater things caused them not to wonder?

If they landed in Massachusetts, or on any part of the eastern coast, the advantage of the situation over that of Greenland or Iceland must have been so patent as to cause a wave of immigration to have set in as would have depopulated Greenland, materially have affected Iceland, and even felt in Norway.

Norway abandoned the Greenland settlement, but did not forget there was such a place. Vinland was forgotten and the Norse discovery was not resurrected until 1570, when Ortelius, cosmographer to Philip II. of Spain, resurrected it. If the Norse discovered America, and made one or more voyages to it, and then forgot that discovery, or hid the report, then it must be to them a shame which time will fail to eradicate. To claim that the Norsemen discovered America is an impeachment of their

intelligence. That there was a Leif Erikson, and that he was the son of Erik the Red, and made his home in Greenland, perhaps no one would desire to deny; that he came upon a land which he gave various names to, is not only possible but also probable. That the land he discovered was not so well situated or attractive as the home of Erik is proved from the fact that he abandoned his houses in Vinland and returned to his former home. All the facts in the case would point to Western Greenland as the scene of the achievement of Leif Erikson. The Skrællings were Eskimos, as may be learned from the descriptions given: "These people were swarthy and fierce, and had bushy hair on their heads; they had very large eyes and broad cheeks." In 1342 the Eskimo so imperilled the western colonies of Greenland that they were abandoned. These settlements could not have been strong, and probably were made after the death of Leif.

How much dependence can be placed in certain statements must be left to conjecture. No reliance can be placed in the points of the compass, for with that instrument they had no acquaintance. It must be regarded as comparative, when the direction of the ship's sailing is given. In Leif's voyage the shortest day in Vinland was from "dagmaal til non," that is, from nine to three.

In the legends of Greenland and Iceland sufficient data had been preserved upon which such a narrative could be built as would tickle the ear of those whose ancestors were lauded. As has been seen, these narratives are crude and poorly constructed, but clearly represent the beginning of fiction, which might have been better adorned had they fallen into more competent hands.

The mighty ocean stretching out itself beyond the Pillars of Hercules, Ireland and the Western Isles, afforded food for the imaginations of men. The influence was felt by the sagamen, who pictured a body of land west of Ireland and within easy sail. Tales grew out of this pictured land, which have been preserved in their writings. One of these is the story of Gudleif Gudlaugson, preserved in the Eyrbyggja saga. Near the end of the reign of King Olaf, Gudleif went on a trading voyage to the west of Dublin. On his return to Iceland, sailing west from Ireland, he was driven far into the ocean by northeast winds. At length they saw land of great extent, and finding a good harbor they went on shore, where a number of men met them, and from their language took them to be Irish. Soon after many hundreds surrounded them, who seized Gudleif and his companions, bound and drove them inland, where they were brought before an assembly which decided what should be done with them. There was a division in the council; some were for killing them, and others were for reducing them to slavery. "While this was going on, they saw a great number of men riding towards them with a banner lifted up, whence they inferred that some great

man was among them. When the company drew near, they saw a man riding under the banner." To this man their case was referred. He commanded them to be brought to him, and addressed them in the Norse tongue. When he discovered they were Icelanders, he declared he was from Bogafjord, and made many inquiries concerning certain people. He refused to disclose his name, and, although the summer was nearly gone, he advised them to leave, and looked to the fitting out of their ship. Gudleif, with his companions, put to sea, and the same autumn reached Ireland, and passed the winter in Dublin.

According to the Landnamabok, Are Marson, about 928, was driven by a storm to White-man's land, which some call Ireland the Great, which lies in the western ocean, opposite Vinland, six days' sail west of Ireland. Here he was baptized, not allowed to leave, and was held in great honor.

In presenting these tales the reciters do not get rid of their conceptions of European customs. In the fabulous land, men continue to ride on horseback and follow banners. Even the Christian religion early reaches out its arm there; but what saint propagated the new doctrine deponeth saith not.

The idea of superstition must not be lost sight of in this discussion. It had a bearing on these narratives, as has already been intimated. In saga time it is impossible to draw a line between superstition and religion. Their superstitions were rude in shape and vigorous in imagery. The composers of the sagas, although supposed to be Christians, were swayed by the superstitions of their age. As an illustration of this fact, the following may be given from the saga of Thorfinn Karlsefne: There was a witch named Thorborg, who was called upon during a time of evil in Greenland. She was accorded the seat of honor, wore a blue cloak, laced in front and covered with precious stones. On her head was a black lambskin, trimmed with white cat's fur, while in her hand was a staff, the top of which was brass inlaid with precious stones. Around her waist was a belt, from which hung a bag containing materials for fire, and the articles used in sorcery. After making the witches' broth, some other woman must sing the witches' chant. The women of the house were placed around the caldron, and Gudrid sang so sweetly that the spirits revealed that as the winter passed away so would the bad times and the pestilence should decline. These superstitions gave a coloring to what was written; and the sagas bearing on the Norse discovery should be read in their entirety, and not solely that part relating directly on the subject.

MAJOR JOHN W. POWELL.*

Major John Wesley Powell, Director of the United States Geological Survey, Director of the Bureau of Ethnology (Smithsonian Institution), and the most prominent scientist in America, was born of English parents at Mt. Morris, New York, March 24, 1834. His father, as the name of the son indicates, was a Methodist in religion, having been a preacher in the old country, and continuing his calling in the new. Indeed, so entirely did he come eventually to devote himself with stern enthusiasm to the salvation of souls as to throw early upon his boy responsibilities which aided in his development, but were somewhat of a crucial test. When John was seven years of age the family removed to Jackson, in southern Ohio, where the agitation of the slavery question was rife, and where his father took active part with the few but determined advocates of abolition who faced the opposition of the rest of the neighborhood. So strong was the feeling against the older Powell, Dr. Isham, and other kindred spirits, that on more than occasion mobs were aroused, and one of the professors of Oberlin College was assaulted on his way to the Powell household. At one time it was not considered safe for John to attend school, and his earliest instruction, not to say the entire future bent of his mind, was received from an eccentric old scholar of the name of Crookham, an ardent student of nature, with whom he roamed the woods and fields, and in whose library and museum, contained in two log houses, his love for science had its birth. When he reached the age of twelve, the family removed to Walworth County, Wisconsin, John driving one of the vehicles which contained the household goods; and here he became the virtual head of a farm of sixty acres, directing as well as laboring day by day, while his nights were devoted to the perusal of such books as came in his way, his thirst for knowledge growing with his growth. On the long journeys performed by ox-team, in which he hauled wheat to market a distance of fifty to sixty miles, about twelve such being made every fall and early winter, he carried works of history and natural science in a box underneath his seat, and profited richly by the long hours of what would have been inexpressible weariness to boys or men unaccompanied.

At sixteen, after a short period of intense application, he secured a situation as teacher, with a salary of fourteen dollars a month, and in his little stone school-house on Jefferson Prairie initiated a series of lectures on geography, one night in every week, which were attended by grown people for miles around.

*This sketch of Maj. Powell is one of a series we hope to give in future numbers. Our readers will thus become acquainted with the leading writers in archaeology.

In these he condensed his varied reading and research, inspiring while he gratified a desire for information; and in alternate physical labor and teaching, with interrupted courses at Jacksonville and Oberlin colleges, the years prior to the war were spent. By far the greater part of his education was acquired alone, and though capable of graduating at any western college, and ambitious of doing so at some one of the great institutions of the east, he received no degree, until, in later years, not only his own country but Europe also hastened to proffer him complimentary honors.* His vacations were spent traversing, for the most part on foot, the States of Iowa, Wisconsin, Illinois, Michigan, and the Iron Mountain region of Missouri, in which last he lingered so long, collecting mineral specimens, as to exhaust his means completely and to embarrass him seriously on his return home. Many a night was spent in the open air, his magnificent physique responding to the demands of enthusiasm and gaining strength by the tests to which it was exposed. In 1859 he was made Secretary of the State Natural History Society, and about this time his attention was first turned decidedly to geology—botany and zoology having hitherto engaged his attention to such an extent that he was reputed, in the vicinity of his home, to be on terms of personal intimacy with snakes, whom he summoned by name from their retreats, and to possess fabulous curiosities.

With a hereditary hatred of slavery, and burning for the preservation of the Union, he enlisted in the Second Illinois Volunteers, at Hennepin, Illinois, where he was engaged in teaching, in 1861, and at once applied himself to the study of military science, procuring, on a hurried visit to Chicago, the works of Vauban and Mahan. As an engineer, he suggested the plan of fortification for Cape Girardeau, under General Fremont, the work on which he also directed for a time. Under General Grant he was made captain of artillery, and, with his battery (F, Second Illinois,) finely disciplined and equipped, took part in the battle of Shiloh. Here he lost his right arm. Later, as acting chief of artillery, in command of three batteries under Ransom, he constructed the bridges and roads on the march to Grand Gulf; was engaged in the battles of Champion Hill and Black River Bridge, and during the investment and siege of Vicksburg, where he spent the "forty hardest days of his life," was thrown into constant intercourse with General Grant in the laying out of the parallels, carried up to the very ditches of the main line of the enemy, the most of which was done by night. After the surrender of the city, upon which Powell's batteries were to open fire at daybreak of July 4, he returned for a time to his home, being obliged to undergo resection of his arm, but rejoined the army in time to assist in the Meridian raid as major

*In 1886 he was made honorary LL.D. of Harvard and Ph. D. by Heidelberg University, Germany.

and chief of artillery, having declined a colonelcy of colored troops as likely to take him out of the field. With Sherman he entered Atlanta, and having been sent with sixteen batteries to Nashville, found himself at the front in the battle of Franklin, where his guns did effective work.

During the long and arduous four years of the war his scientific pursuits were necessarily held in abeyance, though they were by no means abandoned, as a valuable collection of fossils from the Vicksburg region presented to the Normal State Museum of Illinois attests. After his return to civil life, he cheerfully exchanged the office of county clerk of Du Page County, Illinois, to which he had been elected, and from which he received a compensation of from \$5,000 to \$6,000 yearly, for a modest professorship of geology at Bloomington University, which brought in \$1,000. He also lectured at Normal University, for which he secured an appropriation by the legislature for the purpose of creating the museum, and by his ardent efforts was largely influential in the movement to introduce scientific studies into college curriculums throughout the country.

In pursuance of his theory of the necessity for field work, he organized, in the spring of 1867, one of the first expeditions of students to the West to make explorations and collections in natural history and geology. Accompanied by Mrs. Powell, the party of eighteen crossed the plains of Colorado when, prior to the building of the Pacific railway, danger was to be anticipated from Indian tribes; and when the others had returned home, after ascending Pike's Peak, no trifling feat before a trail was in existence, and Mt. Lincoln, over 14,000 feet high, the professor and his wife pushed on into Middle Park, remaining until the heavy fall of snow. The expedition of the following year was undertaken with assistance from other institutions besides the Bloomington University, but principally from the Smithsonian, and thanks to General Grant, provisions were ordered by Congress to be furnished to the party at military posts where they might turn up. Here, again remaining with his wife after the rest had faced eastward, Major Powell planned the exploration of the Colorado canyons, completed the following year—the perilous achievement with which his name will ever be connected, and the story of which, told in a government report in terse, vivid language, thrills with a power like that of romance.* The adventures, more remarkable when we reflect upon the serious disadvantage at which Major Powell was placed by the loss of his right arm, the sufferings and privations, the dangers and the final success, when the whole band had been given up for lost and search was being made for any traces of

*Since this has been put in type, the writer learns that a revised and enlarged edition of Major Powell's report on the exploration of the Colorado River will appear in a few months from the Chatauqua-Century press, and that it will be one of the most handsomely illustrated books ever issued from the American press.

them, seem hardly to belong to the prosaic nineteenth century. Here, it must also be observed, the attention of the explorer was turned toward the primitive inhabitants of these regions, their languages, habits and antecedents. Thus, by progressive stages, investigations in ethnology were reached, and the great problems of archæological research pressed their claims upon a mind which had added so much to our knowledge of the earth to which man is born and which he inhabits.

To his survey of the Rocky Mountains Congress lent considerable aid, though every dollar of the appropriations was expended upon the work and Major Powell received no personal compensation, but supported himself by lecturing and writing. When Congress consolidated his survey with those of Hayden and Wheeler, to form the United States Geological Survey, with Clarence King as director, Major Powell became the director of the Bureau of Ethnology under the Smithsonian Institution, and in 1881, on the resignation of Mr. King, he succeeded to the office he at present holds, receiving the extraordinary honor of appointment by the President and immediate confirmation by the Senate. His connection with the project for irrigating the arid lands of the West is well known, as he has advocated the survey of the lands and streams by government since 1877. His discoveries in geology rank him among the foremost scientists, and he has proposed for scientific literature a number of words which have been adopted into the language. The results of his studies of the North American Indians are to be found in numerous books, periodicals and papers; he is the undisputed author of a theory of anthropological evolution, and he moreover is decided in his own mind, and argues convincingly to prove that the mound-builders of our country were no prehistoric race, of higher civilization and attainments than the red man of to-day, but were simply his predecessors, using the same weapons, tools, etc., and following the same lines of thought and action. Major Powell has held the office of President of the American Association for the Advancement of Science, the largest body of scientific men in America, and is a member of the National Academy of Sciences.

Without attempting to characterize a man whose life work speaks louder than tongue of friend could praise or voice of enemy blame, it may be given as one suggestive statement that so far from desiring by his own intense individuality to absorb or overshadow those whose coöperation is necessary to his present position, it is his endeavor to cause everywhere recognition, and to give credit to all who do deserving work. Though resolute in his convictions, and business-like in his methods, he seems to be beloved by all of his subordinates, and he has done much to create a spirit of fraternity and mutual good-will among the scientific men of Washington and of the country.

THE "OLD FORT" OF SALINE COUNTY, MISSOURI.

By T. H. LEWIS.

On the south side of the Missouri River, about two hundred and seventy miles from its mouth, is to be found a curious structure of earth in the nature of embankments and ditches, which, running all around the summit of a spur, form a narrow elongated enclosure of winding form. Naturally this place has been locally known from the time of the earliest settlements of the Americans in the Missouri Valley, but it does not seem to have been brought to the notice of the world at large until the publication of the Annual Report of the Smithsonian Institute for 1879. In this book, in the appendix, there is a paper by G. C. Broadhead, entitled "Prehistoric Evidences in Missouri." The testimony of this gentleman in the matter of this ancient earth-work is as follows: "In Saline County, Missouri, four miles southwest of Miami, I visited, in 1872, an interesting locality, showing ancient earth-works, walls and ditches, on high ground, in a dense wood. The outline was somewhat of a circular shape, though quite irregular, caused by ravines breaking off near the outer rim, the walls being re-entrant in such places. The enclosed space is about forty acres, around which there are partly extended three ridges and three valleys, or rather depressions, where at one time existed deep ditches. We have first a ridge eight feet wide and three feet high, then a ditch six feet wide and three feet deep, then a ridge eight feet wide and three feet high, then a ditch ten feet wide and three feet deep, and lastly a ridge ten feet wide and a foot and a half high. The ridges were apparently entirely formed of earth dug from the ditches, and two of them extended entirely around the space. No rocks appeared near by or in the enclosure. Black-oak trees, three to five feet in diameter, were growing over the walls, ditches and inner area, and the whole surface was covered with a dense and luxuriant growth of bushes, vines and trees. The ridges had certainly been at one time much higher, and the ditches much deeper. This overlooked the Petite Osage plains on the west, celebrated for their beauty and fertility."

Still further on in the volume is to be found Dr. J. N. Dunlap's account of the same place, which had appeared earlier in *The Miami Index*, presumably, and is now again produced, being in the following words: "It crowns the summit of a ridge which terminates in one of the so-called 'pinnacles' of this region. There is a double ditch and double embankment, embracing an

oval area of fifteen acres, and also a secondary ditch and embankment adjoining on the west, with an area of perhaps eight or ten acres. The ditch is now, after the lapse of centuries, in many places five or six feet deep. One reason for using the word centuries is the fact that in the ditch we found stumps of black-oak trees recently felled, measuring from forty-five to fifty inches in diameter, and a growing tree that could not be encircled by the extended arms of two large men. The approaches of the elevation on which this fortification is situated are exceedingly steep.

At the base of the pinnacle in which the ridge terminates is a spring, which, we are informed, is subject to periodical ebbs and flows; its basin when seen by us was probably twenty feet in diameter. We think that the water was designed to be protected by the fortification."

The next account of this place is given in connection with an attempt to establish the proposition that the earth-works were not the making of Mound-builders or Indians, but of the French, in the beginning of the last century. Mr. R. I. Holcombe, a man of letters well known in the northwest by his local histories and other writings, has quite recently written about the subject. On the strength of the well-known historical fact that in 1723 a French military post was built "at the Missouri," called the *Fort d'Orleans*, and of the further official statement—first printed in 1886—that the Missouri's village was only six leagues (or about sixteen and a half miles) above the Grand River on the south side, and was the place where the commander was "to establish himself," he, after an examination of the "fort on the pinnacles," became convinced that it was no other than the said post of the French. The most essential passages of his paper, which appeared a little over a year ago in a popular journal, are the following: "In the spring of 1881, in company with Dr. Dunlap, of Miami, your correspondent visited this spot and spent some hours in its examination. The old fortification has often been visited, but only by a few who have professed to be able to characterize it, and these, without careful investigation, have generally concluded and stated that it was an old Mound-builders' fort. It is situated, as stated, on the summit of a high bluff, or 'pinnacle,' whose western face descends somewhat abruptly to what is now the first bottom of the Missouri. The bottom at this point is nearly a mile wide, so that the ruins are about that distance from the river proper."

Mr. Holcombe then conjectures that at the time the fort was built the said bottom, some miles in length, was a large island, made so by an arm of the river or the main channel running along the base of the "pinnacle." Of the fort itself, he says:

"On the river side of the old fort, when I saw it, there was an opening in the walls twenty feet wide, and a well-defined graded roadway leading to the foot of the bluff. Presumably

the opening and roadway were for communication between the fort and the river landing. At the eastern extremity of the fort was another gap in the walls leading to the open country. The remaining portions of the walls were complete and intact, save that the rains had washed and lowered them and in a few places had nearly leveled them. Their height was two or three to five feet. From the general appearance of the fort, the manner of its construction, its engineering features, its angles, approaches, etc., I could but conclude that it was of comparatively modern construction—not by any means the work of the Mound-builders or any other prehistoric people. A marked circular depression in the ground within the walls, from certain peculiarities, indicated an old cistern, or perhaps a cellar or *cache*. Some elevated beds in which, by digging, remains of wood ashes were found, had the appearance of marking the site of burned buildings. Not a scrap of pottery, not a lance-head, arrow-head or any other relic of the Mound-builders was found."

"At the time of my visit the site and the land adjoining were well covered with a heavy growth of timber. Trees nearly two feet in diameter were growing on the walls. A negro tenant, whose cabin stood a few hundred yards away, was clearing off the site of the fort for a 'truck-patch.' He had cut down one of the largest that had stood on the walls, and on counting the rings of growth on the stump it was found that they did not indicate that the tree was more than one hundred years old. * * * The old earth-work on the 'pinnacles' was originally so strong, from its character and natural situation, that it would have resisted any bombardment or assault that might be expected to be made upon it. A better position could hardly have been selected."

* * *

Having the benefit of all the foregoing information (though neither account included any map or plan), but not being able to make up my mind as to the true character of these earth-works, it seemed that the best thing to do would be to make a trip to Miami, and carefully survey all the walls, banks and ditches to be found at the site of the "Old Fort on the Pinnacles." This was done on the 6th of May, 1891. The results of my work now follow here in the shape of a description in words, illustrated by a ground plan properly drawn from a platting of the field notes then taken.

This enclosure is located on the west half of the southeast quarter of section twenty-four, town fifty-two, range twenty-two, and surrounds the major portion of a high spur, the sides and slopes of which are very steep and in places almost abrupt. The east side borders a deep ravine, and it was in the bottom of this

ravine that the occupants must have obtained their water supply, for there is no other place in the immediate vicinity where it could have been procured with any degree of safety in case of a siege. The Tidal Spring—the spring referred to by Dr. Dunlap—which is near the foot of another spur, is too far away to have been of any service in times of urgent necessity, for the fort does not command it.

The first or inner line of defense is formed by a terrace or "scarp" which extends all around the enclosed area excepting at the gates, and the top of which is on a level with, or higher than, the embankments. Its height varies from two to five feet; or, if taken from the bottom of the ditch where it parallels the terrace the elevation would be from two and one-half to six feet. None of the embankments or ditches extend all the way around.

The inside embankment, which is the highest, is from two to four and one-half feet in height, or, adding to its elevation the depth of the inner ditch, the height would be from three and one-half to six feet. Its average height above the bottom of the ditch would probably be about four and one-half feet. It is broken, or not connected, at three different places, but the reason for leaving these spaces is not very apparent at the present time.

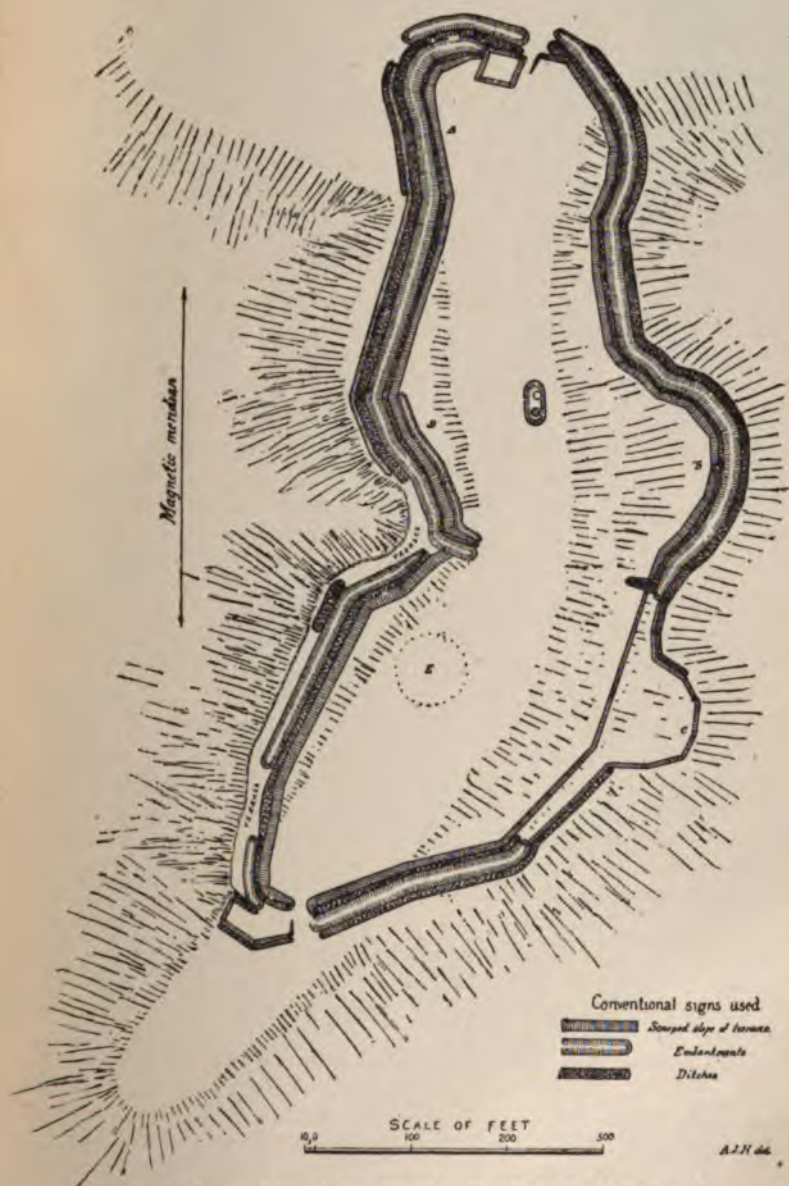
On the west side of the north end (at A) in addition to the terrace there are two embankments and three ditches. The inside embankment is three feet in height and the outer one only one foot high. The first or inner ditch is one and one half feet in depth, and the other two only one foot each in depth.

On the west side (at B) there is a low embankment, one foot in height, which is inside of the edge, and extends along the top of the terrace for a distance of one hundred and eighty-two feet. At this point, for a short distance there are three embankments and two ditches. The outer wall, or embankment is one foot high, and the central one four feet in height.

On the east side there is an embankment from two and one-half to four and one-half feet in height, and two ditches. The one inside averages nearly two feet, and the one outside of the embankment about one foot in depth.

On the southeast side (at C) there is a double line of terrace work. The one on the inside is two feet in height, and the outer one from two to four feet high. There is a slight ditch at the south end, and at the north end there is a continuation of the outer ditch, which, at this point, is from three to four feet in depth; but these ditches only extend along a part of the line. The top of the outer terrace at the lowest point is nearly forty feet lower than the top of the main spur to the west.

On the south side the embankment is three feet in height and



THE "OLD FORT" OF SALINE COUNTY, MISSOURI.

the two ditches about one foot each in depth. On the west side of the north part, in addition to the terrace, ditch and embankment, there is a low terrace on the outside.

It should be fully understood that in giving the height of the embankments and depth of the ditches the figures are more or less approximate, being necessarily so on account of the peculiar construction of the works themselves and the relative position on the slope of the spur. The top of the bank on the inside of the main (inner) ditch undoubtedly had a large amount of earth added to it, making it a true terrace. Likewise the main embankment also had much more earth in it than was originally obtained from the ditches. For these reasons it is hard to draw the line at the original surface of the slope and determine what the true height of the embankment and the terrace is, or the exact depth of the ditch between. The height of the other embankments, and the depth of the the ditches outside of the main one, are easily determined, and where given are correct.

On the west side of the northern gateway, or entrance, there is a low platform mound, which is two feet in height. The top is thirty-two feet in length and twenty-seven feet in width, and the base forty-two feet in length and thirty-seven feet wide. This mound is most probably older than the other works, advantage having apparently been taken of its position in constructing the adjoining works; for the peculiar way in which the terrace and ditch are joined on to the west side of it indicates at least a slight difference as to the time of their construction, although only a short period may have elapsed.

The entrance here is ten feet in width between the terrace and the base of the mound, and from the northeast corner of the mound, extending southward along its east side, there is a slight grade or ascent to the interior of the enclosure. The space between the end of the outer embankment on the west side and the end of the ditch on the east side is twenty feet. This gateway was the only direct outlet to the open country beyond.

The northern portion of the passage at the southern gateway is fifteen feet in width between the ends of the terrace, and the outer part is twenty-eight feet in width between the base of the terrace on the west side and the end of the embankment on the east side. There is also a slight grade, but for the most part this is natural. This seems to have been the only outlet for obtaining water. Beyond the gate there is no regular roadway, but apparently an old trail led down the east side of the spur to the mouth of the ravine and thence into the bottom which extends along the old lake, a vertical descent of about three hundred feet. At some time in the past this old lake was the main channel of the river, which is now one and a half mile distant.

On the west side of this gate, but outside of the main enclos-

use there is another smaller enclosure immediately adjoining it. This small annex has almost the appearance of a low mound, but it is constructed on the same principle as the larger one, the inner defensive line being a terrace two feet in height extending along the southern and western sides. There are slight terraces along only a part of the northern and eastern sides. There is also a slight ditch one foot in depth along the southern and that portion of the northern side where terraced.

On the east side of the ridge in the northern section of the fort there is a short embankment forty-seven feet long, twenty-two feet wide and one and a half feet high. On the top of this there are the remains of two *caches*, which are from one and a half to two feet in depth. It must have been these caches that gave rise to the reported existence of an old well within the enclosure. In the main ditch (at D) there are the remains of another *cache* which is now only one and a half feet in depth.

On the west side of the south part of the fort (at E), on the highest point of the ridge there is an artificial elevation, which is from three to four feet in height, and which looks as if it were a partially leveled mound. If that be the case the work was done before it was covered with a heavy growth of forest trees and most probably at the time the fort was constructed. Under one side of a large stump located on the side of this elevation some one had dug out an ancient aboriginal fire-place, which was composed principally of flat pieces of lime stone that had been subjected to heat. There was also considerable ashes' together with calcined bones and charcoal.

All of the enclosed area, with the exception of the artificial elevation just mentioned, where an old frame house now stands, has been cultivated. But luckily only a portion of the northern wall and the southeast terrace has been disturbed, and these lines are not obliterated or even damaged to any great extent. Small fragments of pottery, chert spalls, arrow-heads, scrapers and small pieces of burnt stone are to be found, here and there, on the surface, but in no great quantities, showing that the place was not occupied for any great length of time.

The above is a good description of the "Old Fort at the Pinnacles" as can well be given under the circumstances, and though somewhat lengthy is not more so than the merits of this interesting work call for. As a basis for comparison with other ancient earthen enclosures exact figures of dimension, deduced from the field notes and map, are now given:

The longest air line that can be drawn across the works, from outside to outside, is 1015 feet, or very nearly one fifth of a mile. The greatest perimeter or circuit, being the length of a line drawn on the natural surface, close to the outside line of all the terraces,

embankments and ditches, measures about 2800 feet, or a little more than half a mile. The ground area enclosed by all these works is as follows:

	ACRES.
1. In the main enclosure, as limited by the top line of the inner terrace,	4.47
2. In the outlying portion (c), between the top of the inner terrace and the top of the outer,	.30
3. In the small annex (omitting any portion of the roadway there),	.04
TOTAL,	4.81

* * *

About one-half mile to the northeast, on the crest and gentle slope of the main ridge, there are the remains of an ancient town-site—the so-called battle-field. The soil to the depth of several inches is filled with debris consisting of broken pottery, burned stones, chert spalls, fragments of animal bones, etc. There are also arrow and spear-heads, stone axes and hammers, and other implements occasionally turned up by the plow. On a little ridge to the southeast are several round mounds, now cultivated, also a few others to the west and northwest on the spurs. These mounds were doubtless built by the people who formerly occupied the town-site, but they did not contain all their graves; for human skeletons are occasionally found on the old site, but possibly these may be of a later date. In all probability the fort was built by the residents of this town as a place of refuge in case of hostile invasions. For this purpose it would answer very well, as their mode of warfare probably demanded an almost hand to hand struggle, or at least a very short range in which to operate.

Although no one has advanced the idea that this fine work was built by natives of more modern times than the Mound-builders, yet in view of the fact that the North American Indians threw up earthen walls in times of war, it might occur to some reader that probably the Missouris or Osages, the former lords of the soil there, built this old fort. This is improbable, for the works are too elaborate and the amount of labor requisite to make them too great to have been performed by any of the modern tribes of that region. Besides the character of the earth-works constructed by the Indian tribes is as distinctive as the characteristics of the Indians themselves.

As for the French theory it is as untenable as the old fort itself would be against a modern siege. To prove the latter untenable the following statements may be advanced:

The main ridge and the eastern slope on which the fort stands, which includes more than three fourths of the enclosed area, could be entirely commanded by placing artillery on the ridge to the northeast, less than one-half mile away, which has

a greater elevation by at least twenty-five feet. Then, if a foothold could be gained on the end of the spur about two hundred and fifty yards to the westward of the northern entrance, no portion of the enclosed area could be held. To reduce the fort would only require a force double in numbers to that of the garrison.

If the French commander carried out the original intentions in regard to the construction of Fort d'Orleans (i. e., looking to a second possible Spanish inroad from Santa Fe), it would not only have been placed in a situation easily defensible and well supplied with water, but would also have been built after the style of the European forts of that period—square with bastions and curtains. But if his force was small—there being no exact data—the possibility is that it was a small palisaded enclosure, supplied with one or more light pieces of artillery, eight or twelve pounds. The official calibres used by the French at this time were thirty-two, twenty-four, sixteen, twelve, eight and four pounders,

It must not be supposed, however, that the existence of a French post in this region is here denied. There undoubtedly was one, called Fort d'Orleans, somewhere on the Missouri, and it may have been hereabouts, on the bottom which is supposed to have been once an island. The fact that portions of the neighboring bluff would possibly command such a site is not necessarily a proof that it would not be selected.

St. Paul, Minn., January 25, 1892.

THE WATER BABIES.

AN ARICKAREE STORY AS TOLD BY CHARLES HOFFMAN.

A man and his wife lived together in a large village. This man was a good hunter. Near the village lived an old woman who made up her mind to destroy the whole village.

One day this man went out hunting leaving his wife alone. After he had been gone awhile the old woman started out too. She had a pair of moccasins that struck fire every step she took, so she walked all around the village and set it all on fire. Then to keep the people from going into the little lake she made the water hot. So they could not save themselves in the water. But the wife of the hunter thinking the water as cool as usual went in and died there in the hot water.

When the hunter returned he found the whole village burned up. He thought his wife might have gone into the lake and so hunted for her there. After looking for her a long time he found her and she had her two boy babies with her. He took one of them and left the other in the water.

He went away from the site of the village and built a deer-skin tent, where he slept, but he spent most of his time in the woods hunting. He wrapped his blanket around him so he could carry the little boy on his back and still have his arms free to use his bow and arrows. He fed the little boy deer's brains all the time.

When the little boy was old enough, his father used to leave him in the tent. He made him a little bow and some arrows to play with and left plenty of food cooking on the fire. The second time his father left him the brother who had been left in the water came to see him. He had long teeth, so the little boy called him "Tusks." Tusks said: "How do you do, brother." The little boy wondered why he called him brother, for he did not know him. "Can I have something to eat?" said Tusks. "Yes, take all you want," his little brother said. He stayed in the tent until he saw the father coming and then said: "Your father is coming," and went away. "Drink Brains (for that is what Tusks called the little boy) watched him and saw that he went into the lake. The father was surprised to see that all the meat had been eaten up as he had left a great deal more than a little boy could eat in one day, but neither one spoke of it. The father got his own meal and they went to sleep. The next morning he put some more meat on the fire and went away. Tusks came again and said: "Shall we play, brother?" "Yes,"

said Drink Brains, who was no longer afraid of him. Tusks wanted something to eat and the little brother told him to take all he wanted, and he took all there was. Again at evening he said: "Your father is coming," and ran away. Drink Brains watched him and again he went into the lake. This time when the father found the meat all gone he thought he would ask his boy where it went. So he said: "Does some one come here to eat this meat up?" Drink Brains said "Yes, a boy with very long teeth comes here and calls me brother." Then the father knew it was the little boy he had left in the lake. So he thought he would try to catch him. He put some meat by the fire the same as he had done before, and then changed himself into a stick of wood and laid close by the fire. After awhile Tusks came and said, "Well, brother, where is your father?" "Gone hunting," said Drink Brains. "No," said Tusks, "he is that stick of wood by the fire." Then the father got up, having turned himself into a man again, and thought he would try another time to catch him. The next morning he made Drink Brains a thick skin coat, so thick that if Tusks should bite him, even his long teeth could not bite through. Then he told him that when he was shooting arrows the next day, he should go with Tusks to the target when he went to see whose arrow had come the closest, and that when Tusks stooped down he should catch hold of the vines he wore twisted around his waist for a belt, and hold on tight. Tusks will say, "Let me go or I will bite you," but you hold on. So the father put some meat on the fire again and went out and crept under a pile of deer-skins. He had with him a blown deer's bladder. Pretty soon Tusks came and asked where the father had gone. Drink Brains said, "You know he has gone hunting." Tusks said, "I have some parched corn for you," and gave him some little shells that he was eating, but Drink Brains said, "They are not good," and threw them away. Tusks asked if he might have some meat before they commenced playing and the little boy told him to eat all he wanted.

When he had finished eating they both shot an arrow. Drink Brains said, "Mine is nearest;" "No, mine is nearest," said Tusks. While they were hunting their arrows Drink Brains tried to catch Tusks, but he seemed to be thinking about it, too, and would not let the little boy get near enough, until he said "Look close," and then Drink Brains caught him. Tusks said, "Let me go or I will bite you." But he held on and called for his father, who came with a file and filed off his long teeth and tied the bladder onto his head and let him go. Tusks went to the lake and into the water, but the bladder would not let him go down. The father told Drink Brains to go and laugh at him. So he stood on the bank and shouted and laughed until his father told him to tell Tusks to come into the tent. When he came in the father said, "I want you to stay and live with

us. You must take good care of your little brother. We are poor and have no mother to help us and must do the best we can."

The next day they all three stayed in the tent, but on the following day the father went hunting, leaving the boys something to eat cooking. The two boys played around all day until he came back. When he went away the next morning he told the boys where there were ever so many big snakes and said you must not go there. Just after he had gone, Tusks said, "Let us go, our father said we might go where the big snakes are." Drink Brains said, "No, he said we must not go there." Tusks said, "If you don't go I will bite you." So they went, and came to the cave where the snakes were. Tusks said "Now you go in and see if there are any snakes there." Drink Brains stooped down to look into the den and a rattle snake bit him in the face and he died right there. Tusks went there and breathed into the hole where the snakes were and they all coiled up together and soon they were all dead. Then he went and touched Drink Brains' foot with his toe and said, "Wake up, you sleep too much." He got up and said, "Oh, I sleep so long." "Let us cut off these snakes' tails and tie them on our hair," said Tusks. "But when we get near home we must keep our heads still until we commence to eat, then we will not use a knife but will pull the meat to pieces with our teeth. That will make our heads shake and then these snake tails will rattle nice and make good noise." So they fixed up their heads and went home. The father asked them where they had been. They told him they had been hunting little birds. Then he gave them some meat and when they commenced pulling it to pieces the rattles made a great noise and the father said, "What have you got on your head." They told him. "Take them off and throw them away. I told you not to go where these big snakes lived. Now another place where you must not go is up on the big hill, in the thicket; a large bear lives there." Then in the morning he went away, thinking they would obey.

* *

The above is a quotation from *The Word Carrier* of July, 1887, and contains about half of a myth as there given. The rest describes a visit to the bear's den, eagle's nest, old woman's village and similar exploits by the "Water Spirit." The end is that the boy finds the moccasins, burns up her tent, shoots arrows into the sky, and restores the village and brings to life the mother, and kills all the Wakan things. The peculiarity of the story is that vines, shells, serpents, birds, animals, water, sky, arrows, living and dead are mingled together indiscriminately and transformed by the magic power of the water baby. The myth shows the poetical taste there was in the native mind and the workings of the untrained imagination of this wild tribe, the Apaches.

Correspondence.

REPORT OF FORT ANCIENT PARK COMMITTEE.*

The Committee appointed by the Trustees of the Ohio Historical and Archæological Society to take charge of Fort Ancient, beg leave to submit the following report:

When they took charge they found the grounds, to a large extent, covered with dense undergrowth, brush, dead logs, weeds and thistles, and numerous wash-outs in the walls. That portion of the fort on the south and west and outside of the embankments was covered with an almost impenetrable mass of thistles. The walls, particularly those on the east, were overgrown with sprouts and weeds, and the general appearance was that of property that had been sadly neglected. The Committee employed Mr. A. N. Couden to take personal supervision of the Fort at a salary of \$200, to be paid out of some future appropriation by the Legislature. Mr. Couden's time will expire in June next.

The Superintendent has employed his time in rolling and burning logs and brush; in killing sprouts, thistles and weeds; in filling washes with logs and brush, and in repairing the fence along the north side to protect the hedge. We think his work has been thoroughly done. It has added wonderfully to the appearance of the grounds.

It is important that this work of destroying sprouts, thistles and weeds, and of closing up the washes in the walls, should be continued during the present year, so as to render the work already done effective and permanent.

Nothing has been done to the buildings. What they need is a substantial coat of paint on the house, and of whitewash on the outbuildings, which would materially add to their appearance and durability. We recommend that this be done as soon as possible. The hedge on the north side, if kept well protected and cared for, will eventually make a permanent and ornamental fence.

As the members of the Society are aware, the outside of the wall is surrounded by a series of romantic glens, which, however, are so obstructed by undergrowth of small timber, fallen trees, dead logs, thistles, weeds, etc., that they can scarcely be seen. Along these dells we have discovered numerous springs of excellent water, which should be developed and which have

*Read at the annual meeting of the Society at Columbus, Ohio, Feb. 25, 1892.

been hitherto unknown. It is very desirable that the sides of these glens should be thoroughly cleaned up, leaving the large shade trees standing. The object should be to furnish the visitor with a complete view of the general contour and surface of the grounds, and at the same time enable him to make a thorough examination of them.

If these grounds are thoroughly cleaned up, outside of the walls as well as inside, your committee believe that they will be unequaled in picturesqueness and beauty of scenery by any similar grounds in the United States. We recommend the employment of Mr. Couden in his present position for another year. We urge upon the Society the very great importance of purchasing the remainder of the Fort now owned by Mr. Couden, and would urge them to use all honorable means to have the Legislature make an appropriation for that purpose. Mr. Couden still owns 104 acres, which he will sell for \$50 per acre, at any time before July 1, 1892, but he will not promise to take the same price for it after that time.

All of which is respectfully submitted.

I. H. HARRIS.

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BUDDHIST SYMBOL IN A MOUND.

Editor American Antiquarian:

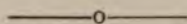
The mound at Mitchell Station, on the C. & A. railroad, which you mention in your splendid article, "The Mound-builders and the Mastodon," contained a great number of valuable relics. I have in my collection several relics which, to me, are important: A dozen or more small beads, made of thin, narrow strips of copper rolled around a small stick or stone and partly welded. A peculiar shaped bone, somewhat similar to the common knob on furniture drawers. Also a copper-stained tooth about the size of your index finger; it has a small hole at one end for stringing. And last, but not least, several small shells that were used as ornaments, as they too are perforated. Numerous writers claim these sinistral pyrulae are always found in such a position as to leave no doubt as to their being held sacred by pre-historic man and used by them in their religious ceremonies. This same species of shell with the mouth, or opening, on the left-hand side, was held sacred by the Buddhist of India, and that the statues of Buddha are often seen in which each toe of the feet is represented by a sinistral shell. These shells are revered in Asia and wherever the Buddhist religion is known. Besides those mentioned above, I have two large perfect shells, together with a pottery pipe, taken from near the head of a skeleton. They are nearly two feet in length, each.

The buffalo certainly roamed the prairies of Illinois later than

1680, as Marquette is quoted. A Mr. Coventry, of this city, our post-master for over twenty-five years, has in his possession a powder flask made from a buffalo horn that he picked up on the prairies of Illinois, while one of the rangers in the Black Hawk war in the 30's. He had it on exhibition at the Old Settlers' meeting last year and gave an interesting account of his trials in turning it into a powder horn. Hence, think that animal, at least, passed through this state much later than 1680.

J. R. SUTTER.

Edwardsville, Ill., March 28, 1892.



A LETTER FROM DR. A. H. SAYCE.

The editor has just received a letter from the distinguished Orientalist, Rev. Dr. A. H. Sayce, dated at Dahabiyeh Istar, Egypt, reporting an important discovery. The following is his language: "I have just reached Assiouh, after a voyage up the Nile which has been very successful from an Archæological point of view. Among other things I have made an important discovery at Medinet Habu, where I have found that Ramses III (B. C. 1200) claims the conquest of the 'Country of Salem,' 'The Springs of Hebron,' and other places like Hadashah, Aphekah and Migdol-Gad in which was afterwards the territory of Judah." The letter is dated March 31, 1892.

Comparative Art.

BOOKS ON EARLY ART.

BY BARR FERREE.

It is quite as essential that popular books should be written on art and archæology as that scientific treatises be composed. Delightful as the task of preparing a scholarly work may be to the student, it is not less important that the result of his work be put into popular form in order that the general reader may profit by his investigation. It is a singular advantage to any science when the master can also be the instructor, and the scholar be able to endow his subject with a reality that will attract new minds to his work. Few scholars have obtained the pre-eminence of M. Maspero, in Egyptian antiquities, and few writers have done so much for popularization of their speciality. In his *Life in Ancient Egypt and Assyria*,* M. Maspero has produced a book which, without being scholarly in the sense the word is usually taken, is not less important than the more ambitious works from the same pen. No one but a Frenchman would have thought of resurrecting an ancient Egyptian and making him live again in the pages of history his ordinary daily life such as he lived it two thousand years ago, and few Frenchmen save M. Maspero could have made the resurrection so real and so complete. It is not alone sufficient to say that the book is popular, though that implies a world of value. The scholar may not look in it for new discoveries or scientific research, but the general student will find gathered here a mass of material not elsewhere accessible in so condensed a form. The author follows the existence of a single personage from birth to death, with his trials and successes, his children and his neighbors, while the great Pharaoh is depicted with the dignity of his exalted rank. The sketch of Assyrian life is drawn on the same basis, though it is not, perhaps, quite so real and living as that of Egypt. Our guide leads us through the Assyrian city and camp, to battle and the chase with the same fidelity as it takes us through the Egyptian city, and with a marvelous grace and diction that makes the visits more life-like than many a sketch of contemporary travel. The book is one that will have no imitators, because it fills a vacancy as completely as it can be filled with our present knowledge. As a help to the general student, and as an introduction to Egyptian and Assyrian archæology it is of the utmost value.

Mr. Brimmer's book on *Egypt*† is of very different quality,

**Life in Ancient Egypt and Assyria*. From the French of G. Maspero. London, 1892.

†*Egypt: Three Essays on the History, Religion and Art of Ancient Egypt*. Cambridge: 1892.

but not the less to be recommended. It is the result of a recent visit to Egypt and was written by the author in conjunction with his niece, Mrs. John Jay Chapman. "They were begun," he tells us in his preface, "for the purpose of putting in order for our own instruction the result of our observation and of the best accessible knowledge of the whole subject. They are published in the hope that they may be useful as an introduction to works of higher authority." Prepared in this spirit the book admirably fulfills the purpose for which it was intended. Not offered as a pretentious study of the subject, the three essays are admirable epitomes of the themes treated. There is no crowding of notes, no elaborate references, but simple, direct and very readable accounts of the special topics at hand, treated generally without that overburdening of detail so difficult to avoid in touching upon such complex subjects as Egyptian religion and art. The chapter on religion is perhaps the best of the three, the account being singularly clear and prepared with a due conception both of the difficulties of the subject and the scope of the present work. The chapter on art is perhaps a little fragmentary, and treats more of sculpture than of the not less important arts of painting and architecture. But within its limits it is very good, and the stages of development of Egyptian art are stated with much clearness. The book is a most welcome addition to Egyptian literature, and is the more remarkable from the conditions under which it was produced. Truly if every visitor to Egypt were to take the trouble to understand the country and its most important features as Mr. Brimmer has done, the peculiarities of the globe trotting American would cease to be a bye-word among the nations of Europe. Mr. Brimmer has shown what an intelligent and painstaking visitor may gain from a sojourn abroad, and his book is not less valuable as an index of possibilities open to every traveler than as a contribution to the study of ancient Egypt. It has been published with the greatest care, and is luxuriously illustrated with numerous photogravures executed in the finest manner, which add very materially to its value. The colored map of Egypt which accompanies it gives a singularly accurate idea of the extent of the country and its peculiar form.

Murray's *Handbook of Greek Archæology** is most welcome, and is one of those books which genuinely "fill a long felt want." Greek archæology has made tremendous strides in Germany in the past twenty years, but up to the appearance of this work there has been no book in English that condensed this scholarship and made it accessible to the English reader. Mr. Murray has been long and favorably known as an authority on Greek archæology, but notwithstanding his wide reputation it is difficult not to find fault with his book for the disproportion dis-

**Handbook of Greek Archæology, Vases, Bronzes, Gems, Sculpture, Terra Cottas, Mural Paintings, Architecture, &c.* By A. S. Murray, LL. D., F. S. A.

played in the treatment of the various parts. His notice of Greek painting is quite long, and well justified by the fact that this phase of Greek art has not received the attention in England it has had on the continent, and therefore much of this chapter will be new to English readers. But his chapter on architecture, which concludes the book, is totally inadequate, and even the author's admission that it is so, scarcely justifies the very limited treatment this important part of Greek art receives. Yet, after all, it is not fair to insist too much on this point, since Greek architecture is so large a subject as to really require a volume to itself, and which doubtless will speedily be supplied by some American or English scholar, since its need has been so thoroughly set forth, by contrast, in Mr. Murray's latest book. The author's method of treatment is well illustrated in the title page, quoted below, beginning with vases, after a preliminary general chapter, and continuing through the minor arts to the greater; architecture, certainly the earliest form of art, being treated last of all. This method of treatment has the advantage of giving first those forms of art of which there are the amplest remains, but it has a tendency, perhaps unconsciously so, though not the less marked, of exaggerating the value of the minor arts at the expense of the greater. Clearly men began to build houses before they painted vases; perhaps they carved wood and stone before vase painting became an art. No question is more difficult in the whole realm of archæology than the determining of such points as these, and perhaps their determination is not of the first importance, though highly interesting. The point of view would seem to be rather the probability of the need of certain forms of art than the abundance of early forms or the primitive nature of any one group. Hence it would scarcely seem needful to account for the development of sculptured relief among the Greeks by its similarity to the impression made by a seal when rolled over a soft surface. Doubtless there is a resemblance, but was the art of seal engraving carried to so high a stage of perfection before sculpture that men would seek their models in it? Questions such as this scarcely come within the scope of a general handbook, but notwithstanding the author's leaning towards such problems, his book is most welcome. For English readers it is the only work of its kind, and though the treatment of the various forms of art are necessarily somewhat condensed it is not too much so. The illustrations are ample and satisfactory, the colored plates of vases being especially acceptable and adding much to the descriptions.

Notwithstanding some obvious faults and some disproportionate treatment of minor questions, Prof. Brown's little book on *The Fine Arts** is very good, and is a valuable addition to the

**The Fine Arts*. By G. Baldwin Brown. New York: 1891.

University Extension literature of which, just at present, we have somewhat a surfeit. The book aims to "discuss briefly and in a simple manner some of the more important facts and laws of artistic production, which should be familiar alike to the historical student of art and to the practical reader." This standpoint is quite broad enough, and the author has been wise to limit his discussions to architecture, painting and sculpture, reserving the decorative and industrial forms of art for future treatment and supplying neither a technical manual nor an outline of art history. A handbook such as this scarcely needs the requirements of University Extension to call it into existence but it is a most healthy indication of the growth of this movement that the fine arts, a subject hardly as yet included in its scope in this country, should be deemed of sufficient importance to require a special book of its own in England. The author attaches much importance to the influence of "play" on the beginnings of art, riding his theory rather too heavily. This tendency to overestimate the value of a single idea is unfortunate in a manual which must necessarily reach chiefly those who may not be familiar with other works touching on the subject, and who may, therefore, be unable themselves to rightly estimate the value of the theory here propounded. Clearly a writer who sees no evidence of utilitarian design in the Egyptian temple, only "how much was designed, carried out and adorned in the mode of 'play'" must have closed his eyes to the very fundamental quality of building. The extent of the utilitarian influence would perhaps depend upon the definition of the word, but admitting this, it is difficult to understand how a writer could have made himself familiar with the history of primitive architecture and bring himself to admit there is nothing utilitarian in a structure like an Egyptian temple. Neither can architecture be unqualifiedly accepted as "an art of free and spontaneous expression," nor can the further statement that "this character remains with it throughout its long and varied history" be taken without modification. The relative merits of these questions are not likely to be discussed by those having occasion to use this book, but it is unfortunate that a work which has many excellent qualities should be marred by dogmatic statements that must, from the class of readers it will reach, carry unnecessary weight.

Doubtless the author merely intended to gather the facts and to leave to others the duty of putting them in order and extracting their meaning. If so, she has given no indication of such intention, and therefore her work may fairly be criticised for not being more than it is. She does not go far enough, and even when she pauses in her cataloging—for sometimes the descriptions are so short as to have more the effect of a catalogue than of a general account—to set forth some theory, she does not pursue it to the end. Even the immense amount of learning

involved in the researches made in preparing this work does not excuse its deficiency in this point. The author's forms of expression are not always happy. "The worship of Athene is era of the full flower of Hellenic religious conception. All that is hopeful and human—terrible goddess of arms, notwithstanding—was in her epitomized" (p. 217), while intelligible, is not good English. "Trivial souls flimsy the sublimest thought; unbelieving men build statuesque idiots" (p. 215), is entirely meaningless. A favorite method is to reverse the sentence as "Nor can be regarded the ornamentations in this shape upon the Zuni mask as meaningless or as creations of an idle fancy" (p. 98). Criticisms of style may not be appropriate to an examination of scientific text book, such as the one before us, but these inelegancies obscure the thought.

Editorial.

HUMAN WINGED FIGURES.

In our last number we spoke of winged figures which had been discovered in the mounds of Georgia, and gave the comparison between them and the human forms which were inscribed upon the tablets found in Tennessee. Since writing these sentences we have received two books, one prepared by Mrs. E. R. Emerson "Masks, Heads and Faces," and another by Mr. W. H. Good year on "The Grammar of the Lotus." The books have interested us because they describe the various symbols which are found mainly in the East, but which are also occasionally seen on the American continent. In the first, human heads and faces are shown to be used as symbols in all parts of the globe—eye, the ear, the mouth, having proved to be very significant when appropriated to the embodiment of religious thought or mythology. In the second, the conventional figures, such as croll, spiral, the volute meander, fret, rope pattern, suastica, ron, zigzag, ivy leaf, tree foil, cone, sacred tree or grove, Buddhist trisula, each descended in a direct line from the sacred lotus, and is a symbol of sun-worship or of a generative force. Mr. Goodyear assumes that Aztec, Peruvian, Zuni, Indian, Aryan and Pacific ornament is as much Egyptian derivative as Assyrian or Phœnician, and a proof of prehistoric intercourse between these remote people. The contention is not new. Others trace the line across the Atlantic and recognize a resemblance to the symbols in Egypt and in Southern Europe. We have maintained that there was a connection between this and other continents in prehistoric times, and much of the symbolism here was owing to this contact. We do not say that the native

racés brought these symbols with them, or that they were ever in the midst of the cultivated scenes where these symbols are so common, for the transmission may have been through the representatives of various secret orders or by the gradual spread of certain mysteries, the esoteric system, which was kept in the hands of the few magicians or so-called medicine men, having gradually spread from tribe to tribe, and so reaching the very interior of this continent. This is our theory. We do not pretend to give the date or even the race, and can only hint at the lines or channels through which they came. Many of the symbols are, to be sure, Aryan in character,—at least, they are used by the Aryan races, wherever they are found, both in India, Persia or in Great Britain. The Semitics, however, had the same symbols, and for what we know the Turanians also. Dr. A. H. Sayce and others maintain that the Turanians gave the Semitics their civilization. They may have also given them sun-worship. Rev. C. H. Ball maintains that the Turanians gave the Chinese their letters. This suggests to us that one line of transmission was through Mongolia, by way of Behring's Strait, and that the Turanians were the originators. If this was so, then the date of transmission would be carried back many thousands of years. There are, however, other lines or channels which are more direct, and other races through which they may have come at a time much more modern. In the last Smithsonian Report there is an account of the gigantic human heads or idols which were founds in the Easter Islands, in Polynesia. These are supposed to be portraits of deceased chiefs. They have the long nose and thin face which distinguish the natives of these islands. They vary from three to seventy feet in height. Some of them weigh many tons. They are placed upon truncated pyramids or platforms facing the sea. They remind us of the pillars which are found near the pyramids of Nicaragua, in Central America. There are also many faces in Sumatra and elsewhere. These are carved into the pillars and screens which surmount the graves, and are marked by protruding tongues.

Some trace a line of communication between the Asiatic and American continents by these various carved figures, recognizing in the northwest coast, as well as in the central provinces, the same forms and symbols that are found in the Polynesian Islands.

The arguments for an autochthonous origin of human images and the winged figures are as follows: 1. The religious symbols of America follow a fixed line of development, the growth being traced from the north to the south, each belt of latitude, each grade of civilization being marked by a new class of symbols. 2. The winged figures and human images are found in the middle stage of religious development as well as in the middle belts of latitude. They come after totemism, before anthropomorphism. They are associated with sun-worship, but of a

lower grade. 3. These figures of the human face and human form are oftentimes mingled with other semblances in a way to show a gradual development; the heads, faces and bodies of human beings are associated with claws, beaks and wings of birds. These are seen not only upon shell and copper plates which are taken from the mounds, but also upon the shields and other heraldic objects of the Pueblos as well as in the carved columns of the northwest coast. 4. The idols which abounded with the Pyramid-builders of the south seem to have been a later development, and show the progress of sun-worship toward the personification of the nature powers. This proves to some minds that there was a natural growth which, unaided by any intruded cultus, ripened into these various forms of nature worship, each class of symbols having been the result of the flowering out of the inner life. These are the main arguments for the autochthonous origin of symbols. The rebutting argument is that each one of these grades of symbolism is found among a distinct tribe or race, giving the impression that they were brought in by that tribe from some other region. Every locality has its peculiar imagery, but it seems to have been borrowed from some other continent.

The study of the winged figures of the far east is, under the circumstances, a necessity; otherwise we could not draw the comparison. Edward B. Tylor furnishes some interesting hints on these. He says that Egyptian figures may be grouped in three classes: 1, Winged suns; 2, winged monsters with animal forms, and, 3, winged deities with human bodies. The Assyrian figures correspond to these and may have been derived from Egypt. 1. The sun-god stands within a circle as an archer. 2. The colossal winged bulls and lions are representatives of the sun divinity. 3. Human figures, either man-headed or eagle-headed, are represented either with two or four wings.

The anatomical adaptation of the Assyrian wings does not bear the test as well as the Egyptian, for in Egyptian divinities the wings are attached below the arms and moved by them. In the Assyrian, they are attached to the body in any way. The Assyrian divinities are often placed near the so-called sacred tree and are seen presenting an object resembling a fur cone, which they carry in the left hand, while in the right hand they carry a basket or bucket.

There are also three classes of winged figures in America, resembling those in Assyria and Egypt. 1. First, we may mention the nondescript figures which contain the body of a beast, with the wings and claws of a bird, which sometimes, though rarely, have the face of a man. Among these we may place those winged serpents which we see inscribed upon the pottery of the Mound-builders, also the imaginary objects which are described by Schoolcraft and Marquette as formerly existing among the rocks

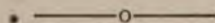
along the Mississippi River. These we may regard as having embodied the crude mythology of the natives, as an outgrowth of totemism, which was common. They may be compared to the monsters of Assyria and Egypt, but belong to a lower grade. 2. The second class embrace those figures which are found among the Mound-builders and the Pueblos. In these the human body is the chief figure, but it is a body furnished with wings and sometimes has the head and claws of a bird, beside the wings. The copper ornament spoken of above is a specimen and the figure of the priesthood of the bow. These evidently symbolize nature powers and at the same time embody some of the myths of the prehistoric people. They constitute a large class of symbols and are evidently ancient. 3. The winged globe which is found upon the facade of Palenque and Uxmal and which belongs to the highest grade. The comparison between these different symbols in America and those found in Assyria is very interesting. There is this difference: In Assyria domestic animals, such as the bull, the horse and the dog, are represented with wings, and constitute prominent architectural ornaments. In American art there are no domestic animals, and there are no sphinxes and no griffins. The stepped ornaments or turreted masks are, however, common both in America and in Assyria, and are connected with sun-worship. The battlements of the palaces of Sargon gave rise to the stepped ornament, which is common all over the east. The terraced buildings of the Pueblos may also have given rise to the turreted masks and turreted pottery which was common among them.

The winged globe which is found in Central America reminds us of that which is seen on the face of the Propylae of Egypt, but there is this difference: In the American figure there is a bent bow below the wings and the feathers are turned in the opposite direction. In the Egyptian monument the globe is surmounted by the Urus or Serpent's head. In America this is absent. The "bee" is an important Mexican ornament, as the beetle or scarabæus is in Egypt, and seems to have had the same signification. It was a symbol of royalty as well as sun-worship. Here we might speak of the tree and serpent as connected with the winged figure. The winged globe belongs to the highest grade.

Mr. Tylor speaks of the palm tree, male and female, and of the male inflorescence of the date palm, as of the scene at the sacred tree represented artificial fertilization. With what motive was this scene so frequently repeated? Was there not a symbolic significance? It was not merely fertilizing by bringing in contact male and female, but it was the life over which the deity has control, that was symbolized. The description of Oannes, the Chaldean Noah, was a fish, with a human head under the fish's head, and human feet joined to the fish's tail. Thus, the

myth of the deluge, became embodied in a symbol and the deified Noah was represented in the fish. The mystic vision of Ezekiel represents the living creatures; the winged bull, the lion, man-eagle, were derived from Assyrian sculptures. We do not find these figures in America. While the story of the deluge is common, yet the myth is not embodied in any fish, nor is there any object which resembles the figures of Ezekiel's vision.

The human tree figure in America also differs from that of Assyria. The palm tree is not known. The cones of the palm are not used as a symbol. Human tree figures are not uncommon in America. The tablet found in Cincinnati called the Gest Stone, contained such a symbol. We may recognize in this the human face and body, though the legs and arms are twisted and distorted so as to resemble vines; the hands and feet also have fingers and toes which resemble petals of flowers; the hair and features of the face resemble the leaves of the vine. The figure, however, reminds us of the sacred groves of the East. There is in the Canadian Institute, at Toronto, a remarkable relic. It is a pipe which has a tree and a serpent and a human face carved upon its bowl. The tree rises from the neck and spreads out over the face, and the serpent curves around the face in one great coil. The vine and the tree combined with the cross and the surmounting of the cross with the thunder-bird is a symbol common in Central America. In a few cases the cross has a human face peering out from among the vines. In another case the mask with the protruding tongue is placed conspicuously upon the cross, but these symbols are very different from that which is called the sacred grove of Assyria.



NEW DISCOVERIES.

TERTIARY FINDS.—*The Chicago Tribune* of March 29 contains an illustrated article, purporting to be a report of a lecture given by Mr. J. C. Doughty, before the Numismatic Society of New York, on the evening of March 28. The illustrations show that the lecturer had been busy in picking out odd looking boulders or rough stones from the railroad cuts on Staten Island and along the north side of the sound, near New London. He thinks that these boulders represent the human head, and that they show a civilization which existed in the tertiary period. He says that some of them were of iron; he speaks of "seals" which are quite equal to those found in Greece in the times of its highest development; also of hieroglyphics with alphabetic characters. The lecture was calculated to make a sensation, and a copy seems to have been sent to Chicago before it was delivered. An editorial in the same paper seems to endorse the "finds," but says that the lecturer advanced the theory that the gravels were deposited by a "comet" which burst upon the surface of the earth. The same theory which Ignatious Donnelly originated. It is a little surprising that the numismatic society should have admitted such a lecture into its course. What there is about

the finds which is really trustworthy and valuable we have no means of knowing. We only speak of the lecture as it is reported. Such lectures do more harm than good, for they are quoted as actual facts and many intelligent men take them as representing the present status of archæology.

TEETH OF THE MASTODON.—Judge William H. Snyder, of Belleville, has been presented with several very fine specimens of the teeth and some fragments of the tusk of the mastodon recently found in the limestone quarry of Henry Watson, at Alton, Illinois. The specimens are of the purest ivory and are in a remarkable state of preservation. Judge Snyder has one of the most complete and valuable geological and archæological collections in the West. The teeth are much larger than those of any animal now known to exist, and are without spot or blemish and perfectly sound.

The quarries in which they were found are the most extensive in Illinois. Mr. Watson draws his supplies from the immense limestone ledge that occupies the space between the Big and Little Piasa Creeks. It is gigantic in its extent and is at least 100 feet thick, being one solid strata, without flaw or break. There is nothing like it in the State of Illinois.

"These specimens are not petrifications, but the natural teeth as they grew in the jaw of the animal. The theory of Judge Snyder and Mr. Sutter, both men of science, is that the land was submerged for many thousand years and the stone formed at the bottom of the sea, taking countless ages."

"Judge Snyder said it was very strange how geological formations change. Going north to the other side of the Big Piasa Creek there is a complete transformation. The limestone which always lies above the coal measures and has the ordinary maxim organisms, abruptly ceases and the silurian formation is at once reached. In this formation the fossils are all crustaceous, that is, closely akin to the lobster and crawfish. The specimen most frequently met with is the beautiful trilobite, so named from the three lobes that form its body. There are other and much larger forms that reach to the length of seven or eight inches. Where these organisms are found coal is never seen. Rock of the silurian formation is much more desirable than the ordinary bluff limestone, and will last as long as granite."—*St. Louis Republic*.

AN UNDERGROUND CITY.—A startling discovery is reported. There are caves in Bockhara. There are passages from the caves leading to an ancient city which is supposed to have been built about two centuries B. C. Some of the houses are two stories high, and contain specimens of art and various relics which show a high degree of civilization. Whether the find is genuine remains to be seen; for the present we might say it was a city of refuge resembling those of the Cliff-dwellers of America, which belonged to a race which had been driven into the caves for safety.

ARCHÆOLOGICAL DISCOVERIES IN GREECE—Some interesting and important discoveries have just been made at Argos, the ancient capital of the Peloponnesus, where excavations have been proceeding on the site of the Temple of Hera, under the superintendence of Mr. Waldstein, Director of the American Archæological school in this city. The workmen have not only discovered the foundations of the Homeric temple which was destroyed by fire in the year 429 B. C., but have also come upon the remains of the second temple, which once contained the colossal statue of Hera, wrought in gold and ivory by the famous Argive sculptor and architect Polykleitos,

a contemporary of Phidias. The relics disclosed up to the present include the bases of the statues which decorated the temple, and also a beautiful head of the goddess dating from the fifth century B. C., besides other heads, fragments of marble sculptures, vases and bronzes.

PREHISTORIC CANALS.—Prehistoric irrigation canals in Arizona are really worthy of more notice than is given them, says the *Engineering News*. The Salt and Gila river valleys are intersected by a vast net-work of these canals, which antedate, at least the arrival of Coronado, in 1552, for he mentioned these ruins and the traditions of the Indians regarding a once dense population in this region. Modern engineers cannot improve upon the lines of the canals, nor in the selection of points of diversion from the rivers. The first irrigation canal in this section, the one that made Phoenix, with its present population of 20,000, simply followed the lines of one of the old canals.

Their extent may be appreciated when it is said that in the Salt river valley alone the land covered by these canals aggregate over 250,000 acres, and the canals themselves, with their laterals, must have exceeded 1,000 miles in length. This country is filled with prehistoric ruins, with walls of stone or adobe, and almost every acre contains fragments of pottery, shell ornaments, stone implements and other remains of a population which can only be estimated in its aggregate.

SACRIFICIAL AND BURIAL MOUNDS.—Mr. Henry Montgomery has discovered mounds in North Dakota, one of which was a well-marked beacon mound, one sacrificial mound, and thirty-six burial mounds. The burial mounds were of two kinds: The first contained vaults with the skeletons in sitting positions, with back to the wall, face to the center. These mounds contained charred or burned wood above the vaults, which were generally made of stone, and sometimes containing several vaults surrounding a central one. The other class contained bones, broken and scattered, and partially covered with clay, but with no vault and no evidence of fire. The sacrificial mounds contained fire beds. The enquiry which arises in this connection is, Are there sacrificial mounds in every group and how can we distinguish these sacrificial mounds from burial mounds? Can we say that the same class practiced sacrifices and burial, making the sacrificial clan ceremony, or should we say that one tribe practiced burial by inhumation and another by cremation? Lookout mounds would of course be used by all tribes, but were sacrificial mounds erected by all the tribes or are they the immolation places of some particular tribe or tribes?

AMERICANISTES.—The Ninth Congress of Americanistes will be held in the Convent of Santa Maria de la Rabida, the 11th of October, 1892. Especial interest will be felt in this because of the anniversary of the discovery of America. The celebration of the discovery will take place in the capital of Spain at the same time.

THE DEATH of Gen. Nanano Jimenez, found of the Museum Oaxaca and Michoacan, occurred February 23, 1892.

THE FIFTH ANNUAL Archæological Report of the Canadian Institute (Toronto), has just been issued, by Mr. Boyle, the curator. It gives an account of the field work and specimens acquired by that institution during the past season. As in former reports the prominent feature of this one con

sists of engravings of specimens recently added to the museum. There are 131 of the more striking of them illustrated in this volume, including 48 crania with measurements attached. Altogether illustrations of upwards of 530 rare relics have already appeared in these valuable reports.

As a proof of the wide range of early Indian trade, a relic recently found at Lake Nipissing has considerable value. It is in the form of a muzzle-loading rifle-barrel bearing the marking "J. A. VANHORN, ONEIDA," stamped in the barrel. The relic was dug up by John Armstrong, near Nipissing village, in 1890. This place is on the old Champlain route, via the Ottawa River and Georgian Bay, to the Hurons, and is fully 500 miles from Oneida by the Canal Route of the Ottawa.

BOOK REVIEWS.

Masks, Heads and Faces. By Ellen R. Emerson. Boston: Houghton, Mifflin & Co. 1892.

This book is the result of extensive literary gleanings from a vast field, in which primitive art forms and ancient archaeological symbols are grouped together. The author is not confined to archaeology, and does not undertake to analyze the symbols very closely, or to trace them to their sources; but satisfies herself with referring to their variety and their wide distribution. It can not be called a book on primitive art; if it were, it would be criticised severely, as it has been. In one department of archaeology—that of symbolism—it will serve a useful purpose. The very fact that the author has had access to so many books and has brought together so many important and so varied material shows how much there is to study. The title of the book is significant. There are masks, heads and faces in all forms of art, and there was a latent symbolism in them. The different parts of the human face are symbolic, and often had a hidden significance. The author has recognized these features in many places, and has endeavored to show the symbolism which was contained in them. The supposition of the author is that these are all in some mysterious way connected, though she does not say whether they were transferred from one continent to another, or originated in different continents and grew up in parallel lines. The nationalities which used masks and faces, and embodied symbolism in them, are numerous and widely scattered. Here Egyptian, Assyrian, Greek, Chinese, Hindoo, Mexican, and the North American Indian pass before us, each bearing masks and similar symbols, but silent as to the significance of the symbols and as the source from which they drew them. The author does not seem even to have interrogated the throng; if she has, no answer has been given.

This illustrates the great deficiency of the book. Still it should be said that there is a difficulty here in the nature of the subject full as much as in the manner of treatment. It is altogether uncertain whether the primitive symbols, which originally represented nature powers, have arisen in the different continents under the law of evolution and mental development, or have been transmitted from continent to continent through some unknown channel. The author takes no position on this, and does not even hint at an explanation of the similarity of the forms. There are, however,

certain technical terms which archaeologists have adopted which the author does not seem to have used. The spectacle ornament, the phallic symbol, the suastika, the "Nile key," the Greek fret, the loup, the fillet, the owl's head, and many other terms are left out from the book. They should have been sought for and traced through their different continents, and we should have been informed what symbols are of local origin and what are universal. The same might be said of art forms. There are many symbols in modern decorative art which might be traced back to primordial forms, but are not. Still, it may be unfair to criticise the author in this, for in the present state of symbolic archaeology, there is a great lack of technical language. It is impossible to speak of primordial forms, which all symbols are supposed to assume, and use terms which any one can understand. We know of no book which brings together as much in so small compass that is suggestive. We only wish that the author could have used more discrimination and exercised the judicial faculty so as to have given us a positive system, rather than so many hints. This, however, is too much to expect of one who passes over so much ground. The only way to reach such a system is for one to take a limited territory and a definite period of time and work out the elements. Symbols are like Mexican hieroglyphics. We are convinced that the first thing to do is to eliminate and to discard, and the next thing to do is to trace the history of each symbol back to its earliest source. Even then we are uncertain whether the features of the face had the same significance in all lands. There were sun symbols and other arbitrary emblems before the introduction of personification. All of these in America lie near the surface and can be picked up in their simple forms, and the line of progress may be discovered; but when we go so far afield as to take in the whole Asiatic continent and the whole civilized world, we at once plunge into a mass of confused and complicated symbols, which it is impossible to systematize.

Ilex Cassine. The Aboriginal North American Tea. Its History, Distribution and Use among the Native North American Indians. By E. M. Hale, M. D.

Dr. Hale has given a full account of the natives in reference to the "black drink." The Department of Agriculture has done well to publish it as a bulletin.

The Labrador Coast. A Journal of Two Summer Cruises to that Region. By Alpheus S. Packard, Ph. D. Published by N. D. C. Hodges, New York.

These two cruises were taken in 1860 and 1864, some thirty years ago. The recent explorations made by Dr. Franz Boaz and others, in 1888, are mentioned. A chapter is given to the description of the Eskimos and a discussion as to their former location as far south as New Jersey. This point will interest our readers, though it is brief and by no means exhaustive. The opinion is that the Eskimos reached these southern regions long after the "glacial period," and that the rude implements which were found here near the surface were left by them. These would belong to a different age from the paleolithic relics found in the "glacial gravel." The book touches upon a great many points and gives some very excellent descriptions of scenery. We do not learn from it as much concerning the unsettled problems as we expected. We had hoped to find in it the connecting links

by which we could trace the route of one class of aborigines from the northeast coast and so to Iceland and to the British Isles, but we can find neither geographical localities or archaeological remains by which we can either identify the visiting places of the Norsemen or the stopping places of the prehistoric races. The problem as to the peopling of America is no nearer solution from the writing of this book, though it may find some aid in a negative way. The book is well illustrated and neatly published. It is for sale at McClurg & Co.'s, Chicago, for \$3.50.

Annual Report of the Smithsonian Institute for 1889. Washington, 1891.

This contains, first, an account of the exhibits at Cincinnati and Marietta during their centennial in 1888. In the line of archaeology especial mention is made of the casts of Pueblo houses, of certain mounds, such as the Eto-wah mound and the elephant mound; also relics of the prehistoric races, including paleolithic, neolithic, and bronze, and of the casts of the neolithic stone and Kosuka stone and various seals; and in the line of ethnology the exhibits of Indian relics, and accoutrements and photographs; also of textile, pottery and implements from the Zunis. Second, a list of additions to the museum, by Prof. O. T. Mason. Third, a list of exchanges. Fourth, report of the relics in the department of the prehistoric anthropology, by Dr. Thomas Wilson. Fifth, Prof. Goode's address on the museum of the future. Sixth, a description of the antiquities of Easter Islands, by Paymaster William J. Thompson, U. S. N. The last paper is the most important, as it contains descriptions of the carved images of massive size which are so numerous on the islands, as well as of the so-called platforms on which they once stood. Rumors of these images have been afloat for some years, but this is the first full and definite account ever published. The images vary from three to seventy feet in height, and are in the shape of long-nosed faces, with beetling brows and sombre, solemn expressions, and great ears. The bodies are sculptured rudely as far down as the hips, and then are cut short off. They stand in this truncated way on platforms of stone work, and generally face the sea, but beneath them are the tombs of the chiefs whose portraits they represent. The prevalence of dolmens and cromlechs in these and other Polynesian islands show that they were settled by the same people as they who built these structures in India.

A Catalogue of Prehistoric Works East of the Rocky Mountains. Reprinted from the VIth Annual Report of Ethnological Bureau. By Dr. Cyrus Thomas.

This catalogue contains lists of all the mounds and earth-works in the Mississippi Valley, of which mention has been made in Book Reports as accurately located and described as the accounts will permit. It is accompanied by a general map and by several state maps, showing the location of the works according to counties. The catalogue has involved an immense amount of labor and shows much carefulness in the compiler. Care has been taken to give due credit to each explorer, and no one can complain that injustice has been done. We understand that Dr. Thomas has had the assistance of Mrs. Thomas in the preparation of this catalogue, at least partial lists have been published in magazines over her name. Of course there will be mounds and earth-works which will come to light in future, and a supplement will be necessary, but for the present it serves an excellent guide through the Mound-builders' territory.





Engraving by J. D. H. Smith, New York

Hubert H. Bancroft

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PRE-COLUMBIAN DISCOVERY OF AMERICA.

BY J. P. MACLEAN.

IV.—NORSE REMAINS IN AMERICA.

The records concerning the Icelandic colony in Greenland are meager, uncertain and fragmentary. What finally became of the colony is unknown. Communication ceased with Greenland some time during the fifteenth century. However, it was not wholly forgotten. Many expeditions set out to undertake its rediscovery, which was not effected until 1721, when Hans Egede succeeded in re-opening communication; but he found no descendants of the Norsemen there.

Ancient ruins in Greenland do not appear to be either numerous or extensive. It is probable the colony never was a large one. Near Igaliko, which is situated on an isthmus formed by two fjords, there can be traced the walls of about seventeen dwellings, and opposite the Moravian settlement of Frederiksdal there have been found tombs containing wooden coffins, with skeletons wrapped in hairy cloth, and both pagan and Christian tomb-stones, with runic inscriptions.

With these evidences before them the Copenhagen antiquarians felt assured that remains of the Norsemen could also be found in the eastern part of the United States, and in order to establish their conclusions they sent out letters of inquiry to societies and individuals for information. Thus having been put on the trail the evidence was forthcoming. The Historical Society of Rhode Island was quick to respond, and procured such data as must have not only delighted but astonished the Copenhagen sages. The Dighton Rock Inscription, the Old Stone Mill at Newport and the Skeleton in Armor constitute the array of evidence. That these purported evidences had

much to do with giving the exact location of the so-called Norse settlements there can be no question. The Icelandic manuscripts at once pointed to the exact spot where the Dighton Rock is placed. The inscription on the rock was carefully studied by the Danish antiquarians, from the lines and figures carefully drawn by the authority of the Rhode Island Society. The result of the labors of the Royal Society of Antiquaries of Copenhagen was published in 1837, in a book entitled "*Antiquitates Americanæ*," to which a supplement was added in 1841. This work, with the American array of purported facts, gave zest to the subject of the Norse discovery. With confidence the route of the Norsemen along the shore of New England and the positions they occupied were pointed out. So great was the elation of feeling that it could scarcely be confined within reasonable limits, and soon, under this inspiration, the Scandinavians penetrated into the southern portions of the United States. How much farther they would have gone it is impossible to say had not the tide been checked by a more sober and rational view of the American monuments.

With all the light that has been thrown upon the Dighton Rock, it would be reasonable to suppose that no one would desire to bring it forth as proof of the Norse expeditions. Certain subjects, similar to certain men, die hard. One man—Professor R. B. Anderson—thus announces his undying faith: "Until sufficient proof of some other origin of the Newport Tower and the Dighton Rock inscription are given, we shall persist in claiming them as relics of the Norsemen."* In his chapter on Thorfinn Karlsefne he is moved to say: "In the next place, attention is invited to an inscription on a rock, situated on the right bank of the Taunton River, in Bristol County, Mass. It is familiarly called the Dighton Writing Rock Inscription. It stands in the very region which the Norsemen frequented. It is written in characters which the natives have never used nor sculptured. This inscription was copied by Dr. Danforth as early as 1680, by Cotton Mather in 1712; it was copied by Dr. Greenwood in 1730, by Stephen Sewall in 1768, by James Winthrop in 1788, and has been copied at least four times in the present century. The rock was seen and talked of by the first settlers in New England long before anything was said about the Norsemen discovering America before Columbus. Near the center of the inscription we read distinctly, in Roman characters, CXXXI, which is 151, the exact number of Thorfinn's party. Then we find an N, a boat, and the Runic character for M, which may be interpreted, 'N(orse) sea-faring M(en).' Besides we have the word NAM—took (took possession), and the whole of Thorfinn's name, with the exception of the first letter. Repeating these characters we have, ORFIN, CXXXI, N (picture of a

*America Not Discovered by Columbus, p. 22.

...AM, which has been interpreted by Prof. Rafn as Thorfinn, with one hundred and fifty-one Norse sea-men took possession of this land (landnam).’ In the upper corner of the inscription is a figure of a woman and in the latter of which is the letter S, reminding us of Gudrid and her son, Snorre. Upon the whole, Dighton Writing Rock, if Prof. Rafn’s plates and interpretation can be relied upon, removes all doubt concerning the presence of Thorfinn, Karlsefne and the Norsemen at Taunton in the beginning of the eleventh century.”*

Prof. Anderson appears to be utterly oblivious to the fact that investigations have been made concerning this rock, since Prof. Rafn’s opinions were published. It is but charitable to assume that Prof. Anderson never heard of the results of this inquiry, although they have repeatedly been published. It will be noticed that Prof. Anderson indirectly admits that if the Dighton Rock does not confirm the Norse discoveries, then there is doubt concerning the presence of Norsemen at Taunton river.

The more judicious and better informed De Costa, in his chapterless volume, entitled *Pre-Columbian Discoveries of America*, although, apparently he has exhausted the evidences bearing on his theme, devotes but little space in the body of his work to the American monument, but his references, where made, are mostly in the form of foot notes. In one of these notes, concerning Dighton Rock, he affirms that “whoever compares this inscription with those of undeniably Indian origin found elsewhere, cannot fail to be impressed with the similarity.

* * * Just over these letters is a character, supposed to be Roman also, which may signify NA, or MA, the letter A being formed by the last branch of M. Now MA in Icelandic is used as an abbreviation of *Madr*, which signifies the original settler of a country.”†

By competent observers the Dighton Rock has been described as a large angular block of greenstone trap, presenting a smooth inclined line of structure, or natural face towards the channel. It lies on a large flat in the bend of the river, and is exposed or laid bare at ebb-tide, but covered with several feet of water at the flow, submerging the rock, with its inscription. The action of the tide, thus diurnally assailing the inscription, which has continued for a great length of years, has tended to obliterate the traces of all pigments and stains, which the aborigines are known to have employed to eke out their rock-writings or drawings. The effect of disintegration from atmospheric causes have been probably less, under this action of the water, than is usual in dry situations. But as the tide deposits

*America Not Discovered by Columbus, pp. 82, 83.

†Pre-Columbian Discovery; p. 66.

upon its surface a light marine scum, which necessarily renders any scientific examination of the inscription unsatisfactory without a thorough removal of all recremental or deposited matter.

Washington, who was well versed in Indian matters, on being shown a delineation of the rock, pronounced the drawings aboriginal. In 1839, Mr. Schoolcraft employed Ching Wauk, an intelligent Algonkin chief, well versed in Indian pictography, to descipher the inscription from the engravings of the rock that appeared in "Antiquities Americanae," one of which was made in 1790, and the other in 1830. Selecting the former he pronounced it Indian, that it related to two nations, and consisted of two parts. All the figures to the left of a line drawn through it which would not touch any part of the figures related to the acts and exploits of the chief, represented by the key-figure, No. 1, and all the devices to the right of it had reference to his enemies and their acts. There was nothing depicted in either of the figures to denote a foreigner. There was no figure of, or sign for, a gun, sword, axe, or other implement, such as were brought by white men beyond the sea.

One engraving, taken from Schoolcraft's "Indian Tribes," "presents unity of original drawing corresponding to the Indian system, which cannot fail to strike the observer. It is entirely Indian, and is executed in the symbolic character which the Algonkins call Kekeewin, *i. e.*, teachings. The fancied resemblances to old forms of the Roman letters or figures, which appear on the Copenhagen copies, wholly disappear. The only apparent exception to this remark is the upright rhomboidal figure resembling some forms of the ancient \diamond , but which appears to be an accidental resemblance. No trace appears, or could be found by the several searches of the assumed Runic letter Thor, which holds a place on former copies. Rock inscriptions of a similar character have within a few years been found in other parts of the country, which denote the prevalence of this system among the aboriginal tribes from the Atlantic to the Mississippi. It is more particularly an Algonkin trait, and the inscriptions are called by them Muzzinábiks, or rock-teaching, while the elements of the system itself are called, as above stated, Kekeewin and Kekeenowin."*

The great dissimilarity in the different delineations of the forms of the marks on the Dighton stone, in which no two would appear to be intended for the same design, must necessarily shake confidence in the possibility of assigning it to a positive significance in linguistics. In speaking of this rock, Dr. Wilson says: "At the meeting of the American Association for the Advancement of Science, at Albany, in 1856, I had an opportunity of inspecting a cast of the Rock. No more confused and indistinct scrawl ever tried the eyes of antiquarian

*See Schoolcraft's Dissertation in his "Indian Tribes," Vol. IV, p. 120.



DIGHTON ROCK INSCRIPTION.

seer. Mine proved wholly unable to discern the invaluable holograph of the ancient Norse Columbus. Indeed, the indistinctness of the half-obliterated design, and the rough natural surface of the weathered rock on which the figures have been scratched with the imperfect tools of some Indian artist, abundantly account for the variations in successive copies, as well as for the fanciful additions which enthusiastic copyists have made out of its obscure lines."*

The question of the Runic letters found on the rock should not be passed lightly over. Prof. Rafn attempted to show that there were positively two or three of these characters on it. In the quotation from Schoolcraft, above given, it will be noticed that he expressly declares that "no trace appears, or could be found by the several searches, of the assumed Runic letter Thor, which holds a place on former copies." Now, whether or not Prof. Rafn found what he specially was in search of, or else some one purposely deceived him by injecting Runic characters into the copy, cannot be determined at this late date. Bitter experience has taught the antiquarian to weigh Runic well before arriving at a decision. As an illustration, the case of Prof. Finn Magnussen may be cited with profit. In the Swedish province of Bleking is a rock (called "Runamo") with a so-called Runic inscription relating to the battle between king Harold Hildetand, of Denmark, and the Swedish king Sigurd Ring, fought about the year 700 of our era. Under the auspices of the Royal Danish Academy of Science, in the year 1833, a committee of scientists were sent to visit the rock, and carefully investigate, and make a complete report in regard to it. Prof. Finn Magnussen, a member of the committee, in 1841, published an illustrated quarto work of 742 pages relating to the inscription, under the title *Runamo og Runerne*. The following is the rendering of the inscription:

"Hildekind occupied the empire
Gard cut in (the runes)
Ole gave oath (oath of allegiance)
(May) Odin hallow the runes
(May) Ring fall
On this earth
Alfs, love gods
(Hate) Ole
O tin and Freja
And Aser's descendants
(May) Destroy our enemies
Grant Harold
A great victory."

In 1842 and 1844, the eminent Danish archæologist, J. J. A. Worsæ, visited the *Runamo Rock*, and after having carefully examined it, came to the following conclusion: "There is no Runic inscription whatever on *Runamo Rock*, and that the

*Prehistoric Man; p. 406.

marks considered as runes by Finn Magnusen are simply the natural cracks on the decayed surface of a trap dyke filling up a rent in a granitic formation." It is probable that there are some still living who will continue to believe that these natural markings are runes.

The discussion of the Dighton Rock cannot be more fitly closed than in the interesting summary made by Dr. Wilson:

"The history of this inscription is scarcely surpassed, in the interest it has excited or the novel phases it has exhibited at successive epochs of theoretical speculation, by any Perusinian, Eugubine, or Nilotic riddle. When the taste of American antiquaries inclined towards Phœnician relics, the Dighton inscription conformed to their opinions; and with changing tastes it has proved equally compliant. In 1783, the Rev. Ezra Stiles, D. D., President of Yale College, when preaching before the governor of the state of Connecticut, appealed to the Dighton Rock, graven, as he believed, in the old Punic or Phœnician character and language; in proof that the Indians were of the accursed seed of Canaan, and were to be displaced and rooted out by the European descendants of Japhet. 'The Phœnicians,' he affirms, 'charged the Dighton and other rocks in Narraganset Bay with Punic inscriptions remaining to this day, which last I myself have repeatedly seen and taken off at large, as did Prof. Sewall. He has lately transmitted a copy of this inscription to Mr. Gebelin, of the Parisian Academy of Sciences, who, comparing them with the Punic palæography, judges them to be Punic, and has interpreted them as denoting that the ancient Carthaginians once visited these distant regions' * * * Here, then, we perceive the very materials we stand in need of. Change but this Punic into a Runic inscription, and the winds of the north will fit the Scandinavian Icelanders far better than voyagers from the Mediterranean Sea * * * So early as 1680, Dr. Dantorth executed what he characterized as a 'faithful and accurate representation of the inscription' on Dighton Rock. In 1712, the celebrated Cotton Mather procured drawings of the same, and transmitted them to the Secretary of the Royal Society of London, with a description, printed in the *Philosophical Transactions* for 1714, referring to it as 'an inscription in which are seven or eight lines, about seven or eight feet long, and about a foot wide, each of them engraven with unaccountable characters, *not like any known character*.' In 1730, Dr. Isaac Greenwood, Hollisian Professor at Cambridge, New England, communicated to the Society of Antiquaries of London a drawing of the same inscription, accompanied with a description which proves the great care with which his copy was executed. In 1768, Mr. Stephen Sewall, Professor of Oriental Languages at Cambridge, New England, took a careful copy, the size of the original, and deposited it in the Museum of Harvard University; and a transcript of this was forwarded to

the Royal Society of London, six years later, by Mr. James Winthrop, Hollisian Professor of Mathematics. In 1786, the Rev. Michael Lort, D. D., one of the vice-presidents of the Society of Antiquaries of London, again brought the subject, with all its accumulated illustrations, before that society; and Col. Vallency undertook to prove that the inscription was neither Phœnician nor Punic, but Siberian. Subsequently, Judge Winthrop executed a drawing in 1788; and again we have others by Judge Baylies and Mr. Joseph Gooding in 1790, by Mr. Kendall in 1807, by Mr. Job Gardner in 1812, and finally, in 1830, by a commission appointed by the Rhode Island Historical Society, and communicated to the Antiquaries of Copenhagen with elaborate descriptions: which duly appear in their *Antiquitates Americanae*, in proof of novel and very remarkable deductions. Surely no inscription, ancient or modern, not even the Behistun cuneatics, or the trilingual Rosetta Stone, ever received more faithful study. After inspecting the rude scrawls of which it chiefly consists, it is pleasant to feel assured of this, at least: that when learned divines, professors and linguists thus perseveringly questioned this New England sphinx for upwards of a century and a half, we have good proof that no more valuable inscriptions have been allowed to perish unrecorded. But the most curious matter relating to this written rock is, that after being thus put to the question by learned inquisitors for a hundred and fifty years, it did at length yield a most surprising response.

The description given by Prof. Greenwood of his own process of copying, and by Prof. Winthrop of the method pursued by his colleague, Mr. Sewall—as well as the assiduity and zeal of other copyists—would, under all ordinary circumstances, have seemed to render any further reference to the stone itself superfluous. But no sooner do the Danish antiquaries write to their Rhode Island correspondents, with a hint of Leif Erikson and other old Norsemen's New England explorations than the Dighton Rock grows luminous; and the Rhode Island Commission sends a new drawing to Copenhagen, duly engraved, with all the others, in the *Antiquitates Americanae*, from which the learned Danes, Finn Magnusen and Charles C. Rafn—as indeed the most unlearned of English or American readers may—discern the name of Thorfinn, with an exact, though by no means equally manifest enumeration of the associates who, according to the saga, accompanied Karlsetne's expedition to Vinland in A. D. 1007. The annals of antiquarian exploration record many marvellous disclosures, but few more surprising than this.*

The Dighton Rock inscription having been so well received in Copenhagen, Dr. Webb, the Secretary of the Rhode Island

*Prehistoric Man, i p. 403-406.

Society, again essayed to enlighten the Danes, so sent them a drawing of the circular stone mill at Newport, along with some metallic implements found in conjunction with a skeleton at Fall River. These new evidences were published in the Supplement to *Antiquitates Americanae*, which appeared in 1841. Much learning was employed to prove by analogies that these also were of Norse origin. That the Round Tower at Newport, Rhode Island, is of Scandinavian origin rests on no other foundation than that of bold assertion. And yet the idea has found its way into our school books, and a picture of it is given, in



OLD STONE MILL

attestation of the early visit of the Icelanders. This structure, which has so forcibly been pressed into service to do duty in substantiating an unhappy theory, stands on an eminence in the center of the town of Newport, being about twenty-four feet high and twenty-three feet in diameter, circular in form. It rests upon eight piers, connected by arches; has four small windows, and, high up the wall, above the arches, was a small fire-place. The columns are about ten feet high; the height of the center of the arches from the ground is twelve feet six inches, and the foundation extends to the depth of four or five feet. The stones composing the structure are irregular in size and not placed in regular layers.

IDOLS AND IMAGES.

BY STEPHEN D. PEET.

One of the most interesting subjects connected with American archæology is the one which relates to the worship of images or idol worship. This was the earliest form of religion in historic countries, and is, even now, a most extensive and wide spread system and so introduces a most important field of research. We are, to be sure, in America brought to it from another side than that which is usual, namely, the prehistoric, but it ends where it began in historic countries. Its chief development was among the civilized races, though its origin lies back of all civilization, and can be only learned from the uncivilized countries. America furnishes unusual advantages for the study of this system, for it not only presents idolatry in a high stage of development and associated with a comparatively high state of art, but it also brings before us various lower stages in which idol worship prevailed. We are evidently brought by the symbolism of America nearer the sources of idolatry than in any other country, and therefore may find it profitable to study these symbols. The subject of comparative religions has been followed hitherto in eastern countries, America having been left out of the account altogether, but we are really nearer the sources of the ancient religions than the people of the east, and may well study the tokens which are at our very doors.

I. Let us consider the character of idolatry on the American continent. It is well known that idolatry prevailed in scripture lands and was there condemned as a source of degradation. The common theory is that it was a system which came from the decline of a higher faith to a lower, and that its appearance in other lands involves the same conclusion. Contrary to this is the theory that idolatry was one of a series which led from a lower to a higher stage, and would ultimately have ended in monotheism. From this some have drawn the conclusion that every form of religion was the result of the process of evolution. Worship of nature powers led up to personification, this personification introduced the human image as the chief form of its embodiment, and so these images or idols were ultimately the means by which the mind sought to reach the apprehension of divine attributes. Some would maintain that the worship of "culture heroes" followed the worship of images, and after this the polytheistic divinities

appeared, and that the end would have been a Monotheism, similar to that of oriental countries. This, however, is mere conjecture and is by no means sustained by the study of symbolism on this continent.

While there was a progress from the lower condition up to a higher, there was never the attainment of such a conception as prevailed in historic countries and certainly no such view as that given in the Book of Revelation. Though we have the various members of the series—animal worship, sun worship, fire worship, sky worship or Sabæanism, image worship and even hero worship, there was no such thing as the worship of a personal god and no conception of the spirituality of the divine being. This may be ascribed to lack of opportunity, or to arrested development; but it would seem as if the experiment had been sufficiently tried. The remoteness of America from historic countries was such that the influence of revelation was not felt. The people were not brought to the idea of holiness by that or any other influence, and were lacking in the essential element which constitutes the religion of historic countries. There is this extenuating circumstance, they had never come directly in contact with anything better. If there was a higher view among the civilized and historic nations which had enjoyed the benefits of revelation, it never came to them. If there was any contact with historic countries it was so slight that its influence is imperceptible. Still, the same reproach brought against idolatry in the east might be brought against it here. Man was held in bondage to his own superstition. He never rose above himself. While there was a progress in civilization and a wonderful advance in symbolism there was very little progress in morality or true religious life. In reality the greatest cruelty which was ever practiced in America was that which appeared in connection with the worship of idols and personal divinities in Mexico. Montezuma, the Aztec king, sought out human captives by thousands and offered them to the great sun divinity whose image stood on the summit of the lofty Teocalli of the city. Civilization brought in a most elaborate system of symbols, all of which were expressive of the personification of nature powers, but were at the same time expressive of the worst passions of human nature. The rise of idolatry in this country does not prove that man would have reached the worship of the one true God without the aid of revelation, but rather proves the contrary; so that we have the same lesson here that we learn in heathen countries. While there was a correlation between the geographical surroundings and the social condition, there was nothing in man's environment to bring him to a condition of spirituality.

This lesson is also taught by the geography of religion. It is remarkable that different zones should present so many forms of religion; that as we pass through the geographical districts

from the north to the south we find the symbols of nature worship growing more elaborate and advanced; but it is still more remarkable that when nature powers were personified and human attributes were given to animal divinities, man should not have arisen at a subsequent stage to the apprehension of the true God.

The following are the religions and the order in which they appear: (1.) Shamanism, which prevailed among the degraded fishermen of the north. Here the people were brought under the control of their medicine men, who often threw themselves into a frenzy and became the chief of the dog-eaters. It was a degraded system which prevailed among a most degraded people. (2.) Next to this was totemism. This was found among the hunter tribes. It was the religion of savagery. It consisted in the worship of animals as clan divinities, some of which were rulers of the sky, others the rulers of the forest and the field. It prevailed on the Northwest Coast among the Thlinkeets, among the aborigines of Hudson's Bay, and among all the Algonkin tribes situated along the chain of the great lakes. Totemism was perhaps a higher system than shamanism, but it brought in no higher personality than man himself. (3.) The religion which followed totemism consisted in the worship of mythologic divinities, some of which were apparently human and others purely animal. Mythologic divinities prevailed, especially among the Iroquois, the Dakotas, the Cherokees and the tribes of that general stock. They were incident to the highly organized confederacies, and were often made identical with the historic personages which appeared as the founders of these confederacies. "Culture heroes" also appeared among the wilder tribes, such as the Algonkins. These were mythologic divinities, but they always bore with them the symbolism of the lower animal worship, showing that they were totemistic in their origin and nature, and not historic.

(4.) Sun worship. This prevailed among the agricultural races inhabiting the Mississippi Valley, who had their chief seats along the Ohio River and in the Gulf States. Among them were the Cherokees, Natchez and Muscogees. The Mound-builders who inhabited these districts were also sun worshipers. They embodied the sun symbols in their works and relics. (5.) A fifth form of worship was that found among the semi-civilized races of the great plateau of the west, especially the Zunis and Moquis. They were Sabæans or the sky worshipers. While they believed the sun to be a great divinity, they regarded all nature powers as divine. They had symbols for the sky, lightning, winds, rain, and for the points of the compass; they divided the sky into six parts, which they called houses, and gave a different color to each of these houses. They held to a sort of animal worship also, and placed animals as the guardians of the different parts of the sky: the eagle of the upper region, the

mole of the lower region, the mountain lion of the north, the wildcat of the south, the wolf of the east, and the coyote of the west. They had rude images of these animals and worshiped them as fetiches. Each image had a color which corresponded to that part of the sky of which he was the guardian. Human images were also used. These images were attended with symbols of the nature powers. One of these was called the priesthood of the bow. It stood on a crooked serpent, which was a symbol of lightning, was surmounted with an arched figure, which was furnished with a head and legs and had different colors, and was the symbol of the rainbow. The image had no arms, but was furnished with wings whose feathers were drooping to symbolize rain; on his head was a turreted cap, which represented the sky; on either side was an image of the bear, which represented the guardians of the sky. (5.) Anthropomorphism. This prevailed among civilized nations of Mexico and Central America. It was much more advanced than others, for the nature powers were all personified by it, and most of its symbols were connected with the human image in some shape.

Still, the divinities of the civilized races were far from being a source of elevation, and were really a source of degradation. The idols which embodied them were covered with the most elaborate ornaments and symbols drawn from the animal and vegetable world, some of which were very horrid and repulsive. Any one who looks upon these idols and recognizes the human form and the cross draped with snakes and crowned with *crotales* jaws, and sees the grinning skull protruding from the midst, will realize how direful an influence these must have exerted over the people. The progress of native religion developed just such idols and culminated in such monsters, showing that there was scarcely an approach to the true idea and certainly no promise for the future.

We call attention to the following cuts to illustrate the point: Fig. 1 represents the Aleuts following their shaman in his mad ceremony.* This is only one scene; others are described by Dr. Franz Boaz and by Dr. Rink. The shamans had control of the spirits, and could call up demons which would drive away the game or could exorcise the demons and bring the game near the hunters. There was no power to elevate in this. The same may be said of the system that prevailed among the eastern Eskimos. According to Dr. Boaz their chief divinity was a woman, who slew her father and her children, and followed them to the under world. She dwells beneath the waters, but must be appeased by the fishermen at all times. There are also divinities which dwell in the rocks, so that every strange-looking

*In Bancroft's *Native Races*, Vol. 8, we learn that the shamans, among some of the tribes, even attacked their followers and bit pieces of flesh from their bodies, and in other tribes went to the graves and ate the flesh from the bones of the dead.

ck is regarded with awe, as if it were alive and contained a spirit within its depths.

The second figure is also instructive.* This represents the chief of the Thlinkets lying in state, with his totems near the head and the ceremonial blankets covering the bed and hanging



Fig. 1.—Shaman as a Dog-eater.

on the walls above it. We see in these the conventional forms which were given to the totems when they were woven into cloth or painted upon wood, the eye having been placed in every limb of the animal as well as in the head, for the divinity was capable of looking out from every part of the body. We

*A description of this chief and his totems may be found in the Smithsonian report for 1888.

see in the picture the stuffed images, which were totems and guardian divinities, some of them being individual totems, others clan totems, and others ancestral totems. The bear was the totem of this chief; but it had been substituted for the serpent. So the private and allied totems are placed beside the bed. This picture is not so repulsive as the one just given, but it shows the superstition of the natives. There was a confidence in the ani-



Fig. 2.—Thlinket Chief Lying in State.

mal divinities which gave them a sense of security more than that which the shamans could give, but it was certainly not elevating in its effect.

A third and fourth picture might be given to illustrate the system that followed these.* We will only refer to them here. If the reader will take the picture of Atortaho, with his head wreathed with snakes, as one specimen; the great serpent mound

*The picture of the Iroquois returning thanks to the Great Spirit, found in the Second Annual Report of the Bureau of Ethnology, is suggestive. Here the natives are dancing in their native costumes marked with the emblems of their clans, but covered with masks, as they brandished their weapons toward the sky. Human sacrifices were common among the southern tribes. Serpent worship and sun worship required human sacrifices from the Mound-builders of Ohio in their time.

as another; the "winged figures" of the Gulf States as another, he will find representations of the mythologic creatures, and will see what this form of nature worship was, and can judge for himself as to its character and influence.* For specimens of the Sabæan worship, he might take the fetiches and the shields of the priesthood of the bow belonging to the Zunis, or the symbols connected with the snake dance of the Moquis, or the "sand pictures" which represent the myths of the Navajo tribe. In these he will find a system which is more advanced than totemism, but one which still held its votaries in bondage. According to Mr. Cushing, the rudest forms had the most of the divinity in them, for they were nearer to nature, while the carved specimens were farther away. The hand of man might bring more advanced art, but it did not bring any more of the divinity with it.

The next figure (Fig. 3) illustrates the character of the sun worship as it prevailed among the so-called civilized races. This system differed from that which prevailed in the mound district, though sun worship in both districts joined hard upon idol worship, but its symbols were different. The figure represents the tablet which was fixed in the rear wall in the Temple of the Sun at Palenque, and was called the tablet of the sun. The central object is a hideous face or mask, with protruding tongue, which is supported by two staves in the form of a cross. The cross stands on a kind of altar, which is supported by two crouching figures. On either side are two priests, in the act of making human offerings to the face of the sun. Two stooping men support the priests on their backs while they stand and present their offerings. Here, then, we have another picture of the growth of nature worship, but it is not a picture that attracts us either by its symbolism or by its hidden significance. The hideous mask may indeed have represented a sun divinity, but there is nothing kindly or hopeful in the symbols. It may be that the crouching figure represents Tlaloc, "the god of rain," and that the bulging eye symbolized the rain itself; it may be also that the protruding tongue symbolized the spirit of life, which was a gift of the sun divinity, and that the different parts of the human body, as distributed and scattered and separated, symbolized the various elements and nature powers, but human sacrifices were offered to these divinities, and even in the tablet human beings are crushed beneath their feet. The same lesson is taught by the symbols of the Aztecs, such as the "calendar stone," the sacrificial stone, and confirmed by the customs of the people and by the idols which they worshiped. In Mexico the sun divinity was appeased by human sacrifices, the face was washed with human blood, and the very sacrificial stones, which are cov-

*Descriptions of the dry paintings of the Navajoes are given by Dr. Washington Matthews in the Fifth Annual Report of Ethnological Report, and of the snake dance of the Moquis by Capt. Burke in his volume on the subject.

ered with the emblems of the sun divinity, were made to catch the blood of human victims that were slaughtered. History and tradition, to be sure, give us the other side, for we read the story of "A Fair God," and find the personal qualities of the one who was worshiped by the Aztecs quite similar to those of the great redeemer of mankind. We read, also, the teachings and prayers which have been written and find much that resembles the teaching of the Scripture, but this was all in spite of the idolatry which prevailed, and can, by no means, be ascribed to nature worship. If the "fair god" was pictured with such a kindly face and his words to the people were so full of hope, we are surprised that the sun divinity, which was personified in the story, should have been appeased by so many victims, and that the pyramids, which were erected to so benevolent a being, should have everywhere wreaked with human blood. The idols placed in the shrines on the summits of these pyramids impressed even the Spanish conquerors with the sense of cruelty, and they were hurled down the sides as cruel monsters.

Let us study the character of this "fair god," called by the Mexicans *Quelcatlcoatl*. The contrast between the symbolism and the traditionary history of this chief divinity is very striking. He is represented by the symbols of the bird, serpent, flint and cross, signifying clouds, lightning, thunder-bolt and four winds. His name means feathered snake. His temple was a round tower, but the door was in the shape of the jaw and fangs of the snake. He had a ship of snake skins. He disappeared into the snake corner. But according to the tradition given he had the most benevolent character. His life was full of self-sacrifice and his labors most useful to his nation. His enemy was *Tezcatlipoca*, who was the "god of death," and can be compared only to *Loki*, the arch-demon of the Scandinavians. It is singular that this good divinity should withdraw and give place to this evil one, though he promised to return. The strange story reads like a modified history of Christ or Buddha. We are at a loss to account for it. Shall we say that some kindly missionary, such as St. Brandon, the Irish traveler, or some Buddhist priest reached these distant shores and gave the new doctrines to the natives? We certainly cannot ascribe the traditionary character to the law of parallel development; for if we do it is difficult to reconcile the traditions with the symbols. The natives may have have deified some historic character in one and symbolized nature powers in the other. According to tradition this divinity is pictured out as a white man with a heavy beard and long, priestly gown. He is said to have come from the east and retired to the east, but his return was fully expected by the Aztecs, so fully that they mistook the Spanish general, Cortez, for this divinity. There have been various theories adopted to account for this strange story, and for the no less strange expectation. Prescott



Fig. 3.—Sun Mask on Tablet in the Temple of the Sun at Palenque.

thought that it was a historic character. Brinton thinks it was only a personification of the sun to be compared with the other culture heroes, such as Manco Copac and Vira Cocha. Bancroft thinks that two forms of religion were represented. He recognizes not only two diverse races but two currents of ideas, two ways of judging events, two orders of gods. Mr. Tylor declares him to have been the sun. J. G. Muller says he is the national god of the Toltecs, having an original nature basis for his existence. He has been compared to Hercules and Dionysus of the east, and to the German Siegfried, and his enemy to the Celtic dragon-killers, and to the great spirit of the Chippewas. But what do the symbols teach us? We may place Christianity in its worst light, contrasting the cruelty of the Spanish conqueror with the passive meekness of the Aztec king; yet, the symbols and customs of that strange people convince us that idolatry here was a most degrading and merciless system and in no way promised hope for the people.

II. Let us next consider the origin of idolatry. We have spoken of the geography of religion and have shown that different systems prevailed in different geographical districts. We are now to study the distribution of the idols, and ask whether there was any district or circumstance or state of society in which this system may be said to have arisen. The source of information is in the symbols. We find as we look over the continent that there are many symbols, but that the symbols of idolatry are mingled with those of other forms of religion. We find also, that idol worship prevailed in the lower stages of society and continued into the higher stages—each grade of advancement having a more elaborate symbolism about it. The survival of the lower forms of worship, however, may be recognized even in those localities where idol worship was at its height. Our conclusion, drawn from all of these facts is that in America, at least, idolatry was the result of a gradual development and that the worship of the human image is to be connected with nature worship. Let us then take up the study of the images as they are found in the different districts. The following are the channels through which this form of worship flowed, the means by which this class of images has been perpetuated. (1.) The effigy mounds. These are mainly the effigies of animals, yet the human form is seen among them often enough to show that there was a beginning of idolatry even here. (2.) The "inscribed rocks" frequently present human figures in association with animal figures. (3.) Tablets and shell gorgets have been discovered in which the human face is in combination with the animal form. (4.) There were various amulets, charms and personal ornaments worn by the natives which exhibit the same human image. (5.) Masks, in imitation of the human face, are very common. These masks seem to have been buried with the

dead among the Mound-builders, but were worn by the living among the inhabitants of the northwest coast. (6.) The pipes and pottery of the Mound-builders frequently contained the human form in combination with that of a bird or a beast. (7.) Idols finished in the round are common among the Pyramid-builders of the south, but also found in the central provinces and in Peru. (8.) Shields and mystic symbols of the Pueblos are to be mentioned. (9.) The idols and carved columns of Yucatan and Guatemala contain the human and animal form combined. (10.) The idols of Mexico present the same combination.

The thought impressed upon us from all these images is that whatever we may say about the origin of idolatry in oriental countries it was here not only connected with the lower forms of nature worship, but actually sprung from them. We believe that a careful study of the images and symbols will bring any candid mind to this conclusion. Some of them were used as



Fig. 4.—Human and Animal Effigies.

mythologic creatures, others constituting a sort of picture writing, still others as totems. These different uses of the human effigy are significant, for they show how the idea of divinity must have been ascribed to the human form and that idolatry must have grown out of the totem system. It is noticeable that the aborigines used their clan emblems in this same way; some of them embody myths which are still extant; still others embodied clan records, the dream gods and the prey gods, the human figure being especially significant.

1. We begin with the human figures found among the effigy-mounds. A full description of these will be found in our work on "Emblematic Mounds." We there spoke of the clan system as represented by the animal figures and pointed out the totemistic uses to which they were subject. There is this difference between animal and human figures. The human effigies were generally suggestive of some other use than that of a clan emblem. They were, to be sure, associated with these emblems, but often seemed superior to them and were perhaps personifications of their myths. We refer to this here, for it furnishes a plausible

explanation of the human effigies. These effigies may have been erected as totems or as mythologic divinities. The region where human effigies are most numerous is that which has been occupied by hunter tribes from time immemorial, giving the idea that they were really the divinities of the hunters. Here the human is always associated with animal figures; those made of standing stones, those inscribed upon the rocks, and those raised above the soil in earth moulds, having the same general shape and apparently the same significance.

We call attention to the cuts. Figure 4 represents the human effigy in the vicinity of Baraboo, Wisconsin. Here there are several human effigies associated with the animal figures,

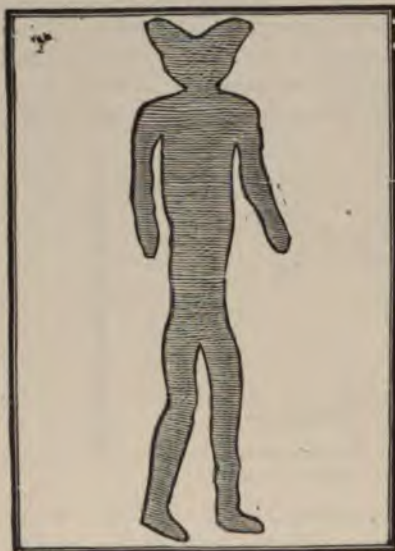


Fig. 5.—Human Effigy at Devil's Lake.

such as pigeons, fox, buffalo, mink, eagle, bear, panther, deer, squirrel, long mounds and round mounds. Another effigy (see Fig. 8) is situated near the Blue mounds. Here the human figure is in a line with bears, long mounds and round mounds. In all these groups we recognize the totems of the clans which made the four lakes their places of resort. In one group (Fig. 7) we recognize also a sort of picture writing, namely that on the south side of Lake Monona. Here we see the hunter attended by panthers, which were the prey gods of the aborigines, chasing after deer which had been driven down from the prairies and were likely to run between the parallel walls or screens into the lake. Another locality where the human effigy was discovered is near Devil's Lake. Fig. 5. Here the image is isolated, and had no connection with any game-drive. The man has feet and hands, and is apparently walking; he has a double-peaked hat on his head, but is otherwise apparently naked. This may have been designed as a mythologic creature, representing one of the divinities which the effigy-builders regarded as sacred.

It is well known that the Dakotas had divinities in the shape of the human form, but at the same time representatives of the nature powers. One of them was named Wahkeenyan. His residence was at Morgan's Bluff, near Fort Snelling; he was the "god of thunder;" his tent had four openings, with sentinels at each opening—a butterfly at the east, a bear at the west, a fawn

at the south, and a panther at the north. He is represented with arms stretched out, and lines falling from the arms to represent the rain. A square head, from which crooked lines shot upward in the form of serpents, which symbolized the lightning. High water and floods were supposed to be caused by him. Fig. 6. The Dakotas had another divinity, called Heyoka. He was the anti-natural god; he was always cold when others were hot, and was warm when others were cold; he was sometimes represented with a human body, with one leg, and was armed with a bow, but had frogs leaping from the bow instead of arrows; he wore a double-peaked hat, from which snakes shot upward toward the sky; he was sometimes represented as a slender man with two faces, like Janus of ancient mythology. It is possible that the effigy given in Fig. 5 represented this divinity.



Fig. 6.—Rain God of Dakotas.

There is another effigy situated near the Wisconsin River. This had two heads, or a head with two plumes, and corres-

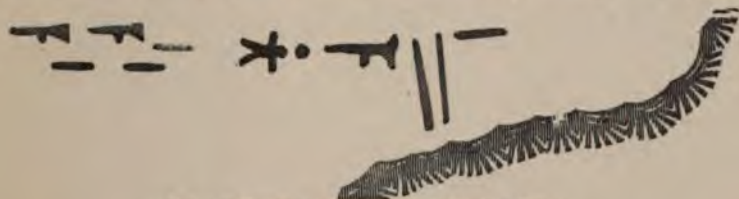


Fig. 7.—Hunter and Panther Chasing Deer.

ponded with one figure of Heyoka. An effigy near Baraboo represents a man with one leg, one arm akimbo, the other bent at right angles with the body. This also was an attitude of Heyoka.

2. We turn to the rock inscriptions which contain the human figure. These have been described by Mr. T. H. Lewis. They resemble the effigies in some respects, although much ruder, but have the conventional attitudes. One such was found in Dakota. Mr. T. H. Lewis has also spoken of inscribed rocks as having human forms upon them. See Fig. 9. One of these rocks is situated in Roberts County, Dakota.



Fig. 8.—Man Mound.

There are on these rocks two tortoises (1 and 2), a bird track (3), a man (4) and two birds (5 and 6). Other inscribed rocks were found in caves in Minnesota. These contained a great variety of figures, the human form among them. They may have represented the totems of the clans, or the mythological divinities, or served as picture-writings. Their object is unknown. We men-

tion them as specimens of the human figure and as representing one stage of native art, though we can hardly regard them as idols. In these inscribed figures animal heads look like man faces, and bird's wings resemble human arms, human hands resemble the branches of trees—a strange mingling of all the kingdoms. In the effigy mounds the transition from birds to men is also easy? What was the design of these?

Human images are also common among the rock inscriptions of Arizona. Some of these may be the work of the Mohave Indians as they have the conventional shapes of men which the Indians were accustomed to draw. Fig. 10 Others, however, are associated with animals and have the strange, grotesque shapes which were given to the mythologic divinities of the ancient people. See Fig. 11.

3. This brings us to the mythological emblems. There were

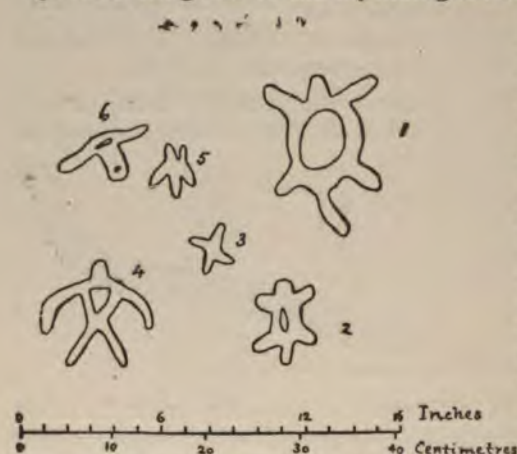


Fig. 9.—Rock Inscriptions in Dakota.

myths which perpetuated the superstitions of the natives about their divinities, some of which have been embodied in pictures, others in idols or images, and still others in the traditions and folklore of the people. Some of these divinities were historical persons, or prominent chiefs, founders of the nations, and who had become deities in the minds of the people.

Among these we may mention the well known character, Hiawatha, who has been immortalized by Longfellow, and Atortaho, his enemy. There are many myths connected with these, some of which are ancient and some are modern. Mr. Horatio Hale has given the history of Hiawatha to show that he was an actual personage. The myths of ancients as well as the poetry of the moderns continue to dwell upon his supernatural powers. Still, it is easy to distinguish between these characters and those "culture heroes" which were the personifications of the original animal totems of the natives, but around whom myths of the deluge and of the creation have clustered as if they were original creators and divine beings. It is a question whether these myths, which are so attached to the historic founders, were not of modern conception drawn from the imagination.

Dr. Brinton thinks that these culture heroes were all personifica-

tions of the sun and had no actual existence, but we find that many of the historical characters were portrayed as if they had divine attributes and that finally they were deified by the natives. To illustrate: Atortaho was a warrior among the Iroquois who was feared by all the tribes. Hiawatha, on the other hand, was a lover of peace, and a man who had the good of his people at heart. Atortaho is now portrayed as a sort of demon having supernatural powers. According to one account he is repre-

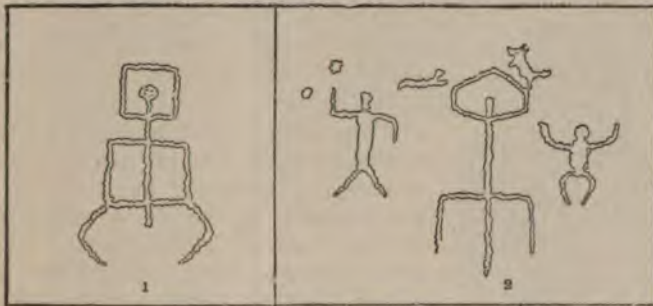


Fig. 10.—Rock Inscriptions in Arizona.

sented as sitting on a stool, attended by his faithful dog, his head wreathed with hissing snakes, with his servants before him, waiting his commands. According to another legend he was transformed by a peculiar process from a demon into a human being. At first he looked to be anything but human, for his hands were like the feet of a turtle, his feet like those of a bear, and on his head were serpents, in place of hair. At his transformation seven chiefs took thirteen wampum belts to his house at the edge of the woods and began to sing songs. At the first song his attention was gained and two of the belts were passed over to him; at the second his feet became natural; at the third his hands, which were awry and deformed, came into shape; at the fourth the snakes were brushed away from his head; at the fifth, that which was many fathoms long was brought to its natural length; at last the mind, which was not that of a human being, was reconstructed by a song which was called "I Beautify the Earth." After Atortaho was redeemed a tree was erected from which four roots shot forth, one toward the west, or the sun setting, another to the east, or sun rising, another to the south

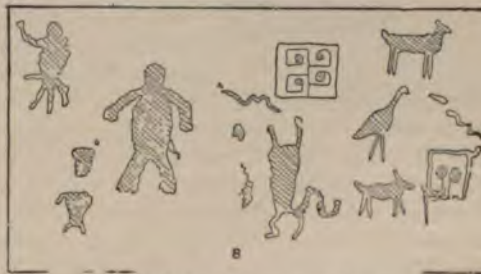


Fig. 11.—Mythologic Figures in Arizona.

to the mid-sky, another to the north, or to the place of the cold. On this tree sits a bird, the eagle, which keeps an outlook for the nations. The Iroquois confederacy was thus afterwards formed and the path which led from one nation to the other was laid out, a divinity having been placed at either end of the path to protect the nation. This account was furnished by Mr. John Buck, chief of the Iroquois in Canada, one of the "fire-keepers." It is remarkable for its imagery and especially because there is combined with the native tradition that which must have come

from the Scandinavian Sagas, the picture of the tree being found in the Eddas, but the picture of the animal form belonging to the Indians.



Fig. 12.—Idol from Ohio.

This mingling of historic traditions with native American symbols is worthy of study. There are many pipes from the mounds of the Ohio valley which contain human heads, some of which have serpents wound about the neck; others have trees growing up the sides of the face and serpents wound about the face. These pipes may have been fabricated by modern Indians who had received traditions from the white man, for in many cases they were surface finds; still they are worthy of attention. Dr. Charles Rau mentions one which came from Kentucky that was made from sand stone. It represents a bird with a strongly curved beak, perhaps an eagle, which stands on a high pedestal, showing in front a molded human face bearing incised lines. Dr. Rau says it partakes of a Pro-

methean character and may have reference to an event as well as a religious conception. The pipe which was described by Mr. Boyle of the Canadian Institute, Toronto, should be mentioned in this connection. This pipe may be modern and so have no bearing upon the subject of the tree and serpent having extended into America. Still, we have elsewhere shown that the Mound-builders of the Ohio valley had many symbols which seem to embody this same tradition, and the conjecture is that by some means there was a transmission of this symbolism from some portions of Europe and it became mingled with the native symbolism before the time of the discovery by Columbus. It is more than probable that these came from the Norsemen and that they are the tracks which the Norsemen have left upon the soil of America. Christianity had reached the north of Europe before these famous voyages took place. It was, however, a Christian-

ity which became mingled with the original Paganism, hence the strange mingling of native tradition of the animals with the sun-worship of the Druids and the tree and serpent of the Scriptures in the symbols of America.

III. The different classes of idolaters formerly found in America will next engage our attention. We have already shown that there were different systems of religion in the different districts, but that idolatry appeared in connection with several of them, apparently being the result of a personifying tendency which was inherent in the human mind. We shall therefore go over the territory again briefly, and show that wherever it was occupied, whether by Indians or Mound-builders, by Pueblos or mixed tribes, or by the later or earlier civilized races the system of idolatry corresponded with the very condition of the people among which it appeared, and that its character varied according to the district in which it prevailed. Here we would correct a very common error namely, that none of the Indians were given to idolatry. We maintain that they were idolaters, and shall as proof of this refer to the images found among them.

1. We first turn to the fetiches of the hunters. These were rude stone images found by the early missionaries as they passed along the water-courses, as they approached the natives. One such was seen at Detroit. This was taken and thrown into the river, much to the astonishment of the Indians. Another was found on the Fox River, in Wisconsin. This was also thrown into the stream. Another was seen at the entrance to Lake Superior. There was an isolated boulder opposite La Pointe, near the head of Lake Superior, which was very sacred. The Indians never passed it without laying tobacco before it. The Ojibwas had many such "stone figures," which they raised to the dignity of idols. Erratic blocks of copper were considered highly mysterious. It was a common belief that these rude figures were full of the divinity, that they were possessed by the spirits and were vital. The shape of these having come from nature, were regarded as proofs that they were possessed, and they became fetiches.

The cuts, Figs. 12, 13 and 16, represent rude images with the human form and face, made from nodules of wood or iron. The superstition was that every such object was possessed by a spirit which was partly human and partly divine.

The fact that these rude stones as they came from nature so resembled the human form led the natives to believe that they were divinities, or at least possessed by a spirit. In this way they became fetiches. They were not totems, for the totems were all animals; nor were they exactly idols, for idols were generally wrought into human shape and had some definite



Fig. 15.—Idol.

thought embodied in them. They were manitous; the very shadowy semblance making them mysterious and awakening superstition more than if they were definite. Some of the stones had myths associated with them. To illustrate: Standing Rock, on the Upper Missouri, is famous. It is a little boulder 28 inches in height, but the Indians regarded it as sacred. The story is that a young woman, the wife of a celebrated brave, was grieved because her husband took a second wife. She went out on the prairie and sat, broken-hearted, refusing food until she died. She was turned into this rock. In a cavern on the banks of the Kickapoo is a gigantic mass of stone, which the Indians say is a woman transformed into an idol.

2. The idols belonging to the animal worshipers are worthy of attention. We may divide them into three classes: (1) Those



Fig. 14.—Mask from a Mound in Ohio.

which contain the human face in combination with animal figures; (2) those finished in the round that have animal semblances, see Fig. 15; (3) those containing human figures with various symbols, see Fig. 16. The specimens which illustrate the first class are very curious. We give a cut of one in the shape of a mask, but which presents the human face surmounted with large ears, making it look as much like a wildcat as a human being.* See Fig. 14. This mask was found in a mound in Southern Ohio

and is now in the possession of Mr. Peter Neff, of Cleveland, O. Another very curious specimen has been described by Dr. Thomas Wilson.† This is a very rude nodule wrought into the shape of a human body surmounted by the jaws of a bear. It may represent a person holding a bear's skin in one hand and a mask in the other. It may have been intended for a medicine man dressed in his robe made from the head and skin of a bear. It reminds us of the hideous idols found in Gautemala. It is very rude when compared with them. The image of a priest or culture hero wearing a lion's skin is very common in the east—in Egypt, Greece and Phœnicia. The symbol may possibly be

*See American Antiquarian.

†See Smithsonian Report of National Museum, 1889.

traced back to a custom resembling that of the medicine man. This was found in a mound near Newark, Ohio, and is now in the National Museum. A third specimen is still more curious, and reminds us even more forcibly of oriental customs. It is in the shape of a shallow vase or small altar. It shows four heads carved upon it, one upon either side; one having the shape of the human face, another the face of a cougar or mountain lion, the third in the shape of a wolf, the fourth in the shape of a coyote. See Fig. 15. This altar reminds us of the figure in Ezekiel's vision, in which the face of a man is associated with that of the eagle, lion, and ox. The vase was found in a mound in Nebraska.



Fig. 15.—The Exeter Vase, from a Mound in Nebraska.

3. The idols of the stone grave people come next. These were very common in Tennessee and in the Gulf States. They are of various sizes, from large stone images two feet in height to small clay figures not more than three inches in length. These idols were carved from various materials—from sand stone, lime stone, fluor-spar, steatite. Some of them have been discovered in caves; others upon the summits of high mounds; a few in the depths of the mounds; but the large majority have been picked up from the surface. The first one which we shall mention is the one described by Joseph Jones, Dr. Charles Rau, Gen. G. P. Thruston and others. It was found in a cave on the banks of the Holston River, in Knox County, Tennessee. The cave appears to have been used for purposes of worship. The image was composed of crystalline limestone, and may have been

fashioned from a large stalactite, for the point at which the back of the head was attached to the walls of the cave may be seen in the idol. It is twenty inches in length and weighs about thirty-seven pounds. It shows a prominent nose, heavy eyebrows, full cheeks, a broad, square chin, narrow, retreating forehead—all of which are features of North American Indians. The eyes are mere cavities in the stone; the mouth is formed by a projecting ring; a groove runs across the face between the nose and the mouth; the body is four-sided and has a flat base, but represents the legs and feet, according to Mr. Jones's account, bent in a kneeling position. Dr. Rau says that "it is the best

specimen of its kind and compares favorably with the sculptured figures of Mexico and Central America." See Fig. 17.



Fig 16.—Idol from Tennessee.

Two remarkable stone idols were discovered in the valley of the Cumberland River, in the neighborhood of large pyramidal mounds and numerous stone graves. These differ considerably from the preceding image. Both are composed of dark, hard sand stone, and apparently are companion pieces—one a male and one a female. The male idol is thirteen and three-tenths inches in height; the figure rests on the left knee and on the right foot in a half-kneeling posture. The right hand rests upon the right thigh; the face is broad, large oval eyes, full lips, wide mouth, heavy lower jaw, broad retreating forehead; the hair rises from the forehead in a distinct roll, is drawn back and gathered into a cue behind, after the manner of the Chinese, and resembles the old-fashioned cues and wigs. The female idol has a similar shaped face; the lips are more prominent, and the tongue is pressed out between the lips; the hair is drawn up into a knot; the face is turned upward. The kneeling posture of both idols indicates worship.

Mr. Jones has spoken of another idol. It was found near one of the largest mounds in Tennessee, in Henry County. The idol, when entire, was in a sitting posture, the right knee elevated to the shoulder, the left knee and leg resting on the ground, the left hand resting on the knee, right arm resting on the body, and the right hand on the right knee. This striking and beautiful image was carved out of white fluor-spar, and exhibits a very fair degree of perfection in art.

Another idol, seven and a half inches in length, carved from coarse sand stone, was found in Perry County, Tennessee. Still another, female, formed from clay, was found in Williamson

County Both idols are in the same attitude. Still another, composed of clay from the Cumberland Valley, has the additional feature of a cap on the head which runs to a peak, and large projecting ears, which are perforated. Dr. Brown had two stone images, which were plowed up near a large mound in Charlottesville, one of which represented an old man, with his body bent forward and his head downward; the other represents an old woman. Gen. Gates P. Thruston has described several idols—one in Trousdale County, another from near Nashville, a third from Smith County—all within the region occupied by the stone grave people.²¹⁵ A large and well-formed female head was plowed up near the stone graves of Castilian Springs, in Sumner County, and still another, made from marble, was found near Clarksville, Tennessee. A stone image belonging to W. E. Meyer, of Smith County, is also mentioned. Perhaps the most interesting image is the one described by Dr. Troust, which was found in a sea-shell, forming a shrine. It represents a small, nude human figure, in clay, in a kneeling posture. The shell had been prepared for the idol; the interior whorls and column had been removed, and the point ground off to form a pedestal for it to stand upon. The image occupied its place in this large shell when plowed up. This curious relic furnishes evidence that the ancient inhabitants worshiped idols in about the same way as the idolaters of the east.



Fig. 17—Idol from Tennessee.

Judge Haywood, the early historian, gives the following account of an antique idol found on the top of a mound in Sumner County, Tenn., prior to 1823. The face was turned obliquely up towards the heavens. The palms of the hands were turned upwards before the face at some distance from it; the knees were drawn near together, the toes toward the ground, were separated wide enough to admit a body to be seated between them, the attitude seemed to be that of adoration. If the front of the image was placed toward the east, the countenance obliquely elevated and the uplifted hands, would in direction be toward the meridian sun. The head of this image was covered with a cap or miter, the lower part of which was furnished with a brim, but extended upwards conically.

4. We next turn to the idols which have been found among the sun-worshippers of the south. These may be divided into several classes as follows: 1st. The carved posts, which were

sometimes placed around the dance circles, and were regarded as sacred, 2d. The "carved statues" which were found in the "temples" or "charnelhouses." 3d. The stone images which were frequently placed upon the summits of the pyramid mounds. 4th. The pottery images which have been taken out of the depths of the mounds.

We mention first the carved posts. The painter, Wyeth, has described one set of these found near the village of Pomeiock where the Powhattans dwelt. In this village were the houses of the chiefs, the temples, the houses of the dead, the private houses,



Fig. 18.—Pipe of Sun Worshipter—Male.

but between the houses were the places of sacred assembly and dance circle. This circle was marked by a series of posts which had human faces carved near the top. The dancers were represented as passing through the circle in four paths, thus making a cross in the circle with human images arranged on the circle. This is the earliest specimen in which the sun circle is associated with idol figures. It reminds us of the sun circles found in the north of Ireland, though there the standing stones are arranged in a circle on an elevated platform and no human face carved upon them. Here we call attention to the fact that the Australians have similar circles with idols carved upon the

trees outside of them. These circles are the most sacred places; the penetralia where the images of the gods may be seen. They are called the "sacred groves," and are used at the time of the initiation of the young men. According to Mr. John Frazer the initiation begins in one circle, but the procession passes through a narrow passage along the sides of which are clay images in the form of animals which represent the totems of tribes, but ends in the smaller circle around which are the images of the "gods." The next step in the process is that a sacred wand is shown to the initiated; he gets a new name and a white stone is given to him. The last ceremony is that all go to a fountain or stream and wash off the coloring of their bodies and paint themselves white. By turning from black to white they symbolize the process of coming from death to life, the initiation of the young man having been considered also as a new birth. We see from this that there is the same totemistic system among the Australians

as among the native Americans. In America the sun circle was divided into four parts symbolizing the four quarters of the sky. The carved images were placed around the circle and are said to have been imitative of certain chiefs and were portraits instead of idols. They were, however, so placed as to overlook the religious ceremonies and may be regarded as embodying divinities as well as the spirits of ancestors. They show that idolatry originated from nature worship through a gradual process. This custom of placing the images of ancestors among the abodes of the living and doing them reverence was common among the southern Indians. We learn this from the early explorers. It is confirmed also by later writers.

In reference to the attitudes represented in the idols we may say that only three or four different attitudes have been described. All of them, however, are expressive of adoration. The images



Fig. 19.—Pipe of Sun Worshiper—Female.

are mainly upon their knees, some of them with the face turned towards the sun, others with the face looking forward. The positions of the hands vary, as they sometimes are placed upon the knee, sometimes drawn over the abdomen in front, and occasionally drawn back as if pinned behind the body.

The Mound-builders frequently placed their idols in their pipes and pottery. These have been regarded by some as idols and by others as mere imitative figures. The most interesting specimens come to us from the Gulf States and are to be connected with the Pyramid-builders. They all suggest to us that sun-worship was common among them, but they show also that idol-worship was also prevalent. See Figs. 18 and 19.

Gen. G. P. Thurston has described two images; one of these represents a male and one a female. They are pipes, but are made in the human shape. In one the hands are clasping the bowl of the pipe; the face is turned upwards as if watching the smoke as it ascended towards the sun. In the other, the female,

holds a vase, which has handles to it, and is symmetrically made. In this case also the face is turned up towards the sun; though it can hardly be told whether the object was to catch the sacred rain as it fell, or to watch the smoke as it arose— the attitude might mean either of these. They are very remarkable pipes. They not only perpetuated the images of the sun-worshippers, but they show the extreme reverence which these people felt toward the sun. They remind us of the custom common among the southern Indians. The cacique is said to have come out from his house on the summit of the pyramid, each morning, to welcome the sun. When strangers came to the village he would go out to meet them with pipe in hand, and would first address the sun, turning from east to north, and from north to west, and lifting the pipe to the four points of the compass. This sinistral movement has been noticed in the other tribes of the west. The sacred circuit was always in the same direction from right to left. This was the case in the snake dance of the Moquis and among the various ceremonies of the Zunis and Pueblos. The first idol was plowed up in a large mound on the Etowah river; it was made of course, dark sand stone, twelve inches high. The second, the female, was in Georgia near the Etowah mound, and may have been a companion piece. This was made of green steatite. Gen. Thurston has described several others. Some of these have come from the stone-graves of Tennessee, and others from the pyramids of the south; but all indicate the same superstition, that is, the worship of the sun.

This finishes the chapter on idolatry in America. We have spoken only of the idols of uncivilized races, for they illustrate the beginnings of idolatry. There remain to be considered the idols of the semi-civilized and the civilized races. These we shall take up in another chapter.



MAJOR JOHN W. POWELL.

1. The first part of the document is a list of names and addresses of the members of the committee.

2. The second part of the document is a list of names and addresses of the members of the committee.

3. The third part of the document is a list of names and addresses of the members of the committee.

THE ANCIENT INSCRIPTION AT CHATATA, TENNESSEE.

By A. L. RAWSON.

In March, 1891, the Cleveland (Tennessee) *Express* printed a short account of a discovery of a supposed ancient wall near that place. Mr. Carson, who wrote the article, had seen the stones and felt sure the marks on them are artificial.

I visited the place in May of that year, and made drawings, some of which are reproduced here, as also one from transcript made by Dr. J. Hampden Porter, of the Smithsonian Institute, Washington, D. C., who was there in the October following.

A cousin of Mr. Hooper carried me in a buggy from Cleveland, thirteen miles to Chatata, where Mr. J. H. Hooper, who found the wall on his farm, resides. We arrived late at his house and were entertained all night. After supper the stones were mentioned, and one they had at the house was shown me, and I transcribed the marks. In the morning six or eight more



Fig. 1.

stones, about sixteen or eighteen inches across, and irregular in fracture and about ten inches thick, were shown, as they lay under a rude shed where the children at play could injure them.

Later we drove to the place, about a mile from the house, on a sandstone ridge that is at least twenty miles long, north to south, flanked by limestone east and west, ending at the south near the Tennessee river at Chattanooga.

As we neared the place we saw several places where a single stone had been dug out of the clay soil, and those stones occurred at intervals of twenty-five or thirty feet for nearly one thousand feet. At the north end of the ridge the inscribed wall was found.

Mr. Hooper noticed first stone Fig. 1, which stood exposed a

few inches above the ground and saw, what seemed to him, a figure 8, which he supposed was on a stone placed at the head of some soldier's grave. After digging it out in the hope of learning the name he was surprised to find some unreadable marks. Further exploration exposed a formation of brown or red sandstone in three thicknesses, upright, about ten inches each, and apparently cemented together, forming what seemed to be a wall, with an inscription on the middle course on its west side. The lines run diagonally, ascending towards the right, and one cut on the raised surface of narrow ridges or flutings, parallel but not exactly straight. The works are from one and a half to two and a half inches across, and are cut into the surface of the rock a quarter or an eighth of an inch, varying, not uniform in depth. These incisions are filled with cement, perhaps by natural deposit from the soil above. A few groups are of figures of birds, or of animals, three to six inches across.

Mr. J. Hampden Porter wrote me from Chatata, October 21: "This formation is not a wall, but a red sandstone ridge and faced with clay, red, slaty and yellow also, to an unknown depth. In uncovering the rock for a space of twelve by sixteen feet, no implements and no traces of previous excavation have been found.

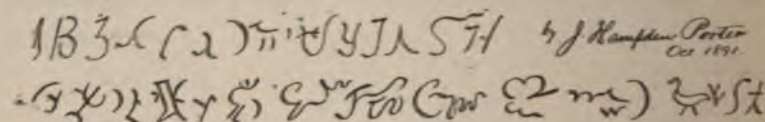


Fig. 2.

Supposing the works were made there by some prehistoric people, five, ten, or more thousand years ago, all traces of former disturbance would have disappeared, unless some stone implements had been left; and such would have been too valuable to leave there. With regard to the characters themselves, it appears to me that they cannot be otherwise than artificial. On the basis of eight hundred and twenty-five signs I have found that by bringing together those that were alike, and in numerous instances identical, there is a recurrence of essential forms and fac similes which would show the chances in favor of their accidental origin to be almost infinitely small. See Fig. 2. If they be a true script it is in a transition phase, and nearer the ideographic than the pictorial stage of writing. Still the representations of animal forms and emblems belonging to peoples widely separated, geographically, certainly present themselves here."

He recognizes the figure of the old and of the new moon, and of the "destroying quoit," the thunder bird, serpent, etc., etc., "united in lines on the stones, with letter-like markings" in great variety. Mr. Porter also thinks there are forms like many Old World alphabets, which of course are accidental, for these marks

may antedate the oldest—the Moabite, or even the Egyptian sacred text, or the Demotic script. I engrave here a copy of a line of the marks from his letter. Of them he says: “The figurings are more regular than the originals, but the forms are given truly.” Good photographs of the whole face of the tablet and of sections of it have been taken, which Mr. Duncan, of Chatata, can supply.

This inscription, whether it is on a wall or a ridge, is one of many evidences of a prehistoric people who were highly civilized on this continent. Not far from this wall, on Jolly Island, at the confluence of the Hiawassee with the Tennessee river, is a temple mound, which, Dr. Porter says, is built with mathe-



Fig. 3.

matical precision. Another cyclopean wall is on Fort Mountain, in Murray county, Georgia, in the Appalachian chain. A spur juts out very precipitously on three sides, and has about one hundred acres on its top, cut off from the mountain by a wall fifteen hundred feet long, five feet thick and six feet high, with many angles and curves, as if to command approaches. One opening is guarded by three towers.

Scholars will delight to compare the Chatata writings with those at Dighton, Mass., and also with some altaic characters in the old world, such as the Hamath inscriptions.

The skeletons with copper masks, found in mounds near Chillicothe, Ohio, were evidently those of well-to-do people, for with them were found hundreds of thousands of pearls, some an inch or more in size.

Correspondence.

MARY OF BERYTUS.

Editor American Antiquarian :

Having recently been permitted to see and examine some of the sepulchral pebbles which were recovered from the grave of Mary of Berytus, and which have been brought to this country, I feel like trying to share my pleasure with others. The memorials were obtained through an excavation near Beirut, Syria, made by Dr. Harlow Bates and his workmen in April, 1887. At a depth of some seven feet below the present surface of the soil they reached the ruins of the ancient cemetery of Berytus, dating back into the apostolic age, and one of the graves which they excavated proved to be the grave of Mary. They recovered from this grave some ancient sepulchral pebbles bearing ancient Greek inscriptions that fully establish this point. These were found "six feet below the former surface of the grave," and "thirteen feet below the present upper surface" of the ground, stored "in a miniature sepulchral chest of pale-red limestone, with a small white Cornelian pebble on the center of the lid, somewhat the shape of a pearl button." One was a small, close-grained black stone, very hard, which bore on its inscribed side two turbots (fishes highly esteemed by ancient Roman epicures) and a Greek sentence which signifies, "Mary, the Bishopess."

Another was a crown-shaped pebble, with a fish of the genus *Echeneis remora*, engraved in the center of the side set apart for the purpose. Another was a very ordinary-looking stone, of a variety common to Phœnicia. On the back of this was the inscribed picture of an acipenser fish swimming. And on the face, above a Greek inscription which means "Mary has finished her life in the Episcopacy," appeared a fish resembling a trout, while underneath the lines of the epitaphy was another fish, of the genus *Platessa*.

I take a peculiar interest in these old pebbles, because the pastorship or episcopacy of Mary of Berytus has been demonstrated by the inscriptions thus unearthed, after a burial of eighteen centuries. The evidence is conclusive and unanswerable.

The fish was a Christian symbol used extensively in the first century, and the earliest that appears in the inscriptions of the apostolic period (the dove and the anchor being next in age as symbols), owing to the circumstance that the letters of the Greek word for fish, *ichthus*, form the initials of the Greek phrase meaning "Jesus Christ, of God Son, Savior."

The sepulchral stones from the grave of Mary are very much

older than any copy of the gospels extant, outdating by centuries those venerable manuscripts, the Sinaitic, the Alexandrian and the Vatican. The utter absence of any symbols except the fishes in various forms argues that the inscriptions came from the apostolic age, prior to the period in which "Alpha and Omega" had become current as symbols, and thus prior to A. D. 96 and the publication of the Apocalypse.

Notice certain points relating to Mary of Berytus. The inscriptions mark her sex, give her name, and mention her office, calling her *teen episkopon*, and declaring that she *eteleioothee en teen episkopeen*, "finished her life in the episcopacy." The two turbots placed on the black stone styling her the bishop or bishopess probably indicated that Mary was the second person who had filled the pastoral office in Berytus. The fish of the genus *Echeneis remora* on the crown denoted that by attachment to Christ her crown of glory was gained. The trout at the top of the leading inscription expressed the idea of religious parentage; and the *Platessa communis* at the bottom, the fish which carries both eyes on one side, may indicate that her husband had become her pastoral successor. The reverse side showing an acipenser fish swimming emphasized the importance of constant work for Christ. Thus these stones cry out and utter

"Truths that wake to perish never,
Which neither listlessness nor man endeavor,
Nor man, nor boy,
Nor all that is at enmity with joy,
Can utterly abolish,
Or destroy."

DANIEL B. TURNEY, A. M.

AN INDIAN POTTERY.

Editor American Antiquarian:

Dr. C. C. Abbott of the American section of the University of Pennsylvania Archæological Museum, and H. C. Mercer, of Doylestown, while exploring a few days ago in Southern New Jersey, on the Egg Harbor River, uncovered what seemed to be the site of an ancient Indian Pottery, although no similar discovery has ever been made. Dr. Abbott is confident that the centre for a large aboriginal factory was located at this place.

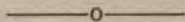
The ground when turned up shows quantities of potsherds in every direction and although decided traces of an Indian village are to be found in the vicinity, there is nothing to show the site was used for dwellings.

In the same place large quantities of chips of jasper were found, showing that arrow heads and other stone implements were made there.

Dr. Abbott stated yesterday that the locality will be fully explored by the University, and it is expected that the American section of the Museum will be enriched by many rare finds.

The exact locality of the pottery is being kept secret, as some other American Museums are anxious to find it in order to increase their collections.

ED. B. BEANS.



A STONE DAM IN IOWA.

Editor American Antiquarian:

I forward to you all the information I have been able to collect in reference to the mound, the stone dam and various relics found in this county.

First. In reference to the mound. There is an elevation five hundred feet long, one hundred and thirty feet wide and fifteen feet high, situated on Plum Creek, in Knowlton Township, called Knowlton mound. This is serpentine upon one side but can not be called an effigy; whether it is entirely artificial or not is a question, for we have not been able to excavate enough to find out where the river bank commences and where the artificial part ends. The black loam near the center was found to be nearly six feet deep and a layer of coarse yellow sand below this. Several years ago the mound was opened by a physician and a skeleton taken out. This fact, taken together with the isolated position of the mound and the different formations of the soil under it, render it probable that it was artificial.

In regard to the stone crossing it is so constructed as to dam the creek or river, it has been, part of it, taken away, but enough remains to make what the people here designate "The Ripple." The evidence that it is not natural is that the stones are laid in evenly and the river has but very little rock in it, the nearest above being one-half mile.

Some of the citizens of our village are very old settlers; have been here when there were only three families within the limits of what is now Ringgold County. I have taken pains to inquire and they inform me that no mill was ever situated at this point, and that the dam or ford is not the work of white men.

I send the outline of the copper cup which was found in this vicinity. Unfortunately the person who found it did not know its value and it was lost. So the drawing had to be produced from memory. It was found in 1872, by Warner Ruby, and was in his possession for a long time, and was seen by many.

I have not been able to see the parties who found the inscribed stone. Should you consider it of sufficient interest, I might write you in regard to it at some future time.

I hope you will get the necessary information from this letter.

You can rely upon each statement as "strictly correct," as abundant proof can be given of all.

As to the mammoth teeth. I send the outline of one which was taken out of the bank of the West Grand River. When it was exposed to the air the greater part of the crown crumbled away, showing that it was very old.

I give these facts to attract the attention of explorers to the vicinity. There are a number of mounds in this locality, but the dam is unique and worthy of study from professional archaeologists.

CORA M. JORDAN.

ENGRAVED FIGURES ON IVORY.

Editor American Antiquarian:

I am sorry to disappoint you in regard to the photograph of the relic. The etching is so fine and the surface so much eaten away that it is impossible to get one. I enclose drawing as good as I can. The piece was found near the mouth of Kishwaukee River about five miles south of railroad; apparently it is ivory, and is hollow like the stub of a horn, curved and slightly flattened. The etching of female head and shoulders with wreath surrounding, though eaten with time, are still plainly to be seen. On the other side (which is much more corroded) evidently was the full length figure of a man, though only here and there a small spot shows the carving; above and towards the corner is what would now be termed a fool's cap, such as are seen in old English pictures. Under the figure were other carvings, the ends of which only are still visible. All the lines are very fine and as true and finished as the work of the fine engravers of to-day; the woman's head long, I should say Grecian features, sloping shoulders and flowing hair. The ivory looks like the tusk of some large animal, it is fine grained and white where filed to test it. In size it is seven and one-half inches long, six and one-half inches in circumference at base and nearly the same in the middle, is two and one-half by one and one-half inches in diameter at the base. I am sorry it can not be photographed.

Since seeing you, a friend, Mr. Ware, and myself have done a little more digging. We opened up across the center of a long mound and found ashes, charcoal and burned small stones, about one and one-half feet below the average level of the surrounding land, evidently scooped out lengthwise of the mound. The filling of the mound was of different kinds of soil, but ashes comprised a very large portion of the same.

In working the road the east half of the mound had been taken away to within about two feet of the bottom of the original excavation, as we had a chance to go to the bottom for

quite a distance, but found nothing except a very small piece of bone in the ashes. We also dug a large conical mound, found the bottom of the ashes about one and one-half feet below the general level, a large amount of ashes, some small pieces of pottery and part of the large bones of the thigh and one or two teeth. There were satisfactory evidences from the kind of ashes found, etc., that the body had been wholly cremated, with the exceptions noted.

WM. FRISBIE.

Rockford, Ill., November, 1891.

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HOW MANY GODS ON OLYMPUS?

Editor American Antiquarian:

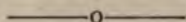
Gladstone's articles on the Olympian religion coming out month by month in the *North American Review*, attest an eye not dim and natural force not abated. The Homeric poems are the Bible from which he derives his material, and he shows more conclusively than ever that he there draws from a fountain springing up in everlasting life. No great professor can rival Gladstone's familiarity with his own scriptures, and few will take exceptions to his inferences. But his method of determining the number and rank of the Olympians strikes an outsider as in some respects queer, if not ludicrous. As to five Gods—Zeus, Here, Poseidon, Apollo and Athene, the grand old man has no hesitation in assigning them the highest position. Eleven others mentioned by Homer as usually present in Olympus among the assembled immortals are therefore classed as *Dii Minores*, or divinities of the second rank. But many other superhuman beings are mentioned by Homer whose claim to seats in the divine council was more or less doubtful.

The whole number of seats is supposed not to exceed twenty, inasmuch as Thetis visiting Hephaistos in his smithy, found him finishing off exactly "twenty automatic chairs or stools for use by the gods in the Olympian Courts." We give Mr. G.'s translation of *tri postas*, though the contest shows that self-acting tricycles must be meant. But as the seats were only a score sixteen of them occupied by gods of the first and second class, it is concluded that all but about four of the other claimants must be excluded. If admitted into the hall of Zeus, they would have been as uneasy as the cherubs flitting about the chamber St. Cecilia and unable to accept her invitation to be seated because they had nothing to sit down on.

The idea of estimating numbers by the accommodations provided for them is no novelty. It was familiar to Dante. When he was caught up into paradise and pointed by Beatrice to the seats prepared for himself and her, Henry of Luxemburg and others, who were still alive, she bade him observe that the

places not yet assigned were few. *Che poca gente omni ci si desira.* Par, 30:132. He was thus warranted in thinking that not many of his contemporaries could be saved. A similar style of reasoning cropped out in the mind of a Biblical commentator, when a scientific friend of his was studying in museums and books of natural history with a view to ascertain the number of varieties in the animal kingdom. "I can tell you," said the commentator, "without leaving my study. I have demonstrated by mathematical calculation just how many pairs could find room in the ark of Noah, and you may be sure that that number tallies exactly with the genera of animals now existing on all the face of the earth."

PROF. J. D. BUTLER.

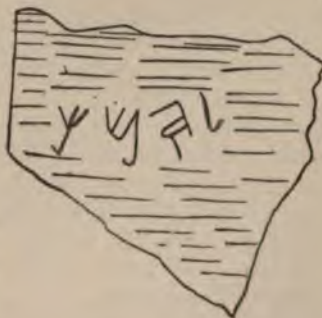
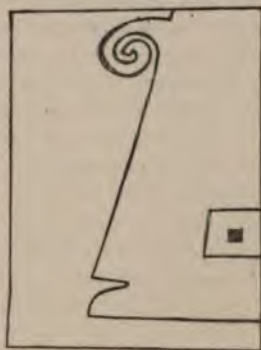


THE "HORN OF THE ALTAR."

The novel theory is thrown out by our esteemed contributor, Prof. Theodore F. Wright, that the horn of the altar was a volute cut in relief, rather than a projecting cornice or raised band above. This theory is based on the discovery of a block found at the entrance of the city wall in the side of the doorway at Tell-Hest, a city which dates from B. C. 1700. The figure given herewith will give an idea as to the shape of the altar. The wall of the city was twenty-eight feet thick. The bit of pottery with an inscription which reads, "To Your Health"—a bit of Amorite courtesy put upon a drinking vessel—may be of a later date than the block.

Mr. Flinders Petrie was the original discoverer, but Mr. F. J. Blin, an American, is following up the discovery.

"Cities walled up to heaven" were reporte by the spies. This find confirms the report and furnishes an additional view as to the correctness of the scripture record.



Editorial.

HUBERT HOWE BANCROFT.

The ethnological and historical work performed by Mr. Bancroft is remarkable, primarily, on account of the freshness of the field and the application of practical and scientific methods to the literary reduction of an otherwise refractory mass. In every great achievement may be found two principal motive powers—individuality or unity in the planning and directing, and the utilization of the labor of others. What city could be built, what government or business of importance could be carried on by one man alone? Hitherto it has been deemed well-nigh impossible to unite in extensive literary work these two essentials. "I must know every point, I must verify every statement," says the old-time writer. As well might the railway builder say, "I must lay every tie, I must drive every spike myself." Mr. Bancroft was the first to apply to historical work, to any considerable extent, the talents of others; since which time, however, his method has been adopted by the very men who first ridiculed it; and it is safe to say that no great work of this kind will ever hereafter be performed by a single, unaided individual writer.

True, it is not to be expected that operations of the kind will often be undertaken or executed on such a grand scale as that achieved by Mr. Bancroft. It is doubtful if such conditions will ever again unite in one man—the desire, the ability and the means. No government or society even will do such work, lacking, as such associations do, unity of purpose over a long period of time, and the apparently extravagant outlay of means.

Mr. Bancroft took for his field an area equivalent to one-twelfth of the earth's surface, and one of the fairest portions of the planet, on which is destined to develop the highest culture. Time enough had elapsed for civilization to have had here a beginning, but not so much that all historical events could not be thoroughly ascertained and traced. There were gaps, it is true, in the written and printed records, but these the author and artificer filled in from the mouth of living witnesses, dictations from thousands of whom he took, personally and by the hand of assistants and secretaries. All together the material he gathered, printed and in manuscript, numbering between fifty and sixty thousand volumes, is the largest collection of American history extant, and the largest collection on any one subject or area in the world. To reduce this mass—the work of a dozen lifetimes—and bring it within control, within the period of one lifetime,

took twenty men working continuously for twenty years. For twenty years Mr. Bancroft's library or literary workshop was not closed for a single day, except holidays and Sundays, being regularly opened each day at eight o'clock and closed at six. Elaborate catalogues and indexes were made, involving the labor of years, to direct the writer to the required information. The grand result of library and literary efforts of author and assistants, is a matchless work, or series of works, in 39 volumes.

The ethnological part, to which the first five volumes are devoted, embodies all that was known or could be ascertained of the many aboriginal people inhabiting the vast territory covered by the work at the time they were first encountered by Europeans. The work is part of and preliminary to the history. Original investigation was not here attempted, as in the making of the history proper, but the results of the labors of thousands of competent scholars and observers are here brought together in a manner never before accomplished.

Mr. Bancroft's work is done. All that he undertook he accomplished. What he did was of the greatest magnitude, and is, and always will be, of the highest importance to mankind, constituting as it ever will throughout all time the corner-stone of the history of one of the most important sections of the globe.

Judge Albion W. Tourgee says: "Mr. Bancroft's story of the Mexican revolution is the finest picture of an epoch that exists among English historians. I might have excepted Macauley's but that I know his to be a lie; for he puts in anything to produce lights and shadows. The revolution in Mexico was considered nothing but internal broils; Mr. Bancroft exalts it into the grandest and most dramatic struggle that ever existed. No man outside any other nation ever did so much for any people as H. H. Bancroft has done for Mexico, and the people should appreciate it and erect a statue to him. No other historian ever did so much for any people. Groat and Gibbon wrote the histories of Greece and Rome, but then histories had already been written and these men could not make those countries any greater. With Bancroft it was different. He took Mexico out of oblivion and exalted it into a great nation. I rarely read a book more than once, but this study of the Mexican revolution I have read two or three times, and not for any special purpose, but merely for the pleasure its reading gives me. I reiterate, Hubert H. Bancroft has made Mexico heroic."

The sketch of the life of Mr. H. H. Bancroft, of San Francisco has been given to the public in a very readable little volume, called "Literary Industries." The book reads like a romance, and is especially interesting to literary men, for it shows what possibilities are hidden away in the human mind, needing only the opportunity and encouragement to develop great success. We recognize in this case the influence of early literary surround-

ings, which continue even while great business responsibilities were uppermost, but finally culminated in the choice of a special work, to which this author gave twenty of the best years of his life.

Mr. Bancroft was born in the little village of Granville, Ohio, on the 5th of May, 1832. It was a staid village, with Puritan ideas, but the pranks of some of the young fellows were in strong contrast with the teachings of their homes. The book business was the chosen occupation of Mr. Bancroft. The firm of Derby & Co. of Buffalo were his first employers. His apprenticeship was not altogether agreeable, but resulted in a discipline which was valuable to him afterwards. While still a young man he made a venture in selling books for himself which proved successful. This encouraged him to start for California in 1852, and to embark in the book business in the new and growing city of San Francisco. In this business he was assisted by his brother-in-law, Mr. Derby of Buffalo, and afterwards by his brother, Mr. A. L. Bancroft, who gave his name to the house, the firm being known as A. L. Bancroft & Co. The business extended from British Columbia to Mexico, and to the Hawaiian Islands, to Japan and China. In the year 1859 the firm was about to publish a hand-book almanac. It occurred to him that it would be convenient to have the books on California, Washington, Oregon and Utah together. He accordingly selected them from the stock and found that they formed a little library of from fifty to seventy-five volumes. The beginning of the Bancroft Library was as follows: Mr. Bancroft continued to collect, but in 1862 had only a thousand volumes on hand. A visit to London and Paris opened his eyes to the immense number of books on the subject and to the value of such a collection. His first large purchase was that of Maximilian's Library, which was done by telegraph, on January 16th, 1869. In 1876 he purchased the collection of E. G. Squier, in 1879 the library of Cushing of Boston, in 1880 the library of Ramirez. The books ordered cost several hundreds of dollars. The library was first placed in the second story of the book-store. It was afterwards moved to a building on Valencia street, and this became his workshop.

The idea of writing had not yet dawned upon his mind. The work of collecting was conducted as a business transaction, without a thought as to how the books might be utilized. The difference between Mr. Bancroft and the majority of book-collectors was this: he was not exclusive in his tastes, but, on the other hand, took the public into his confidence. It was in this way that the thought came to him that he might make the library the basis for a work of some kind—either a cyclopedia or a history—which should embrace the various provinces and states situated on the Pacific. A literary recluse would never have conceived the idea of gathering such a library; a selfish business

man would never have adopted the plan of doing literary work, but the ambition of Mr. Bancroft which led to the establishment of the library afterwards led him to write the history.

It would have been a great work, and a timely one, if he had merely gathered the manuscripts which had been written, and which were likely to be destroyed, and put them on file for future use. It was a still greater work to buy all of the books which had been published in different languages relating to the different provinces on the Pacific Coast. But the greatest of all was the work which he soon began—that of writing a series of books which should be both cyclopedia and history, and which should place before the public the rich treasures of literature contained on the shelves. It was really embodying the library into a series of bound books and distributing it over the two continents.

The plan was a large one, but was well conceived. Other persons may have carried out the details of the work, but the selecting of those persons and the organizing into an efficient and well-trained band, and furnishing them with the means to carry out the project, was Mr. Bancroft's personal mission. He entered into it with great enthusiasm and cheerfulness. This idea grew upon him until he came to feel that his life was sacred and must be preserved until his mission was carried out.

It was a prodigious undertaking, and at times became even oppressive from its very magnitude. It seemed at first as if he would be swamped by the very amount of the material he had gathered. Chaos and confusion would have come to his mind if he had undertaken to carry out the details; but he was, with his money, able to employ capable men to assist him. These men went through the library two or three times, indexing and classifying the books and afterwards made copious notes and quotations. For his own improvement and for the cultivation of style, Mr. Bancroft went outside of the library proper and took such miscellany as Backle, Spencer and other writers upon civilization and the growth of society. This course was a wise one, it gave vivacity, comprehensiveness and interest to his books, and brought the old into contact with the new. There was no such thing as burying this man of affairs under the heaps of musty books and old manuscripts, for he was obliged to leave his seat in the library and go to his book-store and superintend the business of the firm. His literary industry was great. As Charles Sumner said of himself, he often came to his "second breath" and kept up the pace of a rapid and diligent writer for weeks and months, continuing through the twenty years in the exercise of his faculties and enjoying to the utmost the very activity of a literary man; but finding the rest and variety which business and travel brought to his mind.

Mr. Bancroft was very happy in his companionships. His wife was a companion to him in his studies and frequently at-

tended him in his journeys, and assisted him in gathering and securing his manuscripts and books, which were scattered about in different places throughout the Pacific Coast. An Italian named Enrique Cerruti, who could speak several languages fluently, was very devoted to his service, and accomplished much in the way of collecting rare manuscripts. It is greatly to the credit of the gentlemen who had written local histories, that they should give the results of their labor to Mr. Bancroft so generously and do all they could to further his enterprise. Among these may be mentioned Gen. Vallejo, who had at his residence priceless documents relating to the history of California. J. A. Sutters also furnished some valuable facts and spent much time in writing the history of the State. Mr. James G. Swan, Mr. Stephen Powers and Mr. Pinart put into his hands valuable documents about Alaska. The assistants of Mr. Bancroft were men of great ability and industry. Among these may be mentioned Mr. Henry L. Oak, a native of New England, who did a large part of the indexing; Mr. Savage, who gathered much material about California; Judge Hayes and Edward F. Murray, of Los Angeles; Mr. Thomas F. Long, of VanCouver's Island; Mr. A. C. Anderson, of Victoria; Mrs. F. F. Victor, of Oregon, who was engaged in the library for many years. Mr. Petroff translated much of the Russian literature, and labored in the library on the history of Alaska. The system of note taking was supervised by Mr. Nemos.

Mr. Bancroft experienced some reverses. He was just in the midst of the publishing of his books when a fire broke out in his store. All of his very heavy stock of books was consumed, many of the stereotype plates of his histories were destroyed with a large quantity of paper. For a time it was a question whether the firm could survive such a calamity. Fortunately the library had been placed in a separate building and was safe. This library is still in California and should be kept there, for it really belongs to the State.

EXPLORATIONS AND DISCOVERIES.

There has been universal activity in the archæologic world for the past few months—some remarkable discoveries are the result. We have not space to mention all, but will speak of a few localities.

THE SCHWATKA EXPEDITION that was on the Youkon River in July, 1891, has continued in Alaska but without making any special discoveries. Mr James Deans has been engaged in collecting totem posts and other relics for the World's Fair. These will illustrate, the customs and beliefs of the natives of the northwest coast.

CLIFF-DWELLINGS.—W. K. Moorehead, Lewis Gunckel and several other young men are now in the midst of the cliff-dwellings. They have explored the Animas River and have recently taken a trip through the Grand Canon. Their letters are brief and accounts meager. Their discoveries will probably be made public in the future, as Mr Moorehead has informed the Editor that he expects to publish a book on the subject.

IN MEXICO great preparations are being made for the World's Fair. Casts of the Sacrificial Stone and Calendar Stone and other monumental relics will be furnished.

HONDURAS.—A party under the auspices of Harvard College has started for Honduras. The exclusive right to explore this country has been granted to the Peabody Museum for a term of years. Casts will be taken of the most important sculptured glyphs of this region.

COSTA RICA.—Lewis Chable, from Texas, has been collecting relics in Costa Rica and has found some valuable pottery, such as "whistling vases," "ornamented jars," "handled urns," "open-mouthed bottles," portrait pottery vessels. A sensational account of this find was published in the *New York Mail and Express*. Extensive cemeteries near Arica, South America, have been visited again and mummies enveloped in fine cloth and thin layers of beaten gold have been exhumed. Curious fossil eye-balls are still found in the garments of the mummies. Mr. A. D. F. Bandelier has taken charge of an expedition to search for the traces of aboriginal life in South America. A gentleman in New York pays the expenses. The Highlands of Ecuador, Peru, Bolivia, eastern slope of the Andes, Rio Napo, Upper Amazon, northern border of the Argentine Republic, will be visited.

EXPLORATIONS IN THE MOUND-BUILDERS' TERRITORY have already begun to bear fruit. Mr. William McAdams has found various "stone graves" on the banks of the Illinois River in Calhoun County. In one of these he discovered a stone pavement, and on the pavement a large number of headless bodies, and beneath the pavement a vault in which was a full skeleton of large stature, and about it were relics of copper. An ancient village with fire-beds, lodge circles and various relics has been found in the vicinity of Parkersburg, West Virginia, on the Ohio river. Around the fire-places are ornaments, implements, such as battle axes, belts, knives, drills, spear and

arrow heads, and ornaments made of bone and slate. The spear and arrow heads are of fine workmanship, and are all of very hard substances as agate, chalcedony, carnelian, quartz, jasper and slate.

AN ANCIENT LEAD MINE near Lexington, Ky., in which was a vein of lead, is traceable for half a mile or more. Here was a trench five or six feet deep and one hundred yards long, bordered by a ridge of earth which was thrown out, supposed to be the work of the Mound-builders.

CHEROKEE TALISMANS.—Mr. James Mooney has been studying the Cherokee talismans among the Eastern Cherokees, an account of which may be found in the *Inter-Ocean*.

RELICS FROM DENMARK.—The peat-bogs of Jutland, Denmark, have been yielding some very remarkable symbolic records in the shape of plates of silver, hammered out with figures of men, women and animals. The eye holes of the figures are now empty, but had evidently been filled with glass. One of the plates, which is nearly seventeen inches long, shows warriors, with helmets and other ornaments. One figure is a god with a wheel at his side, and on another are two elephants. A third shows a horned god in a sitting posture with his legs crossed orientalwise. All these have apparently nothing to do with Northern mythology, as was first supposed. The whole find has now reached the Danish National Museum, and we see that these pieces belong to the godlore of the Gallic peoples. The god with the wheel, for instance, is the Gallic sun god. The whole is the work of a Gallic artist at that early period when the Roman and Gallic peoples first came in contact. Allowing time for these things to wander so far north, the date would seem to be, as regards Denmark, the first century before Christ. Other things belonging to this Gallic group have been found previously in this country. The total weight of precious metal hitherto exhumed is about twenty Danish rounds.

TEMPLE AT ARGOS.—Mr. Waldstein has discovered at Argos the foundations of the Homeric temple, which was destroyed by fire 429 B. C., as well as the remains of the second temple, which once contained the colossal statue of Hera wrought in gold and ivory by the famous Argive sculptor and architect Polykleitos, a contemporary of Phidias. The relics disclosed up to the present include the bases of the statues which decorated the temple, and also a beautiful head of the goddess dating from the fifth century B. C., besides other heads, fragments of marble sculptures, vases and bronzes.

REMEESES II.—Mr. LePage Renouf has brought out some facts about Ramesses II, in Egypt, and the statue of an ambassador to the king of the Hittites and the record of a treaty between the Hittites and the Egyptians. Singularly enough, a relic has been dug up in the county of Surrey, England, in the neighborhood of Norwood, which is supposed to be the statue of a Hittite ambassador to that distant region.

AFRICA.—Remarkable finds have been made in South Africa, by Mr. Theodore Bent, who spent several months last year examining the ancient ruins in Mashonaland. The large circular building which has been pictured in the *Sun* he found to be a perfect specimen of an ancient Phallic temple. Parallels to this temple are to be found in the round temples at Malta and the temples at Samothrace and elsewhere. The Phœnician coin of Byblos

is a curiously exact representation of the temple at Zimbabwe. Mr. Bent does not mean to imply that Zimbabwe is of Phœnician origin, but its origin is kindred and is to be found in the mystic religions of the east which spread westward.

Some distance from the temple are the remains of the fortress, where many more discoveries were made. On a summit, approached with difficulty, an elaborate system of fortifications had been erected, regardless of labor and strategic value. A wall thirteen feet thick and thirty feet high runs along the edge of a sheer precipice, itself ninety feet high. This wall is surmounted by monoliths alternating with small round towers, and is again protected by an inner wall. It is hard to account for this redundancy of defense. The most numerous discoveries were in what was once the temple of the fortress. The outer walls of this temple had been decorated with carved birds on the top of soapstone pedestals, all archaic in design. One bore on its pedestal and wings a well-known Phallic symbol, and one had its beak intact, showing it to be meant for a vulture or raven. Iron bells were found of curious forms, doubtless used for temple service. In the middle of the building stood an altar made of small granite blocks. About forty more objects were found in and around the temple, most of them so realistic as to leave no doubt as to their purport. Many fragments of pottery of excellent glaze and workmanship were also found. The patterns were mostly geometric, but executed with absolute correctness. There were also numerous implements of war, including a gilt spear-head, and in one corner were fragments of Persian and Celadon china, doubtless exchanged for gold by traders of some remote period.

The most interesting discoveries were those in connection with the working of gold. A gold smelting furnace of a hard cement was among the discoveries. Near it were many cement crucibles, in which are still fixed in the glaze many specks of gold about the size of a pin's head. Hard by in a chasm between two boulders lay all the rejected quartz casings from which the gold-bearing quartz had been extracted prior to crushing, proving beyond a doubt that these ruins, though themselves far removed from any gold reef, were the capital of a gold-producing people who had chosen this hill fortress with its granite boulders on account of its peculiar strategic advantages. Many tools for extracting gold from the furnaces, burnishers, crushers, etc., were found.

There are many other ruins in the immediate neighborhood of Zimbabwe presenting the same features. In fact, the whole country from the Lundi river to the Zambesi is studded with them. They have the same architectural features, and were certainly erected by the same race.

NOTICES OF NEW BOOKS.

By ALBERT S. GATSCHET, WASHINGTON, D. C.

PROVERBS OF ANGOLA.—A native of that extensive West African province south of the equator, who calls himself J. D. Cordeiro da Matta, has been trained so thoroughly by a Swiss missionary—Heli Chatelain—as to acquire the faculty of expressing his thoughts in Portuguese and in writing intelligibly his own language, the *Ki-mbundu*, a Bantu dialect spoken by several millions of Africans. He recently published in Portugal "Philosophia popular em Proverbios Angolenses, por J. D. Cordeiro da Matta," Lisboa, No. 11 Apostolos, 1891. 12mo.; pp. 187. The second title of the book is worded in Kimbundu, and reads as follows: "Jisabu, jiheng'ele, ifika ni jinongonongo, josoneke mu Ki-mbundu ni putu, kua mon' Angola jakim ria Matta." The preface of twenty-four pages is of a historico-literary character, and bears date, Barra do Quanza, June, 1890. Then follows a list of six hundred and thirty-six proverbs, with the Portuguese translation of each, and two appendices of addenda. Although no glossary of the language is added to the volume, readers who know Portuguese will find it comparatively easy to acquaint themselves with this vocalic tongue through the apposite translation, and especially by using H. Chatelain's *Kimbundu Grammar*, composed in the Ollendorff method, and published by Schuchardt in Geneva, 1889.

STUDIES ON THE RIGVEDA.—The two Sanscrit professors of the university at Halle, in Prussia, two years ago published a first volume, "Vedische Studien" von Richard Pischel und Karl F. Geldner; Stuttgart, W. Kohlhammer. That elaborate treatise, a commentary on certain hymns of the Rigveda, with a highly interesting literary introduction, is now followed by fascicle I of the second volume. Several Ithihasa songs, especially of the first and tenth book of the Rigveda, are being commented upon and a translation added; the rest of the volume being filled by notes on various terms of difficult explanation. The same scientists are now preparing a dictionary of the Rigveda, to be issued by the same publishing house at Stuttgart, Germany.

JAMES C. PILLING'S BIBLIOGRAPHY of the Algonquian languages, Washington, 1891, is a government publication compiled with great accuracy, being the fifth in a series of volumes intended to illustrate all the linguistic families of North and Central America in the same manner. This stock embodies over twenty Indian dialects; it may be considered the most important family in the United States, and is also the best studied. Pilling's volume, 10 and 614 pages, embraces 2,245 titular entries, of which 319 relate to manuscripts. The large majority of these have been seen and examined by the author. There are also 130 full titles of printed covers, second and third volumes, etc., in photographic reproduction—the scarcity and value of some of the earlier books having prompted this mode of perpetuating the book titles. Biographic notes of the more conspicuous

authors are given, many going into minute details. On the life and works of the missionary John Eliot, of Natick, Mass., there are not less than 50 pages, and a full description of the complete and incomplete copies of his Bible, which are still in existence. Some of these have brought over \$1,000 at book auctions.

"GERMAN LYRICS, translated by Henry Phillips, Junior," is a handsome octavo volume, printed in 1892 in Philadelphia, for private circulation only. The author, a Philadelphian by birth, is one of the secretaries of the American Philosophical Society of that city, and familiar with a number of European languages. In several of his publications he has shown his great interest for linguistic studies; so he also did in the present volume, in which selections from the more modern lyric poets of Germany and Austria are rendered in metric form. The original metrics were reproduced in the author's translations, as near as it could be done. A few very uncommon English terms may be noticed in the poems, as *to befree, stilly, the sea-beat shore, to clank, to toll for aye*, etc. As an instance of Phillips' versifying powers, the rendering of one of M. Count von Strachwitz's poems (p. 119) may be inserted:

All day in wrath the sea hath raged
And roared with angry breast,
Then glassy-mirrored, stilly, smooth,
Had sunk to sleep in rest.
The evening zephyrs tremble light,
In holy silence stray,
The breath of God from heavenly home
Is wafted over the sea.
He stoops to kiss the dear-loved head
Of ocean slumbering mild,
And speaks, in gently rustling winds,
"Sleep soft, thou wayward child."

NORTON'S FLORIDA.—This manual for travelers in that southern land is one of the best that has appeared, and on every page the thorough knowledge of the author, historical, physical, topographical and statistical, may be noticed. "*Chas. Ledyard Norton's 'A Hand-book of Florida,'*" 49 maps and plans, third revised edition, New York, Longmans, Green & Co., 1892, is the title, and the volume holds 33 and 392 pages. The subject-matter is arranged alphabetically after counties from pp. 1 to 102, each county being illustrated by a map. Then follow descriptions of the more important objects, as cities, towns, lakes, springs, harbors, rivers, partly arranged after routes to be traveled over. The author first treats of them under the heading: 1. The Atlantic Coast; 2. The Gulf Coast; 3. Middle Florida; 4. Sub-tropical; and 5. West Florida. With Norton's help every pleasure or health seeker who has reached the evergreen peninsula from New York in two or three days, enters fully equipped upon the field he is going to pre-ambulate. The description of Saint Augustine alone embraces fifty pages, and the maps are accurate enough to be fully relied on.

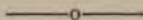
DR. J. J. EGLI'S NOMINA GEOGRAPHICA.—This standard German work on geographic nomenclature and the origin and meaning of names is now being issued in a second edition, the number of names commented upon to be raised from 17,000 to 42,000. The author, as well as the publisher, have spared no trouble to make it useful to the general public by publishing it

in numbers, the whole cost not to exceed 24 marks, or six dollars. The first number is out and contains 40 close-printed pages of two columns each, and the names commemorating naval explorers are recorded with especial care (Leipzig, Friedrich, Brandstetter, 1892. Octavo). To explain the best known and most widely circulated names, also names presenting a special linguistic interest, were the *main* principles guiding the author in the selection of his items. The first number contains several American names of interest, as Acapulco, *town destroyed*; Ahnanaways, tribe in Dakota, *village on a hill*; Aimores or Potocudos, called after a *fish containing poisonous roe*; Maronon, from the Spanish maranas or *thickets*; Amba-ta-ut-tinne, *eaters of the big horn sheep*; Ancas-maya, *blue river*. Upon the names of Andes and Amazonas, Egli gives no decided opinion, and concerning Alabama he repeats the old saw, "here we rest." On names of the eastern hemisphere the author is more satisfactory than on the western, for here the linguistic analysis is not always distinct enough.

OMAHAS AND PONKAS.—The first great instalment of Rev. J. O. Dorsey's work on the above Indian tribes and their language has just appeared in the shape of a large quarto volume of 974 pages, with date, Washington, Government Printing Office, 1890. To this have to be added the eighteen pages of the introduction, which gives a sketch of the genesis of the volume. The book is divided into two parts, both containing aboriginal texts with notes, with a running English translation and a careful interlinear translation, which is considered the best means of popularizing the study of Indian and other illiterate languages. The texts comprehend myths, stories and epistles, written or dictated by Indians, and more of these letters are contained in a recently published bulletin of the Bureau of Ethnology by the same author. (Washington, 1891, pp. 127.) The Omaha language is almost identical with that of the Ponka Indians, hence both could be treated in the same volume.* The group to which this subdivision of the Siouan or Dakotan languages pertains consists, besides the above, of the Kansas or Kaw, of the Kwapa and of the Osage dialect, the latter having several sub-dialects. For the tribal history of the West, for Indian wars, fights, treaties, migrations, etc., the historical texts of the volume are exceedingly valuable, perhaps as much as the mythological texts are for the study of western folklore. As far as the notation of the Omaha sounds by Dorsey is concerned, most people have found the inverted letters "funny" or preposterous (X, d), which he uses to represent momentaneous sounds of the language standing between *k* and *g*, *p* and *b*. The explosion sounds he has marked by placing an apostrophe after them: *k'*, *p'*. There are vowels in the language, "exploded initially," which Dorsey has marked: 'c, 'i. In this language every syllable ends in a vowel or diphthong, which is either pure or nasalized, and this may be said of some other Siouan languages as well. The mythology of the two tribes has but few deities that are really anthropomorphized, and among these may be mentioned the great mischief-maker, Tshtinike. The mythic stories chiefly deal with elks, buffalos, rabbits and other quadrupeds enabled to perform human actions and show a good deal of imagination and inventive power. Many stories are coarse

*Both are called *Dhegtha* by the author, a term which distinguishes Omaha and Ponka from the other dialects of the subdivision, but is criticized as "too unfrequently used by the tribes," as the Indians themselves say.

and obscene, so that the sense had often to be transcribed in Latin, the tongue in which Catullus and Martial have treated such topics (*sermone latino disertius quam elegantius mentulæ usum atque abusum disseruerunt*) in an inimitably ironical style. Rev. Dorsey is fully conversant with the language, having lived among the Ponkas as instructor from 1871 to 1873, and from 1878 to 1880 among the Omahas.



BOOK REVIEWS.

Beowulf, an Anglo-Saxon Poem, and the Fight at Finnsburg. Translated by James M. Garnett, M. A., LL.D. Boston: Giron & Co. 1892.

The Anglo-Saxon poem *Beowulf*, describes the contest of *Beowulf*, the Goth (Geat), with the monster *Grendel*, and afterwards with *Grendel's* mother, and later with the Fire Dragon. It is the oldest historic poem extant, belonging to the first half of the 8th century. The scene is in Denmark. The style or imagery is Scandinavian and resembles in some respects that of the *Edda*. It is supposed by some to be a Christian paraphrase of a heathen Saga. It is written in the usual Anglo-Saxon alliterative meter. The author is unknown. Some suppose that old lays by different authors were brought together. The translation is line for line. This involves much inversion and occasional obscurity and makes the book hard reading. A liberal translation, after the style of *Mallet's Northern Antiquities*, would be more interesting, but would not bear criticism so well. The story is a tragic one.

Elene, Judith, Athelstan, or Brunanburh, and Byshtnoth, or the Fight at Maldon. Anglo-Saxon poems. Translated by James M. Garnett, Professor in the University of Virginia, M. A., LL. D. Boston: Giron & Co. 1889.

The first of these poems describes the expedition of Empress *Helena*, mother of *Constantine the Great*, to Palestine, in search of the true cross. The second is a fragment, but the story is from the apocryphal book of *Judah*. The third is a description of the fight between King *Athelstan*, the Saxon, and *Constantine*, the Dane. The fourth describes the fight at *Maldon* between the Saxons and the Danes, in the year 991.

We are thus carried back by the book to a very early period of English history. There is much more of a tinge of Christianity in this than in the preceding volume, called *Beowulf*. The scene also is changed from Scandinavia to England. The reading of the two books suggests the change which occurred when Paganism gave way to Christianity, for the imagery is in great contrast, the thought very different. The publishers have furnished the reader two very attractive volumes and the translator has done his best to make the style of the poems as intelligible as possible.

The Cause of an Ice Age. By Sir Robert Ball, LL. D., F. R. S., Royal Astronomer of Ireland. New York: D. Appleton & Co. 1891.

The records of the ice as written in the stars would be a proper title for this book. The object is to make known the Astronomical Theory of the Ice Age. The problem of glaciation finds its solution in the obliquity of the earth's orbit, and that obliquity is owing to the influence of the planets. The author is an astronomer, but he deals with geological problems and

uses the botanical history of the earth as an aid. His theory is that the glaciers have come in clusters, alternately in the Northern and Southern hemispheres, but at long intervals, the astronomical changes having produced this great variation in the periods of their return. The author agrees with Sir James Geike in this, and draws from Dr. Kroll in making the subject plain. The part of his book most difficult to understand is that which he writes as an astronomer. The reader is charmed with his style until he reaches these chapters, and then ordinary mortals fail to follow him. When he comes back to earth, he is as charming as ever. The last chapter is especially attractive. The book forms one of a modern series, edited by Sir John Lubbock, is clear and readable, and at the same time accurate. Its price is within the reach of any one.

The Discovery of America; with Some Account of Ancient America and the Spanish Conquest. By John Fiske. Boston and New York: Houghton, Mifflin & Co. 1892.

The "Discovery of America" is now the popular subject. Any book written upon it is likely to command attention. The book written by Mr. John Fiske will undoubtedly be popular, for it is certainly very readable and is critical enough for all practical purposes. The author states in the introduction that it is the result of thirty years' study in two different lines—the one on prehistoric America and the other on the Aryan race, the latter having been made useless by the appearance of the modern theory as to the European origin of this race. Perhaps if this line of study had been carried out, the disjointed character of the book would have been obviated, for in that case we might have ascertained whether the Aryans or the Turanians, the Europeans or the Asiatics, were really the first discoverers, and we should have learned something about the peopling of the continent. It seems rather novel that the author should take the first chapter to describe the very latest discoveries in America, and should give in it the names of the most recent writers advocating the theories which have not yet become established, and that in the second chapter he should go back to the earliest discoveries by the Norsemen and bring out the testimony of the old writers, thus proving the Scriptures, "the last shall be first and the first last." The author's theory is that America was occupied by Indians, and that all the prehistoric works found in America should be ascribed to this savage or barbaric race, without much distinction between them. The author does not undertake to solve the problem which is now before the minds of many American students. He takes it for granted that it is already solved, and that the autochthonous theory is the one to be adopted. Another problem, about which so much has been written, he has treated more satisfactorily. It is the problem how America received its name. Here the author gives us some new and valuable information. He maintains that Americus Vesputius discovered the continent about the time that Sebastian Cabot did, June 24, 1497, having reached it near the coast of Honduras, as Cabot did on the New England coast. This was really before the discovery of the main land by Columbus, and so might justify Americus in giving his name to the Continent. The author does not make a point of this, but refers to the favor with which Americus, as a man of letters, enjoyed as contrasted with the obscurity and misfortunes of Columbus. There is one advantage in writing a letter. It was the letter of Vesputius to Soderini's friend, in 1504, which gave a knowledge to the world about the different voyages, and

so made him prominent. Without any intention of defrauding Columbus of any of his rights, Americus was thus able to give his name to the Continent. In reference to the character of Columbus, Mr. Fiske is on the opposite side from Justin Winsor; he may be called the defender of Columbus, at least he does not undertake to rake up all the scandals or show all the imperfections of the great man. This position will be acceptable to the people.

Life in Ancient Egypt and Assyria. From the French of G. Maspero. New York: D. Appleton & Co. 1892.

The object of this book is to furnish a picture of the ancient civilizations at a time when they were at their height. The author selects for Egypt the period of Rameses II., the fourteenth century B. C.; for Assyria, the time of Assurbanipal. The panorama gives pictures of Thebes and the popular life, the market and shops, Pharaoh, the gods of Egypt, the army life, the castle, funerals, journeys and battles, as illustrating life in Egypt. Also, for Assyria, a royal residence, private life; the chase, Assurbanipal's library, astrology and science, war, the fleet and the triumph. There are illustrations on nearly every page, and descriptions accompany the cuts. The effort is to make the style attractive and the theme popular, and so technicalities are left out. For many readers the book will prove a valuable contribution, as it treats of a great variety of subjects, and is written by a master hand.

The Grammar of the Lotus. A New History of Classic Ornament as a Development of Sun-worship. By Wm. H. Goodyear, M. A. (Yale 1867). London: Sampson, Low, Marston & Co., St. Dunstons House, Fetter Lane, Fleet Street, E. C., 1891.

The current popular opinion is that the Lotus was the national flower of Egypt, similar to the Shamrock of Ireland, the Thistle of Scotland. The author of this book takes the ground that it was a fetich of memorial antiquity, a symbol of life, fecundity, immortality, resurrection, and it was worshipped from Japan to the Straits of Gibraltar. Lotus symbolism prevailed in Hindoo mythology, on Syrian and Assyrian seals, in the "book of the dead," and even in America.

In all of these countries it differed from the Papyrus, which was an Egyptian plant. The Egyptian lotus, the author claims, was the source of of the Ionic capital as well as of the Egyptian meander and scroll. The rosette which has been supposed to be distinctly Assyrian and Babylonian ornament was derived from the lotus. The ornament in the Greek pottery, which is a rope pattern, or the Guilloche, and the palmettes and the spiral on Cypriot, Rhodian and Melian vases were derived from the same. The solar or sacred tree of Assyria, and the solar symbolism in Ionic forms, contained the lotus with variations. The Phœnician seals and the Etruscan gems contained the lotus in connection with animal forms. The Egyptian Sphinx is a solar lion with human head, it is frequently attended with the lotus. The stag in Babylonian mythology, the antelope in the Chaldean, the ibex in the Assyrian and the gazelle in Phœnician were accompanied with the lotus.

The author thinks that the lotus motive can be recognized in the carving of the Lake-dwellers of Scotland, in the geometric vases of Cyprus and in the ancient vases of Mycenæ. He goes so far as to say that the Suastika is

a fragment of the Egyptian meander, and that this can be traced back to the lotus. The Coptic cross is the lotus combined, and the winged solar disc over the adoratorio of Uxmal, the stone statue at Palenque and the Mexican sphinx, and the meander in the pottery of the Pueblos were probably derived from the Egyptians or Phœnicians who made voyages to America as early as 600, B. C. The ancient pottery of Peru contains the three spiked lotus. The slab at Mayapan, the ancient Chirique vase and the Zuni pottery contained not only the suastika, the rosetta, the palmetto and the herzblatte, all of which were derived from the lotus. These are startling conclusions, and are revolutionary in their effect upon the theory of modern archaeologists. There is no doubt that the advocates of the autochthonous theory will take issue with the author on the last position, so that he will be called upon to defend them by more proofs than he has given in this volume. We believe that the volume is destined to produce a sensation, both among the archaeologists and mythologists, students of early art and architecture as well as ordinary readers who are not specialists. For ourselves it is more difficult to account for the remarkable coincidences by the autochthonous theory than by the unproved supposition of prehistoric contact and a borrowed cultus. We welcome the book on this account, for it confirms the point which we have advocated for years, and sets up another protest against the authoritative dictum of a certain school of archaeologists which has become somewhat numerous and popular in this country. The book is thoroughly illustrated with outline drawings and is printed on excellent paper, and is a model of printing in its way. Its cost, \$15, will put it beyond the reach of ordinary readers, but undoubtedly libraries will seek for it and archaeologists will use it with avidity.

Records of the Past. The English Translations of the Ancient Monuments of Egypt and Western Asia. New Series. Edited by A. H. Sayce, D. D., LL.D. London: Samuel Bagster & Sons, 15 Paternoster Row.

This series of translations of inscriptions is of great value to the Bible student and the oriental scholar. It enables one to draw information from first sources, and is almost equal to a trip to the museums and libraries and monuments where these "records" are preserved. Prof. A. H. Sayce is a most excellent guide, for he understands the subjects in all their bearings. He introduces the specialists who have been engaged in deciphering the monuments, gives us their names, and then permits them to talk to us briefly in a general way before they read their translations. The authors who are introduced are such gentlemen as Prof. D. Maspero, Mr. G. Bertin, Rev. G. Ball, Rev. H. S. Tompkins, Theodore Pinches and Philippe Wrey. The inscriptions relate to the Assyrian chronological cannon, the Assyrian correspondence, the tablets of Tel-el-Amarna, Palestine before the Exodus, the Moabite stone, letters from Babylonia, fifteenth century, B. C., hymn to the Nile, ancient Babylonian agricultural precepts, expulsion of the Hyksos, the statue of Thothmes IV, places conquered by Thothmes III, the oracle of Istar, the Nimrud inscription, the conquest of Babylonia by King Cyrus, etc.

The series is unfinished, but grows in value as the volumes are published. Any one who wants to keep posted in the discoveries in the East and learn about the bearing of these on Bible statement and ancient historical facts, should purchase the series and add to them as the volumes may appear.



PLATE I—ANCIENT WORKS AT MARIETTA.

The works at Marietta, as represented in Plate I, is from Harris' Travels. The cut was made before any of the works were destroyed, and so gives a good view. We see in it crescents which originally surrounded the high conical mound and which were, perhaps, symbols in character. The general relief of the works, a relative arrangement, topography and the relation of the works to it, are plainly seen. The water supply here was from wells just outside of the enclosure, near the covered way—neither of which are seen. The lookout mound was 30 feet high, and commanded a view down the Ohio River for many miles.



PLATE II.—CONICAL MOUND AT MARIETTA.

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VILLAGE LIFE AND THE MOUND-BUILDERS'
CULTUS.

BY STEPHEN D. PEET.

The picture of the Mound-builders' territory which we have presented is one in which different classes or tribes occupied different districts, filling each district with their own peculiar cultus. The picture is a varied one, for the tribes or classes followed different employments, used different implements and showed different grades of advancement. The conditions of society were correlated to physical surroundings. There seems to have been, also, changes among the people at various times; migrations from one district into another, the abandonment of earth-works of one class, and the erecting of a similar class of earth-works in another region, the routes of migration being marked by the tribes, either in entering their territory or in departing from it.

The location of the modern tribes of Indians, with their peculiar habits and customs, has also come into the picture and been a prominent feature in the scene. The panorama has been a moving one; in fact, the changes have been so numerous that it has been difficult to distinguish the earlier from the later tribes, and much confusion has been the result. It is probably on this account that many have confounded the Mound-builders with the Indians and classed both together, not realizing that the Mound-builders' cultus was so distinct.

There is, however, one factor which may enable us to draw the lines between the different periods of occupation, and which may help us to solve the Mound-builder problem; that factor is the one comprised in the title of this chapter, namely, village life.

I. The character of the villages is the test by which we determine the cultus which prevailed in a certain period of time and

in particular localities, and is the especial means by which we ascertain the Mound-builders' cultus. We speak of the Mound-builders' cultus because it was distinctive, in fact, as distinctive as the cliff-dwellers or the lake-dwellers, or the Aztec or Maya cultus, and because it furnishes us a definite name for a specific period of time and helps us to separate that time from that which preceded, and that which followed; but the cultus was embodied in the village life as much as in any other element, and we shall, therefore, point to this as the factor which will enable us to distinguish the cultus. Village life may, indeed, have prevailed among the Indian tribes, as it prevailed among all of the uncivilized races, both in this continent and in every other one. Mr. Stanley informs us that villages were very common in Central Africa, that all the trails led through villages; travelers have spoken of the villages of South America and have pictured the roadways which led from one city or ancient village to another.



Fig. 1.—Village with Water Supply.

The early and later explorers maintain that there were roadways in Central America, Yucutan and in Honduras, which led from the ancient cities to the sea coast, and from the sea coast to islands. We do not maintain that village life was peculiar to the Mound-builders—as it was everywhere prevalent, and was as common among the later as the earlier races—but its features were distinctive.

The features which distinguish the villages of the Mound-builders are as follows: 1. The presence of earth-works, which in one way or another form an enclosure, either as walls, as pyramids, as circles, burial mounds or effigies. They may have been used as burial places, as lookouts, as altars, game drives, places of assembly, but all of them were connected with the villages. 2. The abundance of relics in the mounds, deposited as offerings, or personal belongings, gives evidence of a numerous population, which had its center in the village. 3. The earliest villages were those of the Mound-builders, and can be distinguished from the villages of the later Indian races by their age. The burial mounds show a succession of races, but the burials which are the earliest, or lowest down, may be taken as those of the Mound-builders*. 4. The villages of the Mound-builders were generally located upon the high land and were attended with lookout mounds, trails or roadways, and other signs which indicate that they were connected with one another, showing that the occupants were the permanent possessors of

* See Chap. I, p. 30; Chap. IV, p. 53-58; Chap. V, Burial Mounds, p. 65-74; Chap. VIII, p. 123.

the entire region.* 5. The evidence of an organized condition of society is given by the villages of Mound-builders; the villages were occupied by clans, the clans were arranged in tribes, tribes were gathered into confederacies.

The grade of advancement in the earth-works and relics distinguished the Mound-builders' villages from those which either preceded or followed, and furnishes a good test as to the Mound-builders' cult.

1. Let us take up first the study of the earth-works. Many of these were located on ground where modern cities have grown up, but there was a time when they were the most marked objects in the landscape, and the record of them is more complete than that of the temporary Indian villages which have been gathered in the same spot. The center of population was in the village throughout all ages, but in the Mound-builders' age the villages were more extensive than at any other time and were perhaps as imposing in appearance as many of the villages built by the white man, and were especially in contrast with those of the Indians.

Indian villages were often erected in the midst of Mound-builders' enclosures; Indian graves intruded into the tumuli of Mound-builders, and Indian relics are found mingled with Mound-builders' relics. But if an extensive earthwork, with heavy wall and great gateways can be distinguished from an ordinary camping place; if the deposits of beautifully carved relics, such as pipes, highly wrought copper specimens, and pearl beads can be distinguished from the rude camp kettles, the occasional brass and silver brooch, the fragments of cloth and the debris of the camp, the permanent abode or house can be distinguished from a rude wigwam, the Mound-builders' cultus can be separated from the Indian, even when the villages were in the same locality.

Any one who reads the descriptions of Indian wars, especially



Fig. 2—Village with Sacrificial Mound.†

* See Chap. II, p. 17-18; Chap. VI, p. 89, American Geologist, article by S. D. Peet, on The Flood Plain, p. 264.

† The cuts given in Figs. 1 and 2 are taken from Atwater's book, which was the first one published upon the Mound-builders. They represent the two villages formerly situated on Paint Creek, five miles apart, with a fort between them, located at Bourneville. The same villages can be seen in the map. These villages were somewhat remarkable. The one at A had an enclosure which contained 77 acres, in the center of which was an elliptical mound, 240x160 feet, and 30 feet high, surrounded by a low embankment and covered with a pavement of pebbles. There was a crescent near this mound, set around the edges with stone, and a number of wells were inside and outside the enclosure. The circle contains 17 acres; within it was a smaller circle, which probably marked the site of the estufa. Here we have provisions for religious ceremonies as well as residence and defense. The other village (B) contained no elliptical mounds, but there was within it a pond 15 feet deep and 39 feet across, which is fed by a rivulet flowing from the high land through the walls and furnished the village with water supply.

those conducted by Gen. St. Clair, Anthony Wayne, Gen. George Washington, Gen. Braddock, can realize that the villages which were so easily destroyed by the invading whites, and which were frequently transported by command of the Indian chiefs, were but temporary camps, and in great contrast to the Mound-builders' villages. The battlefields have been located, but not one of them is marked by any earthworks, such as the ancient races were accustomed to erect. The villages which were attacked



Fig. 3.—Stockade Village near Granville, Ohio.*

situated on the Des Moines River, near Eldon, but not a sign of them remains; even the graves of these Indian warriors have been despoiled and their bones destroyed.

There was formerly an Indian village on the Ohio, opposite the mouth of the Scioto. It was, however, located on the banks, below the terrace on which were the villages of the ancient Mound-builders. The contrast between the two villages—the ancient and the modern—can be seen here. Here we see

were clusters of temporary wigwams, some of them without even the protection of a palisade. They were so easily destroyed that a single fire would sweep them from off the face of the earth, and, in a few years, not a trace of them was left. Even in the localities where, according to the early maps, Indian villages once stood, the explorer will seek in vain for any vestige by which he can identify the site. If he takes the names of distinguished chiefs, such as King Philip, Pontiac, Tecumseh and Black Hawk, and seeks for their homes he will find no sign of them. The villages of Black Hawk and Keokuk were

* The stockades represented in Figs. 3 and 4 are such as are very common in Ohio and Kentucky and many of the western States. They are not known to have been built by any Indian tribe, but may have marked the intervening period between the Mound-builders' age and that of the modern Indian. They show the difference between the cult of the early Mound-builders and that of the later race. One of these was situated near Granville, and in sight of the alligator or opossum mound, about five miles from the works at Newark. It has an area of 18 acres. The ditch is outside of the wall. Inside the wall is a small circle, 100 feet in diameter. In the circle are two mounds, both of which contain altars.

heavy walls on the high terrace, fifty feet above the bank where the modern village was located, the oval enclosure isolated on a spur, and the covered ways extending for eight miles or more, with the bastions, gateways, circles, and burial mounds all connected by a ferry with the walls, circles, mounds, on the summit of the hill opposite, and these again by another ferry with the walls, concentric circles and temple mounds, several miles away, the length of the walls being twenty-two miles. On the other hand, the Indian village is so insignificant that a single flood overflowed its site and swept away all vestige of the encampment, taking the houses of the few white settlers, which had been built upon the same spot, so that now nothing is left to reveal either of the later periods of occupation.* All signs of the Indian village and early settlement of the white man have disappeared, but the works of the Mound-builders remain, notwithstanding the growth of a modern city on the spot.

2. It has been maintained by some that the stockade was peculiar to the northern Indian, the earthwork to the southern Indian and that this constituted the only difference between the villages, but the fact is the stockade was as common at the south as at the north, and in both sections there are earthworks which were built by an earlier race. Beauchamp has shown this to be the case in the state of New York. He maintains that there was a



Fig. 4.—Stockade Village in Ohio.

period of time when villages were surrounded by earth-works, but at a subsequent period the timbered palisade took their place.† The stockades of the Iroquois tribes were more enduring than the temporary villages of the Algonkins, but these have so far disappeared that it is difficult to locate their villages. On the other hand, the villages of the Mound-builders, who preceded the Iroquois, are identified by earth-works which still remain. Sir William Dawson has also shown that the villages of the earlier races were attended with a class of relics which indicated a cultus peculiar to the age and the people.‡

The antiquity of the first race can be judged from the fact that a

* See map, p. 253.

† See Amer. Antiquarian.

‡ See Fossil Man.

nest of copper relics, consisting of socketed spears and spades of the Wisconsin stamp, was found while digging the St. Lawrence canal, on the banks of the St. Lawrence River, some fifteen feet below the surface. The antiquity of the Mound-builders' village in the State of Ohio can also be seen from the earth-works. The village near Dayton, Ohio, covered several miles of a level plain, but so long ago that the sweep of the waters of the Great Miami River in the time of flood has taken away a larger portion of the walls and yet that which remains extends beyond the modern village of Alexandersville, and takes in two stations on the railroad.*

3. Village life impressed itself upon the soil everywhere. Even in the region where the hunter life was prevalent, this is every-



Fig. 5.—Stockade Village in Ohio.

where apparent. Here the villages were surrounded either by circles of burial mounds or by animal effigies, or rude earth-works,† but there are also lookout mounds, and game drives, garden beds, and occasionally altar mounds, which indicate that certain clans occupied the locality. Game drives

are not confined to the state of Wisconsin, but are found in Illinois and other states, showing that while the Mound-builders of this region were hunters, they dwelt in villages.

It remained, however, for the agricultural races to build the most elaborate earth-works, as a defense to their villages. These were placed uniformly upon terraces overlooking the rivers, and abounded with covered ways, graded ways, lookout mounds, dance circles, burial places, all of which were guarded by earth-walls.‡

Walled villages were numerous in the middle district, on both sides of the Ohio River, but they did not all belong to the same class. In fact, four or five types of Mound-builders' villages have been discovered in this region, all of which may have been prehistoric. These were followed by the rude villages of the modern Indian races. The effort has been made to identify these modern Indians§ as the descendants of the earlier Mound-builders, but

*See Antiquities of Tenn., by Gen. G. P. Thurston, p. 40. Jones' Aboriginal Remains, p. 115. See map of works at Alexandersville.

†See William Dawson's Description of Hochelaga, p. 40; Hubbard's Memorial Sketches of a Half Century, p. 232; Peet's Emblematic Mounds, p. 208; Smithsonian Report, Description of Earth Walls on the Spoon River and Fox River, Illinois.

‡See Bartram's Travels.

§See Antiquities of Southern Indians, by C. C. Jones.

the very contrast between the two classes of villages, the earlier and later, refutes this. The Mound-builders may have changed their location, and the occupants of the villages of one district have established their villages in another district, but if this was the case, those who migrated must have adopted another style of village architecture and manufactured a different class of relics, having dropped those to which they had been accustomed, for there are no two districts in which the same works or relics can be discovered. Relics, to be sure, are found in Iowa and Illinois which resemble those in Ohio, but there are no such earth-works. A few works are found in West Virginia and Kentucky which



Fig. 6.—Sacred Enclosure in Kentucky *

resemble the Ohio villages, but the relics are quite different. It appears that there was a period in which every district exhibited a Mound-builder's cultus, another period in which it disappeared or was lost.

4. The loss of this cultus is one of the plainest facts in archæology. We pass over the districts and study the works and relics which we ascribe to the earlier Mound-builders, but we find the people gone, and we fail to recognize or identify their cultus in any one of the modern tribes of Indians. In fact, the change of cultus has been so great in every district that we fail to reach any certainty in reference to the time of occupation or the people who built the villages. When we interrogate the Indians of any tribe, Iroquois, Algonkin, Dakota, Cherokee, Shawnee, we find their memory uncertain and their traditions indefinite.†

*The works at Mt. Sterling consist of an enclosure 100 feet square, an elliptical mound, 9 feet high, truncated and connected by a wall with a small conical mound, a circle with a ditch and square platform, and a hexagonal enclosure with a gateway to the east. These works exhibit an identity with those in Ohio and were probably symbolic or religious in their character. The proximity to the streams suggests a water cult. See Fig. 8.

†See Irving's *Florida*; for Study of Skulls see report of Davenport Academy of Science, Lucian M. Carr's *Antiquities of Tenn.*, p. 117; *Agricultural Races*, Jones Southern Indians, Eleventh report Peabody Museum, p. 384.

The Shawnees have indeed been traced from one locality to another, for they were great wanderers, but the relics which have been found in the stone graves which are said to mark their route, are as different in different localities as if they were manufactured by entirely distinct races. The abandonment of their homes by these wandering tribes must have occurred long years ago, for otherwise we could not account for the change which has come upon them in their cultus and art motives. So with

the Cherokees, and the Muscogeans and other tribes. Adair and Bartram tell us the Cherokees had a tradition that the pyramids at the south were built by a preceding race; that they only occupied them as new comers after vanquishing the nations who inhabited them, and that the former possessors told the same story concerning them; that they found the mounds when they took possession of the country. Mr. Jones says that "the works were subject to secondary uses. Temple mounds, originally designed for religious objects, were by the Creeks and Cherokees converted into stockade forts and used as residences for their chiefs or for purposes of sepulture."

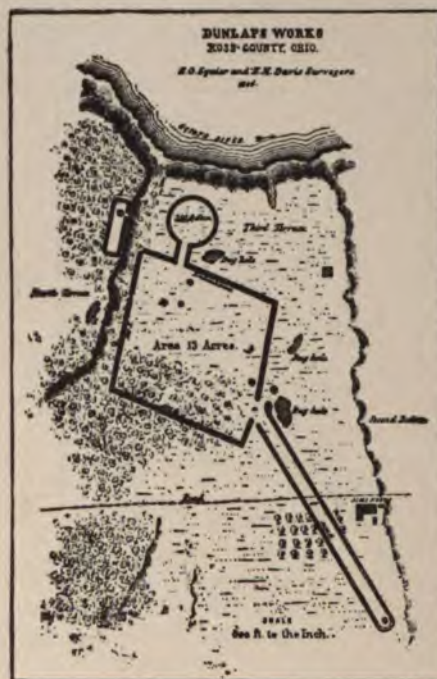


Fig. 7.—Mound-builders' Village and Covered Way.

The tradition is that the incursion of wild tribes from the North drove off the Mound-builders from the middle districts, some of which intruded themselves upon the southern districts, and at a still earlier date these southern tribes supplanted a race of pyramid-builders. These traditions are confirmed by the study of the relics and works, all of which indicate that many changes took place in pre-Columbian times, the transposition of new populations having brought in a new cultus, with intervals of varying length, but the village life having continued through all the changes.

* The enclosure called Dunlap's Works is situated on the third terrace above the Scioto. There is a covered way 1240 feet long, with a lookout mound at the end which commands a view of the river valley, and a terraced mound or mound and circle not far from the covered way. On the fourth terrace is an outwork which may have served as a race-course or a place of games. There was a gateway and a graded path connecting it with the enclosure. The small circle is on the bank of the river, but there is no large circle connected with the works.

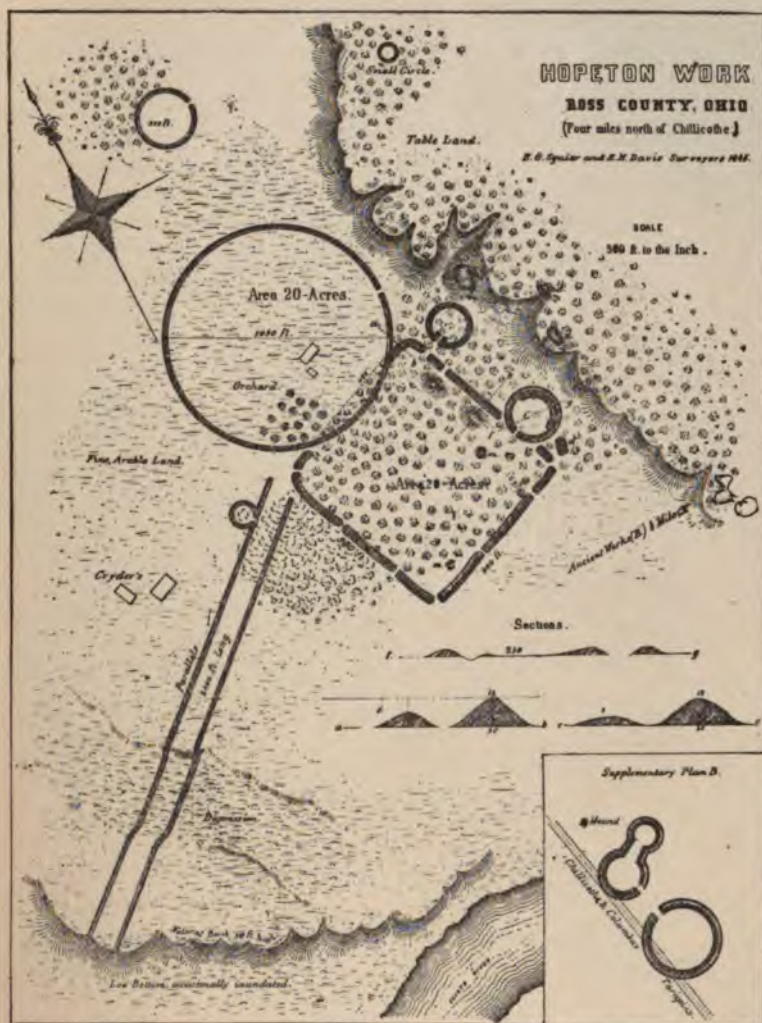


PLATE III.—VILLAGE ENCLOSURES AND COVERED WAY.

The works at Hopeton, High Banks and Cedar Banks represent the character of the ancient Mound-builders' villages and the contrast with the villages of the later Indians. Those at Hopeton are on the third terrace, just below an elevated plain; the rectangle measures 950 by 900, the circle 1,050 feet, twelve gateways, measure 25 feet in width. The two circles measure 200 and 250 feet; one covers a gateway, the other cuts into the square. The walks of the rectangle were 12 feet high and 50 feet wide. Two parallel walls extend toward the river, 2,400 feet in length, 150 feet apart. They terminated at the foot of the terrace, where the river once ran through, and a fertile bottom now intervenes. This covered way may have connected the village of Hopeton with Mound City, which is just opposite, and suggests the religious ceremony of crossing the river with their dead, similar to that of the Egyptians.

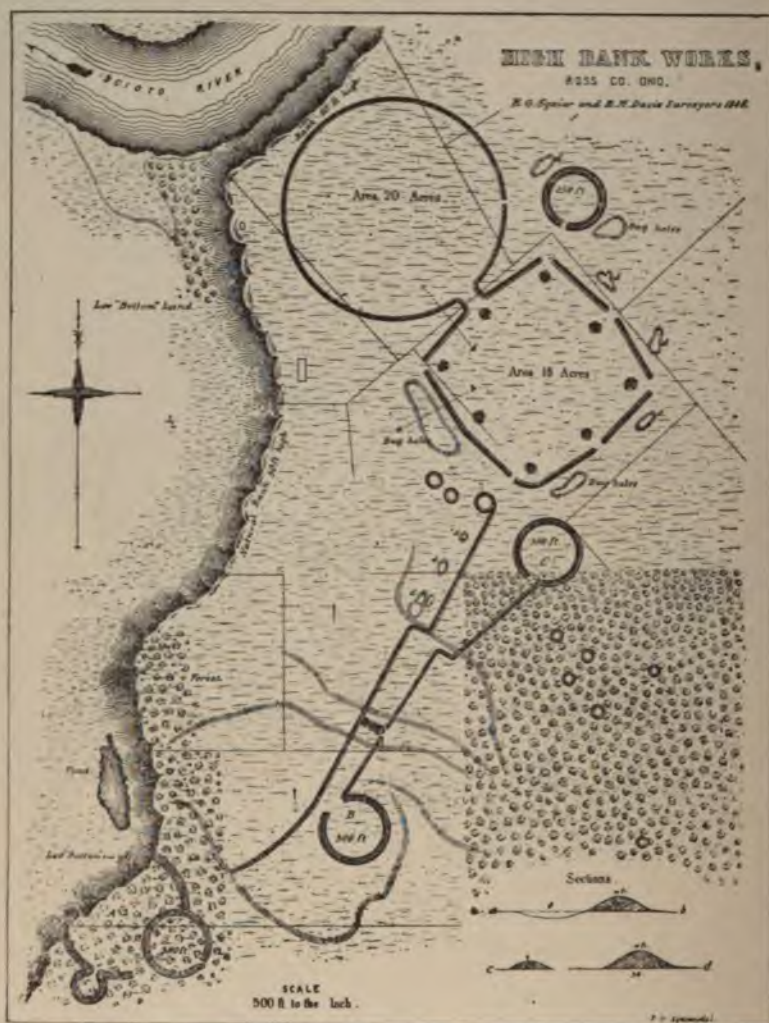


PLATE IV.—VILLAGE ENCLOSURES AND DANCE CIRCLES.

The Cedar Bank work is a square enclosure, and is but half a mile from Hopeton. Between the two were the large truncated mound and circle, giving the idea that these were the sites of temples where the villagers worshipped. The works at High Bank illustrate the same point. They consist of one octagon 950 feet in diameter, a circle 1,050 feet, and two small circles 250 feet; the walls were formerly 12 feet high and 50 feet at base. A large truncated mound 30 feet high was formerly on the terrace, one-quarter of a mile away. A covered way connects the village with the circle on the bank of the river. The age of this village is here shown. The river formerly flowed near the bank and cut away the terrace and a part of the circle, leaving the bank 80 feet high, but now flows at a distance. An Indian town was situated a short distance below this point and an Indian burial place on the brow of the hill, the two contrasting strangely with the ancient works of the Mound-builders.

5. We do not then misinterpret the evidence given by the earth-works, when we say that the confederacies of the Mound-builders, whether situated along the upper, middle or lower Mississippi, the Cumberland, St. Francis, or Ohio River, or in Florida or the Gulf States, must have long preceded that of the Indians,* and that the history of these villages was quite different from that of the modern tribes. We go back to the time of the first discovery and examine the picture of the villages presented by the historians of Ferdinand De Soto's expedition, and find that they were thoroughly equipped with the machinery of government and religion, and are to be, by this means, distinguished from the villages of the Atlantic coast and the New England States,



Fig. 8.—Stockade Fort in Tennessee.

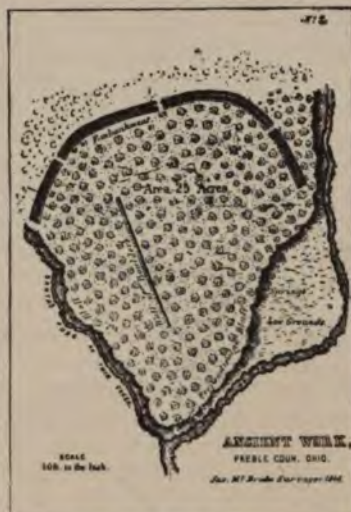


Fig. 9.—Stockade Fort in Ohio.†

where the stockade villages were prevalent, but the changes which came upon the Mound-building tribes, both North and South, broke up the early confederacies and in a measure obliterated the Mound-builders' cultus, so that we can, with no degree of propriety, use the term Indian when we would describe this earlier condition, even if we were convinced that the Mound-builders and the Indian were of the same stock.

On this point there is great uncertainty, for the best authorities maintain that there were from two to four races in the Mound-builders' territory. The pyramids at the South were

* *Antiquities of Southern Indians*, p. 126, by C. C. Jones.

† The stone fort in Tennessee and the earth fort in Ohio (Figs. 8 and 9) illustrate the cultus of two periods. The stone fort was upon an eminence. It contained two pyramids. One of these was occupied by two lookouts, twenty feet high. This fort is on the bank of Duck Creek, just above a waterfall, and is full of the evidence of a skillful work and of an advanced people. The earth-work marks the site of an ordinary stockade village, located on the bluff, with the unfailing spring below.

occupied by a people who resembled the Polynesians, but the stockades of the North by a people who were more like the Mongolians. Relics of the Mound-builders resemble those found in Great Britain and the north of Ireland, and even suggest the transmission of the same myths and symbols from the eastern to the western continent. Let us look at the facts. In Goodyear's book on the Grammar of the Lotus,* is a picture of the divinity of the Gauls. In this picture the divinity is crowned with the horns of the deer, exactly as the Mound-builders' chief, found in the depths of the mounds on the Hopewell farm in Southern Ohio, was crowned.†

Mr. J. R. Nissley has described a pipe which combined the "cupstone" symbols, which are so common in Great Britain, with the serpent symbol. This pipe was in the form of a serpent, one cup mark in the head and another in the tail, the orifice between making the mouth-piece; but on the base of the pipe were several cup marks, making the pipe doubly symbolic.‡

The discovery of the Exeter vase of Nebraska, with its shallow receptacle and its four sides carved with animal heads, and the discovery of the Toronto pipe, with its distorted face, presenting the symbol of the tree and serpent on its side, will lead us to the thought that there must have been a pre-Columbian contact with other countries. The progress of pre-historic archæology is bringing out more and more the fact that there were great differences between the races.§

The skulls of the southern Indians certainly differ from those of the northern Indians, even if the language was the same. It is easy for a people to change language, but constitutional traits continue through many generations. The Cherokees, Iroquois, Dakotas, may have belonged to the same stock, separated from one another in the Ohio valley at some remote time, but they differed from the Muscogees and southern tribes, and as to the Shawnees, it is acknowledged they belong to a different stock from either. These facts should lead us to the habit of recognizing differences. If we are to take the traditions of the Indians into the account, we shall conclude that the southern Mound-builders came from the West, the northern Mound-builders from the East or Northeast.

If we are to obliterate all distinctions and to class the Mound-builders' cult with the modern Indian, making out that the historic tribes properly represent the pre-historic conditions, we may as well give up our study of pre-historic archæology, and for that matter the study of the science of sociology also, and say that there was no difference between a savage warrior and a settled agriculturist, or between the animal worshiper and the

* See Grammar of the Lotus.

† See Ancient Monuments.

‡ See American Antiquarian, Vol. XIV, No. 4.

§ See Thomas's History of Cherokees.

sun worshiper, between the stockade-builder and the pyramid-builder. The term Indian has been applied to all classes and all grades and all districts, embracing the Eskimo fisherman, the Indian hunter, the southern agriculturist, Zuni, Pueblos, the civilized Aztec, the Maya, but it is not the general name that we need so much as the specific term, and so we prefer to classify the works of the Mississippi valley under the name which has already gone into use and to acknowledge that there was a Mound-builder's cultus.

The theory that there was an American race which had only one language and one origin, and that this race occupied the entire continent and filled it with one type of mankind, has this evil tendency, it prevents us from drawing a distinction between the different languages, customs, symbols, and forestalls any inquiry as to previous migration or pre-historic contact with other races, but this theory is even worse, for it shuts our eyes to the distinction between the earlier and later conditions and puts everything on one dead level. We need a closer analysis and minute distinctions rather than these grand generalizations.*

If there was a historic, a proto-historic and a pre-historic period on this continent, we want to know the differences in the cults rather than the resemblances. These differences are shown by the specimens of art and architecture that still remain, and we need to study these so as to assign them to the different periods and races. When we study the pre-historic works, we recognize the differences between them and ascribe these not only to the different modes of life and religious systems which were adopted by the races, but we also assign the different cults to the period and age to which they belong?

It was this mistake which that eminent author, Mr. L. H. Morgan,† made while treating of American Sociology and which many of his disciples are making to this day. He took the cultus of the Iroquois, with which he was familiar, and made it a pattern for all the native tribes and races, reducing everything, civilized and uncivilized, to the same simple elements. The long house of the Iroquois served as a pattern to him for the houses of the Mound-builders, and seemed to prove that the same communistic state everywhere prevailed. He went so far as to reconstruct a Mound-builders' village after the same pattern, and placed the long houses on the summit of the walls, instead of inside the enclosure.‡ He imagined that the Pueblos, of Arizona, served as a pattern for the cities of Mexico and Central America and called all the places of that region communistic houses.

He maintained that the civilized races, were all of them, not only organized into clans, but were in the communistic state;

* See Brinton's *American Race*.

† See Morgan's *Ancient Society*.

‡ See *North American Review*; see Morgan's *Houses and House Life*; see *Contributions to Ethnol. Bureau*, Vol. III.

that their cities were nothing but Pueblos and their kings nothing but chiefs; that everything about them must be reduced to a primitive state and run in the same mold which the Iroquois furnished.

II. We are to notice the variety in the architecture of the villages, especially when we are studying the village life of the Mound-builders and seek to recognize the differences between them and the other tribes or races. While we acknowledge that village life was universal in America, yet it differed according to locality, each race or tribe having impressed upon their villages their own ethnic states and customs. The tribes, to be sure, were composed of clans, and the clans were generally gathered into villages, each clan having a village by itself.

The clans or tribes might be organized into a confederacy, the land belong to the confederacy, but it was divided and held by the clans and could not be alienated except by consent of the clans when assembled together. There was no such thing as property in severalty or landed property. Sometimes there was the removal of a nation by reason of defeats and oppressions, but the conquered tribes, when they felt that their territory had been invaded and could not be held against their enemies, generally moved as a body. Their tribal organization was stronger than their attachment to their lands. The graves of their fathers were precious to them, but they would rather leave these than to have their tribe broken up. The element of religion came in. Ancestral worship prevailed among many of the tribes and thus threw an air of sacredness over the abodes of their ancestors and made their villages permanent. The graves were near the villages and the precious remains were under the care of the villagers as such. It was like tearing up everything that was precious to them when they were forced to move. It was for this reason that the village clans remained so long in their territory and defended themselves by such novel methods. It was for this reason also that the same clans, when they changed from one district to another, became so thoroughly disorganized. Having been driven from their original territory, in which their clan life had found such embodiment, they seemed to have adopted the customs and habits of the people into whose territory they migrated, making the old village sites their abodes, changing the old works into new uses. This question, as to what became of the Mound-builders of any one district, is perhaps to be answered in the same way. The Mound-builders were evidently as tenacious of their homes as the Cliff-dwellers, but there were tribes and confederacies which had long occupied certain regions and had reached a high stage of advancement and in the course of time had constructed a most elaborate system of works. These were driven off by the invading hosts of savage hunters and never again reconstructed their villages or

their homes. The change which must have come upon the country is exhibited as much by the different style of architecture which they adopted as by anything else.

The Indian villages on the Atlantic coast and in the state of New York seem to have been more permanent than those on the western prairies. They were frequently surrounded by stockades and were connected with one another by trails. The Indian villages of Virginia have been described by early discoverers. The village of Pomeiock was pictured by the painter Wyeth. From this we learn the arrangement of the village. We see the fields of corn, fields of tobacco, garden full of melons, forests full of deer, a pond in the back-ground; a broad roadway passes through the village; on one side are the houses of the chief, the houses for the preservation of the dead, and houses for the families; on the other side the dance circle, the feast tables, and the mourning places. The houses in the village are rectangular, with curved roofs, and resemble the houses of the Iroquois.

The picture of the village of the southern Indians represent the houses as circular, the roofs dome-shaped, with the stockade surrounding them. There is, however, no earth-work in either of these pictures. The villages were just such as were occupied by the later tribes when they were in a settled condition. These Indians, to be sure, might have possibly built earth-works at one time and abandoned the habit, but if so it must have been before the discovery. The natural supposition is that they were a different class of people, who came in after the Mound-builders. We divide the Mound-builders' villages into several classes, which differ according to their location, both in their method of defense, their general arrangement, style of architecture, class of relics which they contain, and the mode of life which they exhibit. Those of the effigy mounds being in one class, the "burial mounds" in another, and military works in another, sacred enclosures in another. The most remarkable of these are in Ohio, for they show that village life had reached a high stage. The villages of Tennessee are also to be mentioned. These were filled with lodge circles, and in these were large pyramidal or dormiciliary mounds and occasionally a lookout mound. These resembled the Ohio villages, in that they were square enclosures, but they had no such elaborate gateways, and no such watch-towers within the gateways, and no concentric circles or combination of circles and squares, and no adjoining enclosures which contained altars or burial mounds; they were plain village enclosures, in which all the purposes of village life were carried out and only a single wall surrounding the whole, the defense being given by this wall and a stockade placed upon the summit. They resembled the villages of the stone grave people of Tennessee, in that they contained many graves within the enclosure, as well as lodge circles and pyramids. These

may be called the villages of the pottery-makers, for large quantities of pottery have been found in the enclosures. Entire mounds of large size have been opened and found full of nothing but pottery. The villages of the Gulf States were peculiar. These, for the most part, were destitute of any circumvallation. In its place, however, is to be found a large moat, which served all the purposes of a moat around a feudal castle, the defense of the village having been formed by a palisade of timbers, with gateways and, perhaps, draw-bridges.

The chief peculiarity of these villages is that there are so many pyramids grouped around a central area, with the abrupt sides turned toward the moat or fish-ponds, but the sides on which approaches and graded ways and terraces are to be seen are directed toward the central area. The villages of the eastern district of the Gulf States are also marked with pyramids, but they are generally pyramids placed in pairs—one of them being rectangular, with terraced sides and graded ways for approaches; the other oval or conical, with its summit truncated, and a spiral pathway leading to the summit. In these villages was a chunky yard, also a distinctive feature; the rotunda, having been elevated on the summit of the cone, was placed at one end of the yard, the pyramid, with the chief's house on its summit, was located at the other end of the yard. The area within the yard was used as the public square or campus, the dance ground or the place for the trying of captives. Descriptions have been written by various travelers, such as Adair and Bartram, who visited these villages when they were occupied by the Cherokees, so we that know exactly the use to which each part of the village was applied. Descriptions given by the Portuguese traveler, the historian of De Soto's expedition, reveal to us also the use which was made of the pyramids in the western district by such tribes as dwelt there at the time.

The Tennessee villages were furnished with more conveniences and show better provisions for defense, for subsistence and for the carrying out of all the purposes and customs connected with village life, but they were, after all, arranged after the same general plan and show the same clan organization. The houses were generally arranged around a public square, within which the people assembled, making it a common campus. The temples, council houses, dance grounds and burial grounds they placed separately by themselves, making them somewhat exclusive and more sacred than their private houses. There were in all the villages provisions for the different classes—governmental and common—and conveniences for religious ceremonies, popular assemblies, festivals and amusements, and for burials.

In the ancient villages of Ohio, there seems to have been a separate enclosure for each of the classes and for each especial purpose. The clan elders had their houses inside of the square

enclosure and the people had their lodges inside of the large circle; but the religious houses or round houses were located in a small circle adjoining the two, the burial places and dance grounds being placed in enclosures by themselves. Some of these villages in Ohio present evidence that there was a sacrificial

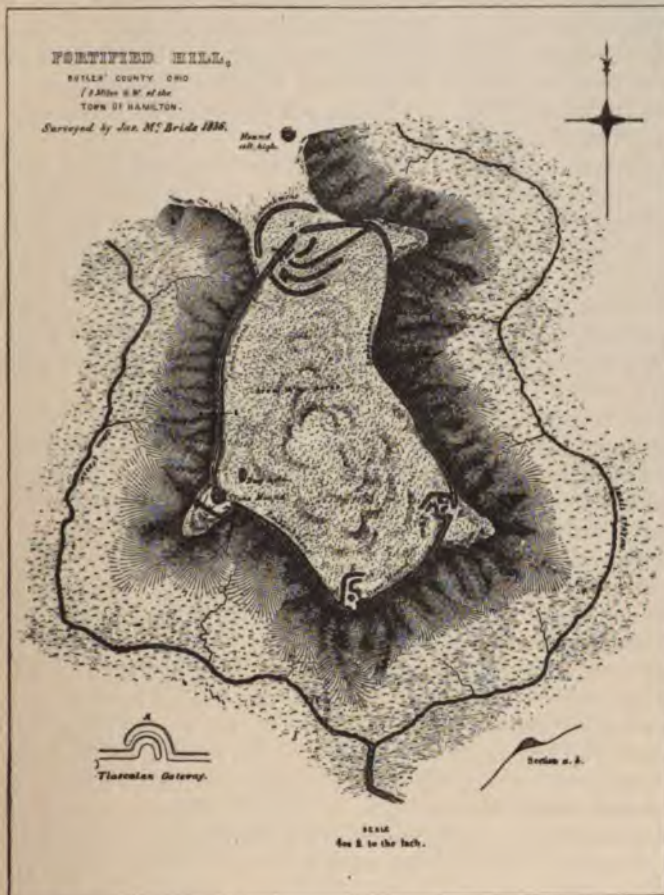


Fig. 10.—A Mound-builders' Fort.*

place in the midst of the large enclosure, and human sacrifices were offered to the sun.

This thought that the Mound-builders had reached a stage where the different classes were recognized and where conveniences were provided for them is worthy of notice, for in this consists one great difference between the ages. It matters not

*The works represented by this cut and the one on page 252 are situated in Butler county, Ohio. The difference between the walled villages and the forts will be seen from the cuts.

what stock or race was represented by the villages, yet the fact that there are earth-works which were occupied by the different classes shows that the cultus was entirely different from that of savagery. Savages may indeed have had chiefs and clan elders and priests or medicine men, but their villages were rarely built to accommodate these different classes.* The fact that there were different kinds of villages in the same territory is then important in this connection. It appears also that at one period there were tribal capitals or central villages, and perhaps places of tribal assembly for the observance of religious ceremonies, as well as clan villages.†

The proximity of villages to one another and their location along the valleys of the streams show that the tribal system prevailed, and that the tribes took the rivers for their habitats, the villages being the abodes of the clans. The discovery of the central villages and works peculiar to themselves proves also that there were confederacies which combined the tribes. These filled the districts with the works devoted to defense, government and religion, as well as domestic life, and so gave great variety to the earth-works.

The defense of the village varied according to the locality. In some places it was secured by placing a heavy earth wall around the entire village; in others by placing the villages in the midst of isolated tongues of land, making the position a source of safety; in others the pyramids were erected, their abrupt sides forming a barrier against approach, while the terraced sides and graded way furnished easy access to the people who might desire to resort to their summits in time of danger. The groups of pyramids were sometimes surrounded by moats, which served as fish-ponds in times of peace but barriers in times of war, resembling in this respect the feudal castles. There were a few villages that were destitute of circumvallation, though these were perhaps at one time surrounded by timber palisades or by stone and earth walls, which have disappeared. The size of the enclosures varied according to the population they were designed to accommodate. They varied from twenty-five to two hundred acres. In some cases‡ there were several adjoining enclosures, so that the village would be divided into two or three parts, the entire circumvallation extending several miles, including one or two hundred acres, and in other cases§ there was a single enclosure, everything being included in that.

III. As to the social status of the prehistoric villages, we may say that they represent three distinct grades, the first being the upper stage of savagery, the second the lower stage of barbarism, the third the semi-civilized condition. The relics and the works

*Mr. Thruston thinks there was a division of labor, and refers to the trowels discovered among the stone graves as proof that the plasterers' trade was followed.

†Aztlán, Marietta and Portsmouth were capitals; Newark, Circleville and many other places were clan villages. ‡In Ohio. §In Indiana.

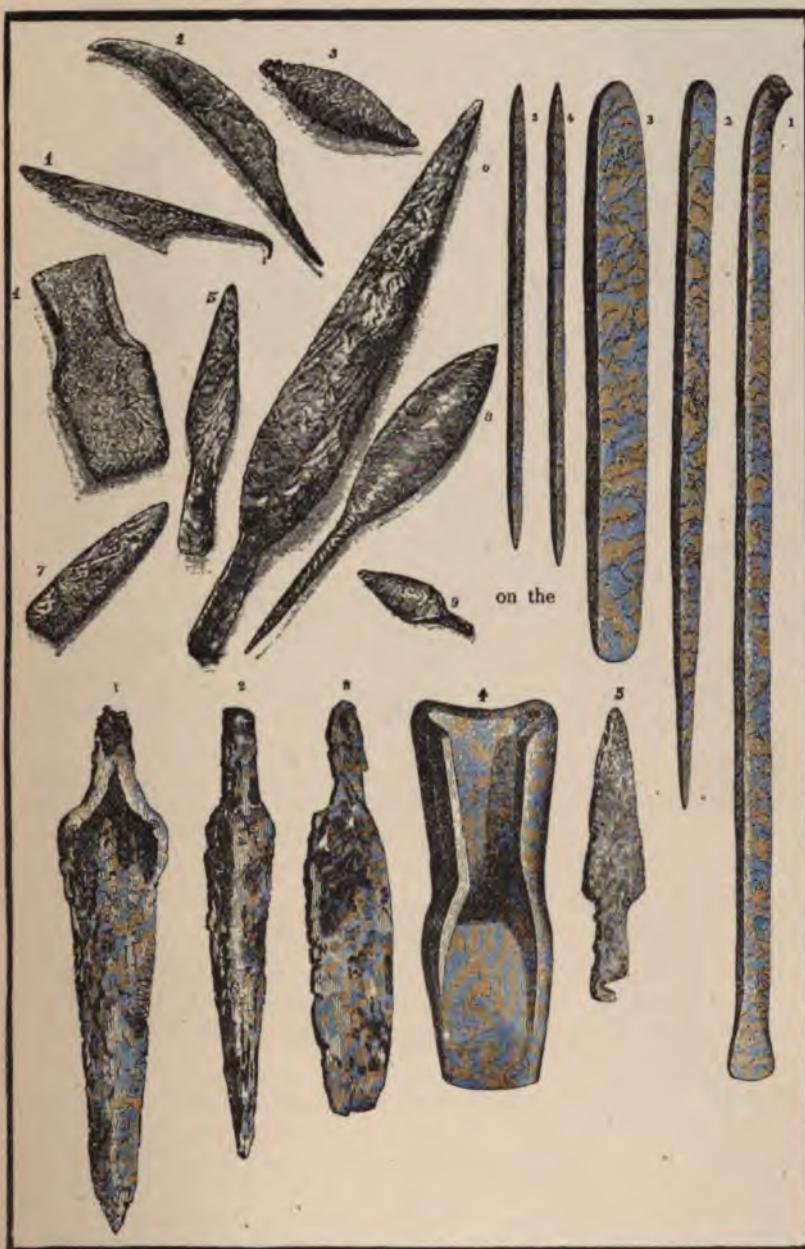


PLATE V.—COPPER IMPLEMENTS FROM WISCONSIN AND OHIO.



PLATE VI—MACES AND BADGES FROM OHIO AND TENNESSEE.

conspire to make the grade of society reached by the villages in the different districts very distinct.

Mr. L. H. Morgan has divided the ethnical periods—savagery, barbarism and civilization—into sub-periods, making a lower, middle and upper condition of savagery, and a lower, middle and upper condition of barbarism; he has placed the village Indians upon one side of a line, assigning them to the lower status of barbarism, but the "partially village Indians" upon the other side of the line, assigning them to the upper status of savagery. It is, however, a question whether the term "partially village Indians" should be used, for village life prevailed among all classes. What the author means is, the hunter Indians occupied temporary villages, while the Pueblos of the far West occupied the more permanent villages and were thoroughly organized upon the communistic plan. We would, however, place a class between the two and identify them with the Mound-



Fig. 11.—Frog Pipe from Indiana.

builders, making their villages the test by which we ascertain the difference between these three classes. This difference consists not so much in the fact that they represented different modes of life or different grades of advancement, as that they represented different styles of architecture, different styles of art, and different systems of religion, as well as different localities, or habitats. By this means we are able to classify the villages.

We classify the grades by the villages. 1. We place the stockade villages in the first grade, and divide the people into hunters, warriors and nomads. 2. The extensive earth-works which are found in the Middle and Southern States, embody the Mound-builders' villages. We ascribe these to the second grade, and divide the people into horticultural, agricultural and sedentary classes, giving each a different class of works. 3. The Pueblos, who used adobe or stone, and built their villages in terraces, we assign to the third grade. They may be divided into three classes. Those who erected their pueblos in the valleys, and those who

placed their villages on the mesas and defended them by their location; and those who placed their houses on the sides of the cliffs, thrusting their villages into the niches, making the defense which the cliffs furnished the chief object. These cultivated the soil by irrigation, had domestic animals and practiced the art of weaving. Their pottery was highly ornamented and their symbolism was elaborate. We see then, from this, that the Mound-builders' cultus, as embodied in their villages and as rep-



Fig. 12.—Stone Pulleys from the Stone Graves.

resented by their relics which are scattered over the entire Mississippi Valley, filled the middle grade of advancement or the middle epoch of existence, making this region the place where a specific stage of development was reached.

But all of the more ancient races, Mound-builders, Cliff-dwellers and Pueblos, seem to have been invaded by hordes of wild tribes who either drove them from their original seats or shut them up in their fortresses and finally reduced them to a decimated state, their territory being limited, their advancement hindered by the constant pressure of their enemies. The initial point of the migration of these later races is unknown, though according to later investigation there seems to have been three centers: 1st. The valley of the Columbia, the seat of the wild



Fig. 13.—Flint Hoes from Tennessee.

tribes, such as the Apaches, Comanches, etc., that crowded down upon the Cliff-dwellers and Pueblos and drove them from their ancient possessions. 2d. The peninsula between Lake Superior and Michigan, the seat of the Ojibwas and Athabascans, the nursery land of the many Algonquin tribes which spread over the entire region between the great lakes and the Ohio River and drove the Mound-builders from their possessions. 3d. The region north of the St. Lawrence River, the nursery grounds of the Iroquois tribes.

The cultivation of maize and plants tended to localize some of these tribes, so that the Iroquois, the Cherokees, and at one time the Dakotas, were established in smaller areas and rapidly grew into the condition of advanced village Indians; but these are the only regions in North America that can be called natural

centers of subsistence and the natural sources of the migrating tribes of hunters, nomads and warriors.

Whether these various stocks of Indians, which are now so well known as coming from the same locality and related to one another in language, originated on the continent, is very uncertain. All that we know about them is, that when they became known to history they seem to have had all grades of culture, all styles

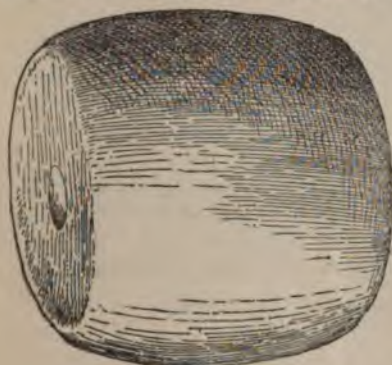


Fig. 14.—Barrel Shaped Disc.

of architecture, all modes of life, and all systems of religion, which both differed among themselves and also differed from those which seemed to have existed in the central regions before they reached them. Whether we are to class the Mound-builders among the older races and assign them all to a different stock from the Indians is now the problem. This much we may

do—we may assign to them a cultus which was peculiar, and may take the mound-building age as the one in which that cultus prevailed. This we do with the Pueblos, the Cliff-dwellers and with the civilized races who have left their ancient cities in the central provinces, even when we trace their descendants in the native tribes which still survive, and there is no reason why we should not, in the case of the ancient inhabitants of the Mississippi valley. We divide the entire continent into different districts, in which all grades of society are represented, placing the lower condition of savagery among the ice fields of the North, making fish subsistence the chief test; the middle status of savagery, we place in the forest regions about Hudson's Bay and north of the great lakes, making



*Fig. 15.—Cloth from a Mound in Ohio.**

*The cuts on this and adjoining pages represent the industrial arts of the Mound-builders.

subsistence upon game the test; the upper status of savagery we assign to the head-waters of the Mississippi and along both sides of the great lakes and as far south as the Ohio River, making subsistence upon game and the occasional use of cereals the test.

This leaves to us all the lower part of the Mississippi valley for the people who were in the lower status of barbarism, and who gained their subsistence partly by hunting and mainly by the cultivation of the maize, whom we call the Mound-builders. The middle status of barbarism, according to Mr. Morgan, was marked by cultivation, by irrigation, use of domestic animals, and was occupied by the village Indians of New Mexico and the ancient Pueblos and Cliff-dwellers. The upper status of barbarism, which in Europe was marked by the manufacture of bronze, in America was, according to Mr. Morgan, occupied by



Fig. 16—Monitor Pipes from Ohio and Iowa.

the Aztecs. Civilization commenced with the use of the alphabet, manufacture of iron, and building with sculptured stone, and was in America occupied by the Toltecs, Nahuas, Mayas, and the ancient inhabitants of Peru. To these may be ascribed the ancient cities of Central America in which pyramids, and palaces, shrines and temples were very common, and idol pillars were the best specimens of art.

The history of social development is also learned from the villages; those from each part of the continent illustrate a different period of advancement. We take up the relics as they come to us from the different parts of the continent, and we read in them a story about the progress of mankind and see striking illustrations of the different periods or stages. Mr. Morgan has given us some hints as to the line of progress and as to the tests. He says: Through the long period of savagery stone and bone implements, cane and splint baskets, skin garments, the village consisting of clustered houses, boatcraft, including bark and dug-out canoes, the spear pointed with flint, and the war-club,

flint implements of the ruder kinds, the organization into gentes, the system of totemism with the consanguine family and the mother right prevalent, monosyllabic language, gesture signs, picture writing, the worship of the elements in the lowest form, fetichism and cannibalism. In the lower period of barbarism the cultivation of maize, beans, squash and tobacco, finger weaving with warp and wool, the moccasin, legging and kilt of tanned deer skin, use of feathers for ornaments, and the pipe, the village



Fig. 17.—Bird Pipe from Stone Grave.

stockade for defense, tribal games, worship of animals and the elements, organization of confederacies, government by a council of chiefs. During the middle period native metals were introduced, such as copper and lead in its native state, native iron or brown hematite, and occasionally the beaten silver and gold, beaten into thin plates, ornamental pottery, polished flint and stone implements, woven fabrics of cotton and other vegetable fiber, the embryo loom, the construction of earth-works in the shape of fortresses, the erection of pyramids, the worship of the

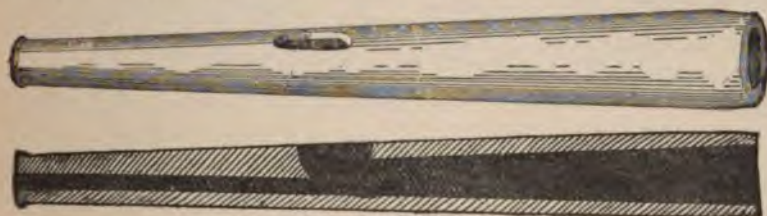


Fig. 18.—Stone Whistles from Tennessee.

sun, introduction of a priesthood, erection of estufas or rotundas for religious worship, separation of the caciques and the governmental houses from those of the common people, the introduction of extensive agriculture in fields rather than in enclosures. The upper period, distinguished by commune houses with walls of adobe, dressed stone laid in courses, cyclopean walls, lake-dwellers constructed on piles, knowledge of native metals, the use of charcoal and crucible, bronze relics in Europe, copper relics in America, ornamented pottery in colors and with symbols, art of weaving advanced to a high state, domestic animals introduced, cultivation by irrigation with reservoirs and irrigating canals, the worship of the sky, with personal and animal gods,

as guardians as parts of the sky, a priesthood distinguished by its costume, government by chiefs who were also priests, the beginning of hierarchy.

Here we would call attention again to the Mound-builders. We have already divided the Mound-builders' territory into several districts and have confined the different classes of Mound-builders to certain limited habitats, but we must remember that the same kind of works found in these districts extend in limited numbers into other districts. Within the districts the relics and the earth-works so correspond that we may decide as to the mode of life, the grade of culture, means of subsistence; social organization and religious system which prevailed; but without the district they are exceptional and can not be regarded as indices of the cultus which prevailed. The presence of these excep-



Fig. 19.—Clay Pipe from Indiana.

tional works and their associated relics in the midst of others has been supposed by some to prove the migrations of the Mound-builders through certain districts before they reached their habitat; but the evidence is unsatisfactory, for the line of migration as thus indicated is but a short one and gives us no hint as to their original home or starting point. There is always an uncertainty in regard to the direction—whether it indicates a line to or from the habitat, while the relics of the different districts are similar.

We give a series of cuts here to illustrate the different character of the relics in the different districts. It will be noticed that the pipes of the Ohio Mound-builders were without any stem; bowl and stem were carved out of one piece. See Fig. 16. The same kind of pipes are found in Illinois and Iowa. The pipes from Indiana, from the stone graves and the southern Mound-builders were designed for stems. Some of them had a small orifice, and were carved into frogs and ducks. Figs. 11-17. These we call calumets, for they remind us of the modern pipes in which the natural head of a bird is used, and which has the stem trimmed with feathers of various kinds. The so-called Cherokee pipe is one which resembles the modern clay pipe, the stem and

bowl being made of one stone, but both are round and trumpet shaped. There are many carved pipes, both at the south and at the north, some of which are made of clay and some of stone, a specimen of which is given in Fig. 19, from Indiana. Mr. C. C. Jones calls these calumets, but they seem to have been used by all of the tribes of modern Indians, as well as by the ancient Mound-builders, and can hardly be regarded as having such a sacred character as a calumet.

The copper implements represented in Plate V are from Wisconsin and Ohio. These show the difference between hunters and agriculturists. The Wisconsin relics are knives, spears, and arrows; the Ohio relics are chisels, awls, needles, a few spades and spears. There are copper relics in Iowa, but they are mainly

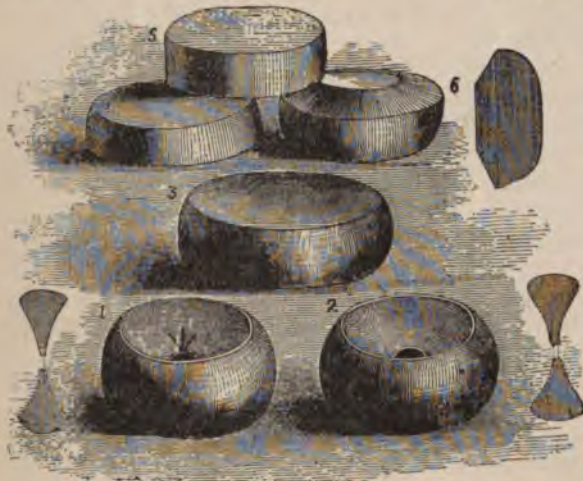


Fig. 20.—Chunky Stones.

axes. In Tennessee copper spools are very numerous. Copper relics in Georgia are wrought into winged figures. We see the cultus of the different classes of Mound-builders in the copper relics.

The chunky stones represented in Fig. 20 are from Ohio. They have been described by Squier and Davis. Such stones are very numerous in Tennessee and in the Gulf States. The chunky stones of Illinois are much smaller and not as deeply dished. They may have been used for a different purpose, and so are not properly called chunky stones.

The maces and badges represented in Plate VI are from Ohio and Tennessee. Maces like these have been found as far south as Florida, as far north as Minnesota, though rarely in the prairie regions. They show the cultus of the Mound-builders of all regions. Illustrations of specimens of pottery of St. Francis River may be seen in Plate VII. In this we have a figure of a

serpent, of a fish, a nondescript animal, of the cross, suastika, concentric circles. All of the specimens are bottles or water carriers. These have been described by Prof. W. B. Potter, and are now in the historical rooms of St. Louis.

Every effort to identify the cultus of any known tribe of Indians with that of a distinct district must be taken as largely made up of conjecture. We do not consider that there is the same uncertainty in reference to the Mound-builders' cultus, for the following reasons: 1. Within their habitat the Mound-builders of each class impressed their entire life upon their works, and they show exactly the grade of advancement they reached, the mode of life they followed, the type of religion they exercised, and the form of government they adopted, at a certain period of time, and we may take the picture which is furnished as a tolerably correct one. 2. The association of the relics with the works is an additional fact. These relics may be made from materials brought from other districts, and so prove an ancient intercourse and an ancient aboriginal trade, but when they are found in the district they show the cultus which prevailed elsewhere. It is worthy of notice, however, that generally the raw material is brought from diverse and distant localities, but when it reaches the district it receives the stamp of the people of that district. In this way the flint and the stone and the shell and the copper may be mined in other places and traded or carried, but the arrows, the spears, the pipes, the copper implements and shell ornaments show in their finish and form the very people or district to which they belonged. This enables us to identify them not only as the handiwork of the ancient inhabitants, but also as that of the inhabitants of a particular locality or district.

Illustrations of these points are very numerous. We have only to go over the Mound-builders' territory and recognize the different earth-works distributed there, and then take the relics gathered from each locality and group them properly, remembering the association with the earth-works and their correlation to the scenery, and we have a picture of the cultus of each class of Mound-builders both definite and reliable.



PLATE VII.—POTTERY FROM ARKANSAS AND MISSOURI.

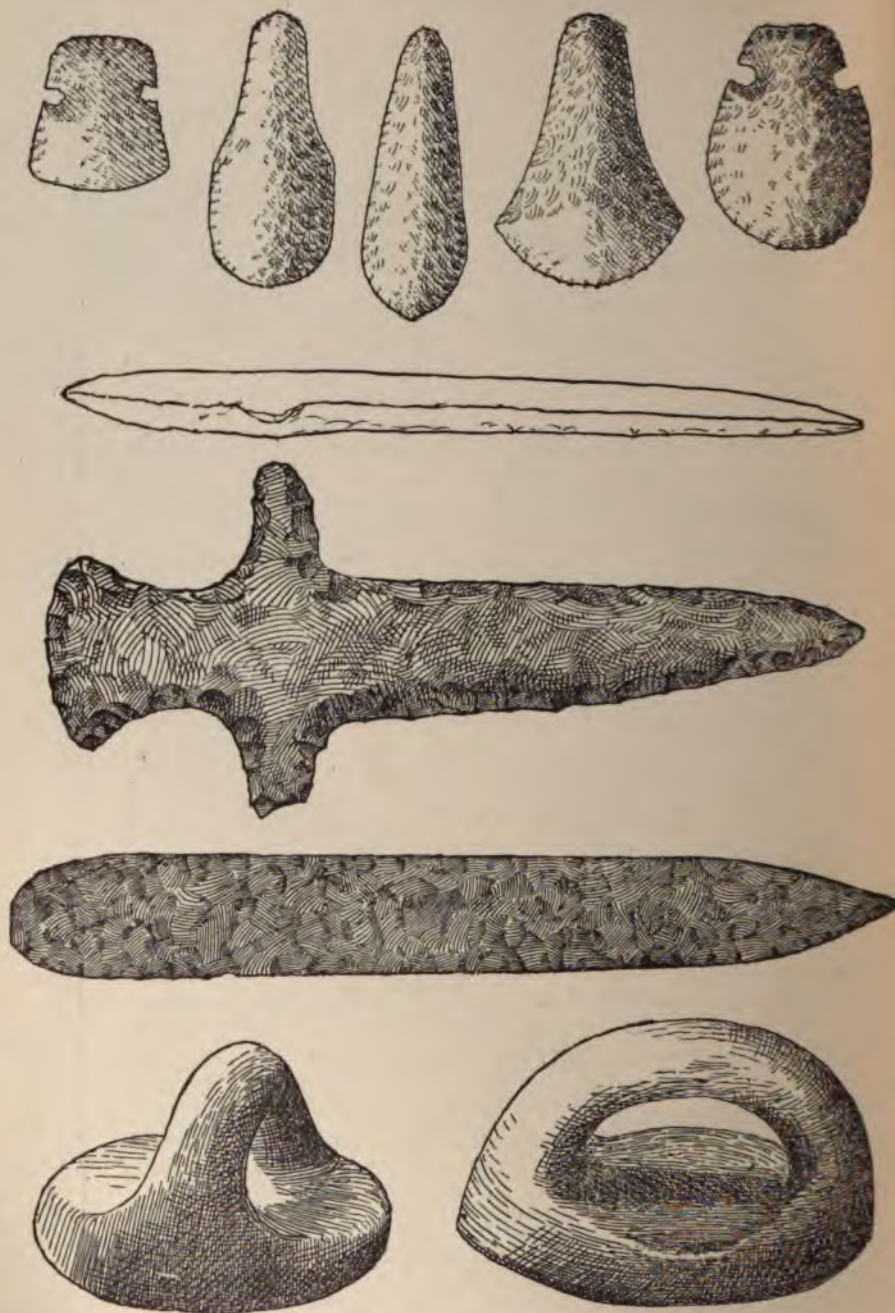


PLATE VIII.—RELICS FROM THE STONE GRAVES.

PRE-COLUMBIAN DISCOVERY OF AMERICA.

By J. P. MacLean.

IV.—NORSE REMAINS IN AMERICA.

If this tower was standing when Rhode Island was first settled, it would have been a work of so great wonder as to have attracted general attention. Newport was founded in 1639, and in none of the early documents is there any mention of the Old Mill. There was no tradition concerning it among the people, but was universally referred to as a *wind-mill*, showing for what purpose it had been used, and is positively known to have served during the eighteenth century, both as a mill and powder-house. It is first distinctly mentioned in the will of governor Benedict Arnold, of Newport, where it is called "my stone-built wind-mill." Had it been an ancient monument, Dr. Danforth, in 1680, or Cotton Mather, in 1712, would not have failed to mention it.

The first house in Newport was built by Nicholas Easton, but he makes no mention of the Old Stone Mill. In 1663, Peter Easton wrote, "this year we built the first wind-mill," and in 1675, he again wrote, "a storm blew down our wind-mill."

Benedict Arnold must have been a very popular man in Rhode Island, for he was several times governor, the last time from 1677 to 1678. He came from Providence to Newport in 1653. He built a house upon a lot of sixteen acres, the eastern part of which includes the mill. Gov. Arnold died in 1678, aged sixty-three years. His will is dated December 20, 1677, in which he enjoins: "My body I desire and appoint to be buried at ye northeast corner of a parcel of ground containing three rods square, being of, and lying in, my land, in or near the line or path from my dwelling house, leading to my stone-built wind-mill, in ye town of Newport above mentioned." Edward Pelham, son-in-law of above, in his will dated May 21, 1741, in his bequest to his daughter, Hermæoine, says: "Also one other piece or parcel of land situated, lying and being in Newport aforesaid, containing eight acres or thereabouts, with an old stone wind-mill thereon standing, and being and commonly called and known by the name of the mill field, or upper field."

In 1834, Joseph Mumford, then being eighty years old, stated that his father was born in 1699, and always spoke of the building as a powder-mill, and he himself remembered that in his boyhood, or about 1760, it was used as a hay mow. Another octogenarian, John Langley, remembered hearing his father say,

that when he was a boy, which must have been early in the eighteenth century, he carried corn to the mill to be ground.

In these citations it will be observed that Arnold does not call it an "old" mill, but my "stone-built wind-mill." At the time that Pelham made his will the mill had been standing not less than sixty-five years, and hence he very properly designates it "an old stone wind-mill."

Besides the historical testimony there is the evidence derived from the mill itself. The composition of the mortar is shells, sand and gravel. In the year 1848 some mortar taken from an old stone house in Spring street, built by Henry Bull, in 1639, some from the tomb of Governor Arnold, and some from various other buildings, was compared with the mortar of the old mill, and proved to be identical in quality and character.

The object of constructing the mill on pillars was, that the wind having a free passage through, there was no eddy wind caused to make a back sail and thus lessen the power. The form is that of English mills of the same period. A similar mill was erected, in 1652, in Chesterton Parish, three miles from Leamington. Whether or not Arnold came from Leamington, it might be difficult to determine, yet, it is well known he had a farm which he called "Leamington Farm." Having come from England he was acquainted with the forms of mills then in use.

The poet has very fittingly spoken of the attempt to Norseize this mill in the following words:

"Alas! the antiquarian's dream is o'er,
Thou art an old stone wind-mill, nothing more!"

A skeleton discovered near Fall River, in 1831, has been impressed into the service of the Northmen. Had it been discovered after the contents of Indian graves were fully known, it would have excited but little comment, and the knowledge of it would have been largely confined among archæologists. But its having been unearthed about the time when Norse remains were particularly searched out, it became at once either the skeleton of Thorwald Ericson, or else one of his companions, notwithstanding the fact that no implements peculiarly Norse were found in conjunction with it. The Danish authorities were very much interested in it, and chemical tests were brought forward to substantiate the claims made for it.

As might well be anticipated, Prof. R. B. Anderson seizes upon this skeleton as an evidence of his theory. Two pages of his book are devoted to it, under the caption "Thorvald Erikson." No doubt appears to rankle in his bosom. He introduces the subject by saying, "His (Thorwald's) death and burial also gains interest in another respect, for in the year 1831 there was found in the vicinity of Fall River, Massachusetts, a *skeleton in armor*, and many of the circumstances connected with it are

so wonderful that it might indeed seem almost as though it were the skeleton of this very Thorwald Erikson!"*

Much having been written and said about this discovery, it finally caught the eye of Longfellow, who attempted to immortalize it in verse. From his notes, and the language employed, he seems to have no doubt that he is dealing with a veritable Viking. Undoubtedly the poet is an authority in the field he has chosen, but when he attempts "archæological rhythm," his words must be taken with allowance. He makes the skeleton say:

"I was a Viking old!
My deeds, though manifold,
No skald in song has told,
No saga taught thee!
Take heed, that in thy verse
Thou dost the tale rehearse,
Else dread a dead man's curse;
For this I sought thee."

"Far in the Northern Land,
By the wild Baltic's strand,
I, with my childish hand,
Tamed the gerfalcon;
And, with my skates fast bound,
Skimmed the half-frozen sound,
That the poor, whimpering hound
Trembled to walk on!"

This skeleton was destroyed by fire in 1843. The skull was of ordinary size, the forehead low, beginning to retreat at not more than an inch from the nose; the head conical, and larger behind the ears than in front. The bones of the feet were missing, but the hands and arms were small, and the body was apparently that of a person below the middle size. With it was found a piece of copper plate, rather thicker than sheathing copper, which had been suspended from the neck. Probably this was not its original position, for there were no marks on the breast of the green carbonate with which parts of the copper were covered. In shape it was like a carpenter's saw, but wanting serrated edges; it was ten inches in length, six or seven inches wide at the top, and four at the bottom; the lower part was broken, indicating it had been still longer. The edges were smooth, and a hole was pierced in the top, by which it would appear to have been suspended to the body with a thong. Several arrow-heads of copper were also found, about an inch and a half long by an inch in breadth at the base, and having a hole in the center. They were flat, quite sharp, the sides concave, the base square, and of the same thickness of the breast-plate. Pieces of a shaft were also found. What caused particular interest was a belt, composed of parallel copper tubes, about one hundred in number, four inches in length, and of the thickness of an ordinary drawing pencil. These tubes were thin and exterior to others of wood, through each of which passed a leather thong and tied at the ends to a long thong encircling the body. This belt or thong was fastened under the left arm by tying the ends of the long string together, and passed round the breast and back a little below the shoulder-blades. The copper was much decayed, and in some places was gone; the thongs and wooden tubes were preserved. Nothing else was found but a piece of coarse cloth or matting a few inches square, of

*America Not Discovered by Columbus, p. 75.

the thickness of sail-cloth. The flesh was preserved wherever any of the copper touched it.

Illustrative of this skeleton with its accompanying implements, Haven has cited a particular narration given in Brereton's *Brief and True Relation of the Discovery of the North Part of Virginia* (New England), by Gosnold, in 1602. It is there stated that while they were at an island, which has since been identified, and lying off the coast nearest to Fall River, the natives came to them from the mainland, and the articles they brought are thus described: "They have great stores of copper, some very red and some of a paler color; none of them but have chains, ear-rings, or collars of this metal; they head some of the arrows herewith, much like our broad arrow-heads, very workmanly made. Their chains are many hollow pieces cemented together, each piece of the bigness of one of our reeds, a finger in length, ten or twelve of them together on a string, which they wear about their necks; these collars they wear about their bodies like bandeliers, a handful broad, all hollow pieces like the others, but somewhat shorter, four hundred pieces in a collar, very fine and evenly set together. Besides these, they have large drinking cups, made like skulls, and other thin plates of copper made much like our boar-spear blades, all which they so little esteem, as they offered their fairest collars or chains for a knife or such like trifle."*

The "Proceedings of the American Association for the Advancement of Science," for 1856, contains an account of alleged runic letters appearing on a ledge of hornblende, on the island of Monhegan, off the coast of Maine. Dr. A. E. Hamlin, of Bangor, who presented the paper, suggested that the inscription is the work of "some illiterate Scandinavian, whose knowledge of the runic form was very imperfect." A copy of the inscription was forwarded to Copenhagen, but the Danish antiquaries gave no interpretation, but contented themselves by observing: "The Indians have, without doubt, profited in various ways by their intercourse with the Northmen, to whom they were probably indebted for much knowledge; and it is apparently to their instruction, acquired in this manner, that we owe several of their sculptures on the rocks which are met within their regions."

As Prof. Anderson does not vouch for the authenticity of this inscription, and as De Costa† thinks it may be classed with the "Runamo Rock," it is not necessary to pursue the investigation any further. The rejection of this evidence may be owing to the thoughtless suggestion of Dr. Hamlin that it was the work of "some illiterate Scandinavian." The term applied was too offensive. Had he declared that it was the work of "some intelligent Scandinavian, and the characters are undoubted

*Archæology of the United States, p. 108.

†Pre-Columbian Discovery, p. 67.

runes," then Mohegan Rock would have occupied a conspicuous place alongside the Dighton Rock, the Round Tower and the Skeleton in Armor.

Human credulity might further be illustrated, in this matter, in the purported discovery of the site of the houses built by Lief Ericson. Up to date this may be recorded as the latest of the finds. So delighted were the advocates over this purported find that they presented to the discoverer a picture in colors of Lief's house in process of building, on the banks of Charles River, at flood-tide; surmounting an inscription, followed by the names of fifty-four Scandinavian societies, supported on one side by a figure of Lief, and on the other by an Indian maiden, with the surroundings of the New World; the whole set in a frame of pear-wood, elaborately carved in illustration of the Sagas and Scandinavian mythology. To use the language of this new discoverer, Prof. Horsford, the ship of the Norse adventurers "grounded in ebb-tide, on soft bottom, against Fort Point, opposite Noddle's Island (East Boston), as one sees on the pilot chart of Boston Harbor," and from this point, at flood-tide the ship floated off itself into "the ancient Boston Back Bay."* The houses he locates on the eastern slope of Mount Auburn. Accompanying the pamphlet is a map showing the exact course of Lief's ship. The discovery is based solely on the relation of the Vineland Sagas, which we have given in Chapter III. Our author boldly declares that he expected to find these sites, and had located them before he set out in the search for them. He found what he was looking for, and what he had determined on finding. Having found them, he looks into the past and goes into rhapsody and exclaims: "What a fortunate circumstance that there were so many of Norse blood and habits, residents, successively in the same houses."† Very fortunate indeed! It has been of incalculable benefit to the whole Norse and English speaking race!

The author treats us to a picture of a tablet, preserved in the Museum of the Essex Institute at Salem, and declares his belief that it is to "be regarded as a pictorial record of the repairs of Thorwald's ship at the extemporized ship yard on Cape Cod, in the year 1004. It exhibits the lines of skids and other conveniences for hauling up the vessel, to make the bottom accessible, and the old keel set upon the neck."‡ This tablet is a piece of slate about four inches long, found in conjunction with a human skeleton, a brass shield, and what appeared to be a fragment of a sword—all taken from a grave on the north shore of Massachusetts Bay. There are no runes on the slate. The markings bear no resemblance to anything known. To say that it represents a ship being hauled up in order to perfect its keel is an exceedingly extravagant stretch of the imagination, to say the least.

*Horsford's "Norse Discovery of America," p. 13. †*Ibid.*, p. 15. ‡*Ibid.*, p. 17.

Our author, in the last place, turns philologist and proves satisfactorily—to his own mind—that the word “America” is Norse. “The utterance of Norse forms of the name, as Eirikr, Ærekr, Eyrikur, suggests to a listener, *Erika*, which needs only the prefix *m*, one of the features of speech due to imperfect vocal development, remarked among American aboriginal races, and especially among the Indian tribes of the region of Norumbega (Vineland), to become *Em-erika*, or not remotely *America*, the name which the continent, as I conceive, has appropriately borne.”*

This method of treating philology is enough to cause the bones of Sir William Jones to turn over in their grave. It appears to have been inspired by an article from the pen of Jules Marcou, published in the Smithsonian Report for 1888. This article attempts to prove that the word “America” is a name indigenous to the New World, and derived from a tribe of Indians called “Amerriques,” inhabiting the mountains Sierra Amerrique, which form the cordillera between Lake Nicaragua and the Mosquito coast, in the province of Chontales, Nicaragua.

Speaking of this article, Mr. Horsford says: “How the name America came to be adopted has been consummately treated by Professor Jules Marcon.”† That the name America “perpetuates the claims of Erik as discoverer when he landed on Greenland in 982.”‡ In other words, the name America is but another term for Erik the Red; that Erik the Red’s name has been perpetuated in a tribe of American Indians.

One cannot help but admire the ease with which all problems are solved! In order to sustain the Norse discovery of America, the Eskimo must be brought down from their high northern latitude to Cape Cod in Massachusetts, and a tribe of Indians dwelling in the mountains of Nicaragua must be transplanted to the same point, that due notice and reverence might be given to Leif Ericson! It is a beautiful theory! It is a transcendent fact! With the facts so clearly set forth and so satisfactorily proved, “it is necessary for the truth, as to the (Norse) discovery of America, to be established immediately.”§

A candid view of the matter would lead an intelligent mind to the conclusion that the Norse advocates, in their great zeal, have trifled entirely too much with the subject, in placing stress on these so-called American evidences. However, they are acute enough to know that if the Norse had been in America, made settlements, and continued for a period of three hundred or more years, as has been claimed, corroborative proof would be forthcoming. Greenland affords it, and America must not be deficient. If it fails to yield evidence, then the whole theory must be changed. In lieu of better testimony, that which has been seized upon must continue to do service.

**Ibid.*, p. 29. †*Ibid.*, p. 27. ‡*Ibid.*, p. 28.
§Snipley’s “Icelandic Discoverers,” p. 14.

EVOLUTION OF THE HUMAN FACE.

BY ALTON H. THOMPSON.

In man the face is a composite, more or less incomplete, of the inherited characteristics that have been accumulating during the slow lapse of the ages. All the animal and human elements of the individual face are but the legacies of his ancestry. The mere structures of the face arose from its parts having been evolved and erected for the accommodation of some of the sense organs, and the origin of this organ must be placed at the time of the differentiation of the special senses. In the invertebrate animals the sense organs are scattered over the whole body, in various locations, so that there is really no such part as the face in that class, as understood when speaking of the vertebrates. It is in the vertebrates only that the face becomes apparent as the seat of the four special senses, for in the vertebrates "all the higher sense organs may be regarded as differentiated parts of the skin, the nerves of which have become greatly specialized and have then acquired a more marked individuality than the other sensory nerves."* The eye, the ear, the olfactory sense and the sense of taste all arose from this source. The eye itself conveys much expression, but its supporting structures do not have a great influence in modifying the features. But the structures for the accommodation of the olfactory sense present great variety and are often very extensive. The mouth is also expressive in some lower forms, and from these beginnings arose the face as the seat of the emotions in man and making of it a means of communication of the thoughts, feelings and passions.

Variations and incongruity of features are mainly due to unequal development, induced by the conflict of different inherited tendencies, and the omnipresent power of atavism causing the reappearance of long-absent peculiarities of feature. This conflict brings about the retardation of the growth of some features and acceleration in others as well as in their ever varying forms and expressions. Some features remain more or less embryonic or infantile, and others bear a decided resemblance to primary animal types, especially with the quadrumanous and anthropoid forms. Others again are accelerated and much developed in man, and other features are much reduced, as compared with the lower primates. The quadrumana furnish many suggestions which, if followed up carefully, will furnish clues to many

*Standard Nat. Hist.

intrinsic problems of human physiognomy. We will, therefore, try to trace some of the human facial features and expressions back to earlier sources than even the pure races of mankind—back to their shadowy beginnings, their animal origin.

Professor E. D. Cope has brought this out to some extent in his chapter on "The Developmental Significance of Human Physiognomy." He says: "Many persons possess at least one quadrumanous or embryonic character, and the possession of quadrumanous characteristics by man approximates his form to that class, so far as the evidence goes. He may retain features which have been obliterated in other forms in the process of evolution. Then again persons whose features possess any infantile characteristics are more embryonic in those respects than are others, and those who lack them have left them behind on the way to maturity. We have here two sets of characters in which men may differ from each other. In one set the characters are those of monkeys, in the other they are those of infants, and some peculiarities are characteristic of both sets. Characters of the face of monkey-like significance are usually the opposite to those included in the embryonic, but in both the facial region of the skull is larger as compared with the cerebral. Man stops short in the development of the face and is so far embryonic. The Indo-European is the highest in those things which add to beauty, according to his own ideal. Increased size of the cerebrum and retardation of the face is a main characteristic. Quadrumanous indications are found in the lower classes of the most developed races. The status of a race is mainly determined by the percentage of its individuals who do, and do not, present the features in question. Some embryonic characters may also appear in individuals of any race."

Few faces have features that harmonize, and most faces have one or more features that are immature and incomplete and that are really either quadrumanous or embryonic. A face in which all the features are matured and well developed and harmonious is beautiful because of the proportions and completeness. The ordinary face is generally degraded and unattractive because one or more of its features are incomplete and inharmonious. But to analyze the face properly, its different parts and features must be studied separately, and so we will begin with the superior portion of the face, and take first *the forehead*. Professor Cope says (*op. cit.*), "The facial region of the skull is larger in the quadrumana, compared with the cerebral," the latter receding so that "the forehead is not full and prominent and is generally retreating." The low forehead is, regardless of its bearing on mental power, a quadrumanous characteristic, and the opposite, the high, full forehead, is the advanced, the human form. Sloping forehead is not necessarily a sign of mental weakness, but only of the reappearance of a quadrumanous feature, and when it is accompanied by the

covering of a brow, transversely wrinkled skin and low-growing hair, the resemblance is altogether too suggestive to be pleasant. Still retreating foreheads may be seen in the most distinguished men.

From an embryological point of view, we notice in the foetus and infant "that the cerebral part of the skull greatly predominates over the facial" (Cope). In the human infant, as in the young ape, the forehead is more full and rounded than in the mature form. In the embryo the forehead is disproportionately bulging and overhangs the face, so that a mature forehead that is too full is, in a sense, an embryonic form—*i. e.*, the proper growth of the face to the type of normal proportions has not been accomplished and the forehead retains its embryonic predominance. Perhaps this kind of a forehead is also the survival of a quadrumanous form, as the little squirrel monkey of South America has a disproportionately full forehead—fuller than man himself. The embryonic fullness in all the primates may, therefore, be but the survival of a long-lost lower form, and be itself a reappearance.

Regarding the *eyebrows*, Professor Cope says (*op. cit.*), "The superciliary ridges are more fully developed in the monkeys, so that in man they are embryonic. Man stops short of completeness in the development of the lower face, and is so far embryonic. The orbits of the eyes are smaller, except in a few species, and the superciliary ridges grow more from infancy to maturity than in man." In man the brow is much reduced and is thus embryonic. In the great anthropoids the superciliary ridges are greatly extended, and in a few of the lower races of man are quite prominent, but in the higher races of man are reduced. They are thus rudimentary in man, but in occasional cases there is considerable development of the brow, so that it shelves outward like the anthropoids—which is a reappearance. The temporal ridges, as well as the sagittal ridge, are much developed in some of the anthropoids, as the gorilla, for the more extensive attachment of the temporal muscles for giving greater power to the jaw. The ridges give a depressed appearance to the forehead, and a savage look. There is no reappearance of these ridges in man, unless it should be in an occasional example of the Mongoloid, Malay, or American Indian skulls, but it is very rare, and is perhaps only an anomaly.

"In infancy (Professor Cope, *op. cit.*) the superciliary ridges are not developed, and remain reduced through life," and their condition in the adult of mankind is therefore embryonic; the low eyebrow is merely an undeveloped feature.

The *eyes* are larger proportionately in the infant than in the adult, and are more prominent, the surrounding parts being undeveloped. With growth the eyeball recedes, owing to the bony socket developing about it. As compared with the quadrumana, the eyes differ but little as to the external appear-

ance and form. There may be a difference as to prominence or depression, but this is scarcely perceptible as between man and the monkeys and apes. Individuals vary greatly in all tribes and species. There is a great difference, however, as to the intellectual fire that lights the eye—the indefinite something that reflects the will behind it. In this, as in his whole intellectual being, man is removed from the lower forms of life by a space whose vastness cannot be estimated.

The *nose*, Professor Cope says (*op. cit.*), "is without bridge in the quadrumana, and with short and flat cartilages. . . . The character of the prominent nose in the Indo-European man, with its elevated bridge, is a sort of acceleration, since it is a super-addition to the quadrumanous type from both standpoints of quadrumana and embryology, and is chiefly due, no doubt, to the greater development of the front of the cerebral part of the skull or ethmoid bone, which, developing later, carries the nasal bones forward with it. . . . In the negro the nose is flat, without a bridge, which is a quadrumanous character and is a retardation of growth. . . . In the Bushman the flat nasal bones are co-ossified with the adjacent bones, as in the apes. . . . In the Mongols the nose is flat, with a bridge. . . . Many people, especially those of the Slavonic races, have more or less embryonic noses." Many races have the flat nose, with low bridge, or the bridge may be totally absent. Many individuals of the higher races have flat noses, but the bridge is, if normal, always present.

In the infant "the nose is without bridge and the cartilages are flat and short—quite quadrumanous, in fact." But the nose grows and develops more than any other feature of the face in the progress toward maturity. A well-developed—a "strong"—nose is a strong feature and strengthens the face, giving character and force, but a small nose is a weak feature and makes a face appear weak. Many adult noses are small and undeveloped, are really "baby noses," and detract much from the beauty, harmony and impressiveness of a face. A noble face with a small, insignificant nose cannot be imagined. It is the imperial feature and dictates the character of the face. A small nose is embryonic and has stopped short in the course of development at an immature stage. It does not really mean weakness in character, however, but only that the face has inherited a past form and did not reach the full attainment of its type, and the result is inharmony and mediocrity. The omnipresent mediocrity of the sea of faces around us is due largely to the prevalence of immature noses.

Then again, many noses of to-day are distinctly quadrumanous in some of the characteristics which they retain. The anthropoid nose is flat of bridge and crushed upward against the face, flattened and "stub-nosed" in fact. This form is seen in many "stub" noses—"retrousse" if you please—where the nose is dis-

tinctly upturned and retracted, as often occurs in Celtic, Negroid, and Slav races, and sometimes in others. In the Negro the wings are spread and enlarged also, as in the monkeys. Again, the American monkeys have noses with wide bases, with the nostrils set well upon the side, hence their name, *Platyrrhine*, wide-nosed. The Old World monkeys have the nostril openings set close together beneath, and are called *Catyrrhine*, or narrow-nosed. Now, it is not unusual, especially among Negro and other low races, to see an approach to this wide-nosed form—a wide pillar between the nostrils and the latter openings set more or less on the side of the nose. A slight approach to this is seen in very many individuals of the European races, and occasionally an instance that is quite pronounced. This is an inheritance—an interesting survival of a very low form, a form which even the Old World monkeys have passed over.

These survivals, or rather reversions, are interesting as showing that this important feature when not typically developed in man is only immature. It is an interesting organ also in that its normal development in man is superior to that of other animals and is due to the accelerated growth. A fine, strong human nose is an acquirement of our species since its emergence from animalism.

By excessive and abnormal development the nose often simulates the proboscis of other animals, but the resemblance is merely accidental. Yet the physiognomists have made much of these resemblances as indicating the character of the individual—that it resembled the animal thus simulated. This is, of course, absurd, but the idea was quite popular in certain circles in former days. It was part of the old physiognomy.

Regarding the *cheeks*—the malar bones, the zygoma, etc.—Professor Cope says (*op. cit.*), "The cheeks are more prominent in the quadrumana. . . . In the Negroid and Mongolian races the malar bones are quite prominent, which is a quadrumanous accelerated character. The malar bones are reduced in the Indo-European races, which is a retardation, and is an embryonic condition." Most low races have prominent cheek-bones, and this peculiarity is usually an accompaniment of a low physical and mental stage. In the higher races the cheek-bones are much reduced, so that the occasional re-appearance of the high malar prominence among them detracts at once from the elevation of a face. Indeed, high cheek-bones make a low face and are a distinctly quadrumanous inheritance. So we find this feature prominent and conspicuous in most low races and reduced and inconspicuous in the higher races—at least in the Indo-European races, which we are disposed to call the highest of mankind.

The reduction of the cheek-bones in the higher races is not merely an accidental embryonic condition such as occurs as an accident in the non-development of the nose, for instance, so far

as the individual is concerned, for "in the infant the malar bones are not prominent," and their retardation is a later human characteristic and their acceleration a quadrumanous characteristic. There is a peculiarity of the cheeks, however, that is often retained to maturity that is embryonic and a distinctly infantile feature, and that is the enlargement of the buccinator, the "sucking" muscle. The strong development of this muscle in the infant, for physiological purposes, gives the cheeks of the infant their excessive fulloess, which, when the food-habits change, become reduced by disuse (and inheritance) and the cheek falls in, making the face thinner. The retention to maturity of excessively full cheeks, of the fleshy part, is an embryonic feature, and gives to the face an infantile look. Yet a moderate fullness is much to be desired, as plump cheeks are the inseparable adjuncts of symmetry and beauty of the face.

Regarding the *jaws, mouth and lips*, Professor Cope says (*op. cit.*), "The jaws in civilized man are so much retarded in development as to be quite embryonic as compared with those of the monkey and some of the lower races of man. Many of the latter are quite prognathous, and thereby approach the quadrumanous type; but civilized jaws stop short of the full development of the anthropoid form. That is, in the monkeys the jaws are more prominent than in man, and as this results from a fuller course of growth from the infant, it is evident that in these respects the apes are more fully developed than man. The reduced jaws are characteristic of retardation. In the Negro and Mongolian we notice that there is a predominance of the quadrumanous features, prognathous jaws, which are retarded in the Indo-European; and that the embryonic characters which predominate in the last (orthognathous jaws) are more accelerated in the others. In the Negro the edges of the jaws are prominent—a quadrumanous characteristic; in the higher races the alveolar borders are reduced. . . . The edges of the jaws are more prominent in the quadrumana. . . . In the monkey the jaws grow more from infancy to maturity than in man." Prognathism is a quadrumanous character, and its opposite, orthognathism, a human character. The teeth project in most low races, and are more vertical in most civilized races, and this adds to the character of the jaws, whether prognathous or orthognathous. These characters are very constant as racial features, there being but infrequent individual deviation from the racial type, and perhaps only, in the higher races, in the cases of congenital idiots, who sometimes have prognathous jaws, owing largely to the non-development of the brain-case. Darwin says ("Descent of Man"), quoting Vogt, "Microcephalous idiots have a smaller brain, less complex convolutions, the frontal sinus is largely developed, the jaws are prognathous to an *effrayant* degree, so that these idiots somewhat resemble the lower types of mankind." Indeed, prognathism and a small brain-case, or orthog-

nathism and a large brain and prominent forehead, bear a constant relation to each other. In the higher races, with greater mental power, the brain is larger—at least the fore-brain, and causes the brain case to grow forward and overshadow the jaws, which are correspondingly and synchronously reduced. And, *vice versa*, prognathous jaws project forward of the brain-case, which is reduced and smaller. Thus it is that small, orthognathous, vertical jaws and large brain go together, and large, prognathous jaws and small brain together, as more or less constant racial characteristics.

"In the infant the alveolar borders are not prominent. . . . The faces of some people are partly embryonic," in having a short face and light lower jaw. Such faces are still more embryonic when the forehead and eyes are prominent. "Retardation of this kind is most frequently seen in children, and more frequently in women than in men." An undeveloped, retracted lower jaw is an embryonic form sometimes seen.

In the quadrumana "the mouth is small and the lips thin. . . . The strong, convex upper lip, as frequently seen among the lower races of Irish, is a modified quadrumanous character" (Cope, *op. cit.*), and is quite constant in their descendants. The lips are distinctly cleaner and finer cut in the higher European races than in the lower races of man, and the oral opening is smaller. A large, wide opening to the mouth with coarse lips is a low type, and when associated with depressed corners is positively quadrumanous. These forms are often seen in low races, and sometimes reappear in individuals of the higher races. The lips are coarse and shapeless in all low races, and the finely carved lip is a distinct mark of superior organization. In the quadrumana the lips are thin and infolded, showing but little of the mucous membrane. Thus a mouth that is wide and much depressed at the corners, with thin lips and a long, stiff upper lip, is positively quadrumanous. The inheritance is direct. The thick lip that shows much of the mucous membrane folded outward is embryonic. It is infantile, and remains as a permanent feature in most lower races and in some individuals of the higher races. It is the remains of the nursing period, like the developed buccinator muscle.

"The *chin* is retreating in a quadrumana, . . . and a retreating chin in man is marked monkey character" (Cope, *op. cit.*). That is, a chin that is retreating from the alveolar border backward as a normal condition, and not as a result of the accidental lack of development of the lower jaw, or a lingering embryonic form. The lower jaw is somewhat inconstant, and may be very small or very large as compared with the rest of the face, leading to malposition and irregularity of the teeth, as frequently observed by dentists, and the complete alteration of the expression of the mouth. But the chin as a distinct feature is independent of the form of the jaw, and occurs as a

part developed upon and added to it—the part known as the bony symphysis of the lower jaw. It is a powerful and expressive feature in man, and serves much to give character and impressiveness to the face. A bold, strong chin gives strength to a face, and a weak, retreating chin weakens a face as much as a weak, embryonic nose.

The chin is a distinctively human feature. Mivart ("Man and Apes") says, "A striking feature of the human skull is the prominence of the inferior margin of the lower jaw in front, *i. e.*, the presence of the chin. The feature is quite wanting in the Gorilla, Orang, and Chimpanzee"—in fact, in all the quadrumana, except a slight approach to it in the Siamang. This is easily observed by comparisons of the skulls of monkeys and man. Even the lower races of man have, as a rule, retreating chins, especially when there is prognathism present, and, like that, it is a quadrumanous feature.

The descent of the *movements of expression* is an interesting part of our subject and opens a wide field, the study of which may enable us to find the origin and trace the descent of many of the expressive movements of the face of man. We notice first that many animals express emotions by the motions and movements of parts which with man have become obsolete or were never used by his ancestors. Thus the horse expresses his feelings—anger, fear, etc.—most plainly with his ears; the expressive organ of the dog is the tail; the cat expresses her feelings by the arching of the back and the movements of the tail and ears, and the standing hairs are expressive in both cat and dog. There are other expressive movements that lie outside of the facial features, but with these we will have nothing to do at present. The eyes are expressive in all animals, and in that they much resemble man.

Facial expressions, the movements of the face, were undoubtedly developed with the growth of the mind, as new emotions and mental faculties were called into existence which demanded expression. The first expression of the feelings or of the ideas was sign-language, and facial expression remains with man as a rudiment of that means of communication before the origin and development of language, for sign-language is used even by animals in expressive movements of different parts of the body, which are well understood.

Charles Darwin says ("Expression of the Emotions in Man and Animals") that he "attended as closely as possible to the expression of the several passions of animals, as affording the safest basis for generalizations on the causes or origin of the various movements of expression. . . . It seems probable that the habit of expressing our feelings by certain movements, though now rendered innate, had been in some manner gradually acquired." Again he says ("Descent of Man"), "The relative position of our features (as compared with the quadrumana)

is manifestly the same, and the various emotions are displayed by nearly similar movements of the muscles and skin, chiefly above the eyebrows and around the mouth. Some few expressions are, indeed, almost the same, as in the weeping of certain kinds of monkeys and in the laughing noise made by others, during which the corners of the mouth are drawn backward and the lower eyelids wrinkled. The external ears are curiously alike. In man the nose is much more prominent than in most monkeys; but we may trace the commencement of an aquiline curvature in the nose of the Hooloch Gibbon, and this in the *semnopithecus nasica* is carried to a ridiculous extreme."

Or again ("Expression of the Emotions") Darwin says, "When animals suffer from an agony of pain, they writhe and utter piercing cries and groans. With man the mouth may be closely compressed, or the lips retracted and the teeth ground together. Many animals grind the teeth in pain. . . . When a chimpanzee is pleased or being tickled, a decided chuckling or laughing sound is uttered, the corners of the mouth are drawn backward, and the lower eyelids may be slightly wrinkled, but the teeth are not exposed. Their eyes sparkle and grow brighter. Young oranges, when tickled, likewise grin and make a chuckling sound, and an expression like a smile passes over the face. . . . When given a choice morsel, the corners of the mouth are raised in a slight smile of satisfaction. The same movement expresses pleasure in meeting a person to whom the monkey may be attached." Dogs often retract the corners of the mouth and raise the lips when pleased or when displaying affection or delight. "In anger or fear the lips of monkeys are sometimes drawn up and the mouth opened and closed to show the teeth," to frighten the enemy by threatening biting. "Some species, when irritated, part the lips and gaze with a fixed and savage stare. Then the crest of long hairs on the brows may be drawn backward," and the brows be raised and lowered rapidly. "Some species of monkeys expose the teeth, others purse the mouth so as to conceal them, or pout the lips forward. Indeed, the movements of the features are really the same as those from pleasure; . . . others grow red in the face when enraged; others move the eyebrows rapidly up and down when excited. . . . Young oranges and chimpanzees protrude the lips greatly also when displeased. Young oranges often kiss each other. . . . The higher apes raise the eyebrows, and the forehead becomes, as with man, transversely wrinkled. In comparison with man their faces are less expressive, chiefly owing to their not frowning under many emotions of the mind. Frowning, which is one of the most important of all the expressions in man, is due to the corrugating muscles of the forehead; but though the apes possess this muscle, they rarely frown,—at least conspicuously. . . . The gorilla, when enraged, erects the crests of hair, drops

the lower lip, and utters terrific yells. The great power of movement of the scalp of the gorilla and of some other of the quadrumana demands notice in relation to the power still possessed by some men, through inheritance by reversion or persistence, of voluntarily moving the scalp. . . . Astonishment is not expressed by wide-open mouth by the monkeys, as with man."

In summing up his observations, Mr. Darwin says, "That the chief expressive actions exhibited by man and the lower animals are now innate and inherited,—that is, have not been learned by the individual,—is admitted by every one. So little has learning or instruction to do with some of these that they are from the earliest days and throughout life, quite beyond our control. . . . Many of our most important expressions have not been learned; but it is remarkable that some, which are certainly innate, require practice in the individual before they can be performed in a full and perfect manner. . . . Slight movements, such as the wrinkling of the forehead in grief, or the scarcely perceptible drawing down of the corners of the mouth, are the last remnants or rudiments of strongly marked and intelligible movements. They are full of significance to us in regard to expressions, as are all ordinary rudiments to the naturalist in the classification and genealogy of organic beings." Then again, many movements of the face in lower forms are but the beginnings, the embryonic origin, of expressions that are highly developed in man, as, for instance, the action of laughing. Of this movement we can see but the beginning, the suggestion, in lower animals. Indeed, man has been described as "the only animal that laughs," for he alone gives the movement full play. So with frowning, expression with the eye, and other facial expressive movements which are undeveloped in lower forms, but have their origin there.

Then again the higher grades of expression, those expressions of the higher emotions and intellectual processes, must have arisen after the emergence of man from the animal stage, as the animals furnish us few suggestions of them, or of the probable source of their origin, or path of development. Such expressions are the human part of the face,—that which lifts it beyond and sets it apart from the animals below it. Under this head come the finer expressions of the mouth and face, which accompany that highest intellectual accomplishment, intelligible speech. Man does not indulge in the coarse movements of the mouth, as excessive pouting or strong retraction of the lips, showing the teeth, etc. (except when under very strong feeling, or as children who employ such extreme actions), but the mouth is more under restraint, and expresses the finer grades of feelings and emotions which have come into existence since man became a different being and to which the lower animals are strangers. The acquisition and development of articulate speech has led to the mod-

ification of some animal expressions and the refinement of others, and the creation of still others entirely new. But the differentiation of these is impossible in the present state of imperfect data and absence of close observation.

But of the philosophy of expression, Mr. Geo. Romanes says that "in animals as in man there is obviously a 'logic of feelings' that is translated into a 'logic of signs.' This logic of signs, in its higher development, has exclusive reference to the representative faculties, and is first evoked by those exigencies of life which rendered necessary the communication of ideas. The germ of the sign-making faculty occurs among animals as far down as the ant and is highly developed among the higher vertebrates. Pointer dogs make signs, terriers 'beg' for food, and the cat, dog, horse and other animals make signs. The animal is capable of converting the logic of feelings into the logic of signs for the purpose of communication, and it is a sign language as much as that of the deaf mute or savages." From these beginnings, the principle of communication arose, signs and gesture language were developed and facial expression, as an auxiliary of gesture language, was evolved.

Facial expression is, then, in its last analysis, sign language. It belongs to the realm of "gesture speech"—communication by gestures of the features. As Mr. Garrick Mallery says in his contributions to the study of sign language ("Report of Bureau of Ethnology," vol. i), "Gesture speech is divided into corporeal motion and facial expression. . . . A play of features, whether instinctive or voluntary, accentuates and qualifies all motions intended to serve as signs, and strong instinctive facial expression is generally accompanied by action of the body or some of its members. But, so far as distinction can be made, expressions of the features are the result of emotional and corporeal gestures of intellectual actions. The former in general and the small number of the latter that are distinctly emotional are nearly identical among men, for physiological causes which do not affect with the same similarity the processes of thought. The large number of corporeal gestures expressing intellectual operations require and admit of more variety and conventionality. . . . Sign language necessarily includes and presupposes facial expression when the emotions are in question. . . . The earliest gestures were doubtless instinctive and generally emotional, preceding pictorial, metamorphic and conventional gestures, which in turn preceded articulate speech, according to Darwin. . . . While it appears that the expressions of the features are not confined to the emotions, the movements of the hands or arms are often modified or accentuated by associated facial changes. These infuse life into the skeleton sign and belong to the class of innate expressions. . . . Emotional expression in the features of man is to be considered in reference

to the fact that the special senses either have their seat in or in close relation to the face, and that so large a number of nerves pass to it from the brain." He describes several instances where complete conversation has been carried on by facial expression alone—showing the possibilities of intellectual as well as of emotional expression of the face. Facial expression differs from sign language in that the latter, like oral speech, has become conventional among tribes by whom it is extensively employed; but the former still bears its primitive graphic and representative relation to thought and feeling. It pictures feelings, illustrates thought, and is therefore the remains of the original, primitive sign language, which was pictographic. Sign language and its analogue, facial expression, "are so faithful to nature that they will endure, while vocal speech will undergo many vicissitudes of development and retrogression." Being among the earlier evolved expressional habits, facial expression will be among the last to change, while vocal speech and even sign language will become conventionalized and undergo many changes, so as to lose all semblance to ideographic signs. Facial expression is part of the natural sign language, and consists largely of hereditary impulses left over from a primitive state. So the signs given by the features, indicative of what is going on within the mind, are direct and simple. Even children—babies—notice the expressions of the face and judge of the intentions of persons toward them. The power to read signs is, of course, an hereditary instinct, just as the sign language of the face is hereditary. Both are from an epoch in the evolution of the race when articulate speech was undeveloped and even gesture language was unconventionalized.

But as Darwin again says (*Expression of the Emotions*), "It is a curious, though perhaps an idle speculation, how early in the long line of our progenitors the various expressive movements now exhibited by man, were successively acquired. The movements of the face and body, whatever their origin may have been, are of themselves of much importance for our welfare. They serve as the first means of communication between the mother and infant, and when grown we readily perceive sympathy in others by their expression."

There is still much to be learned by careful observation and tabulation of results, of the comparative expressive movements of man and the lower animals. What we have already learned throws considerable light on the evolution of the human face and the origin and philosophy of facial movements; but much remains to be done in the working out of details. We have submitted sufficient to show, however, that the human face, with all its possibilities of expression, was not the result of accident, but was arrived at by the simple methods of gradual development and evolution in accordance with well known natural laws.

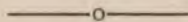
Correspondence.

A MOUND-BUILDER'S PIPE.

Editor American Antiquarian.

On page 108 of THE ANTIQUARIAN for March, 1891, there is given a representation of a pipe (Fig. 27), concerning which there seems to be some doubt expressed in your accompanying article, with reference to the genuineness of this pipe and similar articles from Michigan. I desire to say that I have in my collection the almost exact counterpart of this pipe. There are these differences: mine is of steatite; the under bill is of equal length with the upper, and the tongue is plainly represented. The eye and the nostril are wanting, and instead a turkey's foot ornaments one side. A rude scrawl of doubtful design on either side completes the distinctive differences. The pipe in my collection I secured from a boy, who found it on the shore of the Ohio River at Baden, Pa., twenty miles below Pittsburg. This additional find of the same pipe in a new locality certainly confirms their genuineness.

O. H. P. GRAHAM.



ANTIQUITY AT THE WORLD'S FAIR.

Editor American Antiquarian:

According to the latest advices received from headquarters, the plan of the exhibit of Department "M" in 1893 is fully settled. Prof. Putnam, chief of the department, accompanied by the United States Commissioner of Indian Affairs, recently conferred with the director general as to the location of the ethnographical exhibit and of the building which the government is to erect for the purpose of carrying on an Indian school during the fair. It is arranged that this department include in its exhibit of American peoples, the Indians of the United States; and that our government represent its method of educating and civilizing them. The collections—archæological, ethnological and historical—are to be exhibited in the north end of the main building—i. e., the building of manufactures and liberal arts. There they will occupy four acres of floor space, and will be classified in a series of alcoves.

The American ethnographical exhibition will be out in the open air, not on Wooded Island, as this was given up to horti-

culture, but on the borders of the lake. Here will be seen the natives of Vancouver's Island, in their queer long boats drawn up ashore, or in and about their curious plank houses, performing their feats of jugglery and going through their peculiar ceremonies; also the several tribes of North American Indians, each in its native dwelling; whether it be the wigwam of skins, the house of poles, or the little mud hut. Here further will be seen the Maya from Yucatan, making his baskets and pottery vessels, and the natives of Guatemala making their laces and woven fabrics. Besides these there will be represented the various tribes of South America, including those of Terra del Fuego, about whom we know so little. All these native peoples, dressed in their own peculiar costumes and adorned with their odd ornaments, will be surrounded by their characteristics household furnishings, etc., and will be carrying on their native industries during the exposition.

The archæological exhibit, the location of which has been mentioned, will well represent the ancient people of the New World. There will be exhibited some of the rude paleolithic implements found in the Trenton gravels. These are supposed to be the remains of that most ancient American race which lived contemporaneous with the mastodon at the close of the glacial period. The remains of that later people, called by some the "Mound-builders," will be of great interest. Prominent among the relics of this race will be the collections made by the exploring parties sent to Ohio during recent years by the Peabody Museum of Cambridge, Mass., and the World's Columbian Exposition. All of these explorations have been under the direction of Prof. F. W. Putnam, of Harvard University, curator of the Peabody Museum, and now chief of Division "M."

Besides all these specimens, and to the scientific world more important, there will be shown relief-maps of the great serpent mound of Adams County, Ohio; Fort Ancient, the Cahokia mound, and other similar earth-works of the Mississippi Valley.

There will be exhibited the remains of that wonderful civilization of ancient Yucatan. The representation of the ruined buildings of this civilization will be of the greatest interest to many of us. Not a few of these buildings were constructed of large blocks of stone, which in our day we would not think of moving without the assistance of the most improved of modern machinery; and all these blocks are carved into beautiful interwoven designs, which continue from one stone to another with perfect regularity. One of the ruins—the "Portal of Zabua"—will be reproduced in terra cotta, and will form the entrance to the outdoor exhibit. The wonderful sculpture and idols from the ruins of Copan will be another interesting feature. The casts of the hieroglyphics on the ruins of Palenque, rivalling the ancient writings of the orient, will be scarcely less marvellous.

Passing then to the ancient civilization of Peru, what will there be of greater curiosity than the remains of the Inca nation? Among the Peruvian specimens will be seen pottery vessels of every description, represented upon which are the various forms imitative of animals of every kind, from the lobster to the human being. The mummies, of which this department has succeeded in obtaining over one hundred specimens, will be of use for comparison with the better known Egyptian remains. Although these are wrapped in finely woven fabrics, the bundle and external appearance would readily distinguish them from their Egyptian brothers.

In addition to the various remains, there will be exhibited hundreds of photographs, taken by the expeditions, of mounds and ruins in all parts of this "new old world," from Alaska to Terra del Fuego. And not only photographs, but also maps, charts and diagrams will be shown to illustrate the localities, the comparisons of different races, their migration and development.

Work was recently commenced on a new section of this division. It is to include primitive religions, games and folk-lore. And under this section will be exhibited, as far as possible, all the early religions. Prominent among these specimens will be seen the strange idols, such as are now being collected by the Peabody Museum Honduras expedition, and some of those most peculiar clay altars containing cremated human bodies, such as were found in the famous Turner group of Ohio. Besides such specimens, there will be an almost endless series of amulets, totems, charms and other objects illustrative of fetish or religious rites.

Exhibits are to be made of the various games of all countries; and of the gaming accessories, such as cards, dice, dominoes, chessmen, and the peculiar objects used by savage races. These objects will be arranged to trace the origin and development of the games in different parts of the world. This feature will doubtless be of great interest to the public in general as well as to the followers of Hoyle.

Under the group, "Isolated and Collective Exhibits," the department will contain numismatic, zoological, geological and natural history collections in general. But only specimens having a high scientific and educational value will be accepted by the department.

The coin collector will find much to interest him in the coins and medals of the world; and the historical student will find that a series of coins, of the various issues, has much to teach him of the progress of civilization. Taxidermists will see samples of the finest work in their line.

Arrangements are being made with the several States to place their historical exhibits under this department, as it is thought by Prof. Putnam that if these relics of the past are placed in their

relative positions and with some attention to a geographical arrangement, they will have a much greater educational value, and visitors will then be able to draw important object lessons of the geography and history of the States as individuals and also as a part of the whole country much better than if the historical specimens were isolated in the State buildings.

The plan of this section, similar to that of the entire department, is to show the true bearing of these studies upon a general education and to inspire an intellectual interest in them.

Such are the plans of the department, the results of which the increasing interest and untiring efforts of Prof. Putnam can not fail to materialize. One immediately conceives that this exhibition will afford many of the advantages of travel and research, and will be one of the most interesting features of the exposition.

The writer is much indebted to Miss Frances H. Mead, the secretary of the Department of Ethnology, for information regarding the progress of the department.

HARLAN I. SMITH.

Saginaw (E. S.), Michigan.

MOUNDS IN FLORIDA.

Editor American Antiquarian:

Yours of July 20th is received. While I have been present at the opening of mounds on the east coast and west coast of Florida, my investigations have been mainly upon the St. John's River, and I therefore feel myself better qualified to speak of the sand mounds and shell heaps of the river and of adjacent lakes and lagoons.

I. In reference to effigies and totems: I have not seen the bull frog mound on the west coast. Turtle mound, not far from New Smyrna, on the east coast, is simply a shell heap, and bears no resemblance to a turtle. Mr. Andrew E. Douglass has disposed of this question in a former number of your magazine. There is another turtle mound on the east bank of the St. John's, four miles north of Lake Washington. It has the form of a turtle shell, but legs, head and tail are wanting. It probably derives its name from the number of "cooters" (hard shell turtles) that take advantage of it for the purpose of laying their eggs, and which, victims to otters and owls, leave their shells scattered over the surface of the mound.

It is not to shell heaps, formed by a slow accretion of debris, perhaps through centuries, that we must look for effigy mounds in Florida; if, indeed, they exist there at all. Mr. S. T. Walker suggests a possibility that the form of a turtle was intentionally given to a mound on Long Key, on the west coast. You have

cited this in your book. At Tick Island, Volusia County, a long winding causeway, somewhat suggesting the serpent, leaves the great sand mound there and runs through the swamp towards a neighboring shell heap. It was probably used as a means of access in wet weather,

On the west bank of the St. John's, several miles south of Volusia Bar, a water-way, called Blue Creek, joins the river. On this creek is a large shell deposit, the property of a man named Duval. Several hundred yards distant in the palmetto scrub is an interesting burial mound of sand. Not far from this mound, which is a truncated cone, is a mound of white sand with a maximum height of about two feet. Its shape is almost precisely that given by the Indians in their picture writing to represent an outstretched skin. In fact, on a "banner stone," in my possession, among the symbols is the representation of a skin, almost a fac-simile in outline of this mound. This is the only mound strongly resembling an effigy that I have seen on the river, and in view of the mass of negative testimony as to the occurrence of effigy mounds in Florida, I simply state the existence of this mound, without suggestion as to its nature.

Although I visited Pine Island on the west coast, I do not consider myself qualified to speak of the canal to be seen there.

I have found no totems in the river mounds. In fact, so wretchedly poor were the Indians who built the larger ones, that on and near the base where original burials are met with, almost nothing in the shape of implements is found; with the exception of two or three rough arrow heads, one lance head, and three small pots, I have found nothing of interest with original interments. Polished stone, metals, gorgets, etc., when obtained through excavation, are near the surface with secondary burials, or unassociated with bones. A beautiful polished greenstone implement found by me in the great sand mound at Tick Island* was unaccompanied by human remains, and was probably left en cache subsequent to the building of the mound. Mr. Andrew E. Douglass found no remains with the ceremonial weapons discovered by him on the east coast, and points out that in a majority of cases, implements are not found in connection with burials. The men who made the mounds, however, at a period when pottery was in use, often buried fragments of vessels with the dead, and to these fragments they sometimes gave the shape of the lance or arrow point.

Certain stone implements found in Florida are suggestive of the types of the paleolithic age. There is certainly a field for critical study of the stone implements of the Peninsula.

II. In regard to your second enquiry, I have never seen or heard of any remains of lacustrine dwellings in Florida. The

*Amer. Nat., July, 1892.

great island shell heaps of the upper river doubtless served the purposes of the inhabitants as to immunity from attack save by water.

I do not consider the sand mounds of the river to have served the purpose of places of refuge during high water, unless very different conditions prevailed at the period when the mounds were built. Solid land beyond the reach of the river is always at hand. Later Indians, as we know, used the mounds for domiciliary purposes, but I do not think the large mounds of the river were constructed for such a purpose, though all were not burial mounds. I have never seen a pyramid mound in the river, nor have I met with a terraced mound, though the description of one just reported to me from Lake County would seem very like it—"a mound upon a mound."

III. As to the age of the mounds, I am convinced that the sand mounds of the St. John's were contemporary with and were built by the men who made the shell heaps. After years of investigation on the river, where during certain seasons steamers under my orders, with numbers of assistants, afforded me unusual facilities, the results of my excavations in a score of sand mounds and in very many shell heaps in upwards of sixty localities, leave me no room to doubt it. The pottery in mounds and adjacent shell heaps is usually of the same type, and when potsherds are wanting in neighboring shell deposits, their absence in the mounds is noticeable. If pottery cannot be found in the shell deposit upon which a mound containing pottery is built, its discovery is almost certain in some other and probably later deposit not far away. The bones of the shell heaps and mounds have features in common. Implements from the base of the sand mounds are of the shell heap type, and lastly in Orange Mound, a great island shell heap south of Puzzle Lake, under three feet of shell, I discovered (February, 1892,) a stratified burial mound of sand.

As to the age of the shell heaps I cannot hazard an opinion. The latest were probably abandoned before the first Spaniards landed. Nothing suggesting a knowledge of Europeans has ever been found in them. The bones of fossil animals they sometimes contain have doubtless been dredged from the river (as they are to-day by the nets of the fishermen), in the search for shell fish, and carried to the heaps, and can in no way be considered as contemporary with the shell deposits containing them.

Ornamented pottery is found at the bottom of some heaps on which grow great live oaks, but again no sherds are met with in shell deposits of enormous size,* leading to the belief that the knowledge of the art of pottery making was unknown during all the ages requisite to pile up such formidable masses of debris.

Dr. Brinton (Floridian Peninsula, Page 170) refers to the find-

*Mt. Taylor, 27 feet, 2 inches high, contains no pottery.

ing of glass beads in a mound at a place now known as Ginn's Grove, the Speers Landing mentioned by Prof. Wyman. Dr. Brinton is of the opinion that the beads are of the same epoch as the mound, and this opinion, which I believe to be based upon insufficient investigation and to be misleading, is quoted by C. C. Jones, "Antiquities of Southern Indians."

The sand mound at Ginn's Grove is in a general way typical of the large sand mounds of the St. John's, though varying in detail, notably in the form of burials at the base. To admit for it an origin contemporary with the occupancy of Florida by the whites would be granting a powerful argument as to a post-Columbian origin for many others.

This mound is on the property of Dr. A. C. Caldwell, of Sanford, through whose courtesy I was permitted to make a very thorough investigation. Near the surface of the mound are intrusive burials, flexed, but in anatomical order, and with these I am inclined to believe the beads were found. The base of the mound, which, so far as I could learn, lay under undisturbed strata of brown and white sand, is covered with bundles of bones surmounted by crania, a form of burial common on either coast, where bones denuded of flesh through exposure to the elements have been interred as described. Nearly three days were spent by my party in the trench, the last two with trowels alone, and a most careful search was made, revealing nothing in the nature of beads of glass or of anything else indicating intercourse with the whites. Glass beads are numerous on the surface of the mounds at Lake Harney and at the Indian Fields, neither very far distant from the Ginn Grove mound, and it is probable that the beads at the latter place also were surface finds. Moreover, I have never found in any of the large mounds of the St. John's River, on or near the base, anything to indicate intercourse with the whites, and it is very probable that had the base been reached by Dr. Brinton, mention would have been made of the other form of burial. There is no evidence upon the mound, which is ten feet in height, of other excavations over three feet in depth. I think Dr. Brinton's views as to the mound at Ginn's Grove may reasonably be dismissed.

While it is impossible to assign even an approximative age to the sand mounds of the St. John's River, I am convinced that in common with the shell heaps all the larger mounds are not only of *pre-Columbian origin*, but also of very considerable antiquity as compared with other mounds.

August 15, 1892.

CLARENCE B. MOORE.

ARCHÆOLOGICAL NOTES.

THE RED HAND.—One of the most interesting symbols found in America is that of the hand. It is very wide spread and reminds us of the same symbol found in oriental countries. Mr. W. K. Moorehead has an article in the *Illustrated American* on this subject. The rear wall of each of the fifteen chambers of the Casa del Echo cavern are stamped with several hands. The owner seems to have dipped his hand into red paint and then pressed his palm and fingers against the wall. The hand is found on the dwellings along the Colorado River, above the entrance. Gen. Thruston gives cuts of human hands upon pottery from the stone graves. Mr. Henderson speaks of a hand inscribed upon a disk which was found in the State of Illinois. Mr. W. H. Holmes describes a disk with a hand and an eye, surrounded by a double serpent. Mr. Augustus Le Plongeon found a statue of a priest in Yucatan; the priest wore an apron with an extended hand. John L. Stephens found the red hand on the walls of the palaces of Palenque. Gen. Grant, in his trip around the world, noticed the red hand in India. George Smith found rude models of hands in the ancient palaces of Assyria. The Saxon barons would sign their documents by dipping the hand in ink or paint and press it upon the parchment.

Policemen and detectives are now learning that the impression of the hand is better than a photograph in identifying a criminal. The significance of the ancient symbol is unknown. It is supposed by some to have signified ownership; by others, as a charm to ward off evil spirits. It is associated with the serpent in America, and may have been a symbol connected with serpent worship.

THE BITING SERPENT.—The worship of Isis, in Egypt, is attended with a myth. When Osiris was killed by his brother, Typhon, Isis, his wife, fled with her son, Horus, to Byblos, Syria, and was there until her son was grown. A papyrus at Turin contains a description of the biting of Rau (the sun-god), by a serpent. The scene of the serpent's attack was Assyria, according to the newly discovered apology of Aristides. A recent article by Joseph Offord, in the proceedings of the society of Biblical Archæology, May 3d, 1892, on this subject, credits M. Chabas with the following: "Osiris, the nocturnal sun-god, passed through twelve regions corresponding to the twelve hours of the night. The sun disappearing behind the western hills of the Nile, passed around to the north of Egypt, moved eastward across Phœnicia and reappeared above the mountains on the east. Byblos was one of the stages of the route. In this way the Osiris who died and was reborn as Horus, in Syria, personified the sun; but what is the significance of the biting of the serpent?"

Hercules contended with a serpent in his cradle. Adam and Eve were visited by the serpent in the Garden of Eden, and the curse was the serpent shall bite his heel. Shall we ascribe this to a sun myth, or was there a hidden significance based upon historical tradition?

ROUND TOWERS IN IRELAND.—These towers, an object of much debate, are now pronounced of christian and not pagan origin erected between the fifth

and thirteenth centuries. They answered a three-fold use, as belfries, as keeps for sacred utensils, as places of security in times of attack, and were used as beacons and watch towers. The invention of towers is traced back to Assyria. Neither the Greek temple nor the Roman basilica had anything like a tower attached to it. It came in with the early Celtic church. The towers of Ravenna, Pisa, Venice, Strasburg, Worms, Næstrich, and the Schness of Switzerland, may be said to derive their origin from the advent of Byzantine workmen from the court of Charlemagne. They may be a reminiscence of the eastern cylindrical pillar. In France nothing but the lower stones are left; in Ireland they are better preserved. The Burgh of Mousa is a good specimen of the towers which we have described above; an article in the proceedings of the American Geographical society for 1892 contains a description of this.

THE WINGED CIRCLE IN PALESTINE.—Prof. August Eisenlohr describes a monument in the proceedings of society of Biblical Archæology, found at Safed, the borders of Palestine. A monument on which was a winged disk and uræus; below this is a king seated on a throne, a standing figure behind the king, a hawk-headed divinity on a foot stool in front. This he pronounced Phœnician. Winged figures like this are very common in Egypt, but rare outside of that land. The winged globe is found in America, but without the uræus and without human figures. Was this winged globe transmitted from the old world, or did it originate separately on this continent? Monuments of Egypt extend back to 3000, B. C. The first colonists crossed over the Red Sea at a time when the Delta was a mere swamp. There are excellent photographs of Amorites, Hittites and Philistines, and of the Hyksos kings who were Turanian in aspect, differing from the Egyptian of an earlier and later race. More of this can be learned from Dr. A. H. Sayce.

PREHISTORIC TIMES IN EGYPT AND PALESTINE.—The *North American Review* for June, contains an interesting article on this subject, by Sir William Dawson. Prehistoric annals embrace the geological and the geographical conditions, references in the bible to the antediluvian world, the monuments of these countries. Flint flakes are common on the surface. A harrow armed with flints was used by the Egyptian farmer, but some maintain that paleolithics in Egypt belong to the earliest pleistocene period, but Dawson thinks that they were later than the cave contents of France and England.

COLUMBUS.—A series of articles by Richard H. Clark, LL. D., has appeared in *American Catholic Quarterly*. The writer's estimate of the great discoverer is a just one and the articles likely to contract the hypercritical book written by Justin Winsor, which had such a tendency to detract from his honor. Articles have appeared in other magazines and reviews, each one of which bears testimony to the superiority of Columbus, both as a navigator, as a leader and as a religious man. There were inconsistencies in the man, if we judge him by the present standard, but if we compare him with the men of his day, and especially with the Spaniards, we will find that treachery, selfishness, cruelty and crime are written against the name of many of his contemporaries, but sincerity, patience, self-sacrificing zeal, humanity and devoted piety are the virtues which characterized him. His life ended in disappointment, but his greatest crime was he had not the

fortune or ability to continue success under the difficulties which beset him. He was sinned against more than he sinned.

ROCK HEWN TOMBS.—*The Nation* for July 21 has a letter from Mr. H. V. Stuart explaining the artificial light by which the acres of wall in the tombs of the kings were covered with such detailed paintings. The light was given by terracotta oil lamps, about as large as the modern wax candle.

MEXICAN SHIELDS.—Mrs. Zelia Nuttall has published a description of the war shields of the Aztecs, which were covered with hieroglyphics in colors. The religious shields were the most interesting; one of these has been found at Innsbruck Castle. It is a shield of red feathers, still fresh in color. On field is a blue dragon of coarse mosaic work, garnished with a gold leaf. The shield has been in the castle 300 years. It was sent by Cortez as a gift to Charles V. Mrs. Nuttall has been appointed special assistant of the Mexican exhibit of the Chicago exposition. An entire codex or ancient Mexican manuscript has been reproduced in *fac-simile* by Mrs. Nuttall and will be published at her expense.

THE ANCIENT ALPHABET.—New light has been thrown on the history of the alphabet by the researches of Dr. Glaser among the ruined cities of Arabia. Sepulchral epitaphs in the Libyan alphabet have been discovered dating 300 years before Christ. Rock inscriptions showing extremely archaic forms of letters have been copied from the Southern Atlas Mountains.—*Science*.

ASIA MINOR.—People having short, high skulls, resembling those of the Lycian graves constituted the most ancient population of Asia Minor. They extended from the Upper Euphrates to Central Europe, but came from Central Asia, but are distinct from Greeks and Semites. This accounts for the short, dark brachycephalic people of Europe.

THE NAHUAS.—A colony of Nahuas once occupied a considerable tract of Lake Nicaragua and left their interesting ruins there. This was the Maya territory, but the Nahuas seem to have migrated thither from Mexico.

POLYNESIAN SOCIETY.—Polynesia, including Australia, New Zealand, Malaysia, Micronesia and Melanesia, is to be studied by the members of a society founded in New Zealand and is to have a journal devoted to them.

MORSE'S COLLECTION OF JAPAN POTTERY and other relics have been sold to the Boston Museum of Fine Arts at very high figures.

MAYA HIEROGLYPHICS AND LANDAS ALPHABET are proving to be much more reliable than was supposed. Dr. Thomas has identified many of the phonetic characters in Landas alphabet by his studies of the Maya Codices and has been able to translate whole sentences of Codex Troano.

The subject of this Codex has relation to ceremoniss and trifling acts, and is of no great importance to history, but it is interesting to know that the mysterv is to be cleared up and that the monuments may yet be interpreted. Dr. Brinton's theory has been that there were no phonetic characters, that the rebus was the key to the solution. Dr. Thomas does not hold this theory, but advocates the phonetic.

INTERPRETATION OF MAYA HIEROGLYPHICS.—H. F. Cresson claims to have made similar interpretations to those made by Professor Thomas and Leon

de Rosny. Prof. Thomas has been at work on these glyphs for many years and has just reached the point where he thinks he can identify the phonetic characters. If Mr. Cresson was at work in this line, he is a newcomer in the field.

NOT A SERPENT MOUND.—The description of an earth-work discovered in the Little Miami Valley is so erroneous that it would hardly be justifiable to allow it to pass. It is stated that "what has hitherto been regarded as an earth-work is now shown to be another serpent mound, famous as the one in Adams County; that the total length is 1900 feet." There is no evidence which would permit this earth-work to be termed a serpent mound. As to the length, the figures given are necessarily incorrect, as both ends of the embankments are in fields which have been cultivated for upwards of eighty years, and for this reason it has not yet been satisfactorily traced. The part which can be traced, however, is over 1900 feet in length, and lies in a primeval forest of maples. It is somewhat in the shape of the letter W., which circumstance probably gave rise to the serpent rumor. We to-day completed the survey of the part which can be traced in the grove, and after photographing and sectioning this part an effort will be made to trace the remainder of the work. There are many mounds and earth-works in this vicinity, as well as stone graves, village sites and open air workshops. Among these of most interest may be mentioned a mound surrounded by a circular embankment and a group of works consisting of a square embankment, adjacent to which is one of circular form and a large conical mound. All of these are situated on the hilltops overlooking the Little Miami Valley, and in sight of our camp. Fort Ancient, the great embankments of which, twenty-two feet in height at their maximum, extend for nearly four miles, lies on a short distance up the river, and the highest mound in the State is some thirteen miles to the northwest.—*Harlan I. Smith.*

BOOK REVIEWS.

The Stone, Bronze and Iron Ages A Popular Treatise on Early Archæology.
By John Hunter Durrar. London: Swan, Sonnenschein & Co.; New York: McMillan & Co. 1892.

This purports to be a popular treatise, and was evidently prepared with this thought in mind. Still there are some parts of the book which will prove useful to the specialist, and perhaps the whole may prove useful by way of a general review of the entire field. The main objection to it is that in the first part—the part which treats of paleolithics—the author resorts to conjecture and draws considerably on his imagination. In fact, the author says that, unlike the exact sciences, anthropology allows latitude to the imagination. Is this so? Must we admit that anthropology is not an exact science? It will be so if authors start out this way and do not make any effort to have it otherwise. This is the greatest drawback at present, and will continue to be so until the critics shall compel the writing to be different. The Neanderthal skull, with a mental capacity little removed from idiocy, will be the representative of fossil man to one writer, but the Calveras skull to another; the stones found in the gravel beds of New Jersey will be to one a proof of extreme antiquity, but to another will be only the imperfect or rejected failures of a recent workshop of the neolithic

American. The Mound-builders are to one the representatives of a high grade of civilization, but to another they will be Indians; Indians will also be alike to one, whether they are savage hunters or settled agriculturists, and no matter to what race they belong, but to another the Indians will represent races which are very unlike, according to the theory that is most acceptable. Still the popular treatises call attention to the science, and this very attention gives encouragement to the specialists. We realize that they have a mission and so welcome them heartily. The advantage which this has over others is that it is accurate enough to be reliable and is popular enough to be interesting. It was written evidently for English readers, and is therefore more especially devoted to English descriptions of the relics of the different ages found in England, but there is enough of American archæology in it at least to draw a comparison, and so we trust that American readers will find it useful. One thing more should be mentioned in its favor: it is richly printed and is of such shape and size as to be easily carried, and so may be taken up by the amateur student at odd times and made a sort of companion. It should be supplemented by a few books devoted to American archæology, and perhaps by others more thoroughly descriptive of the ancient European monuments, and yet the collector and the student can hardly afford to be without it.

Smithsonian Report for 1890 contains a very interesting article on the History of the Niagara, by G. K. Gilbert; another on the Primitive House of the Aryans, by Prof. H. Sayce; Pre-historic Races of Italy, by Isaac Taylor; The Age of Bronze in Egypt, by Oscar Montelius, and the Progress of Anthropology, by O. T. Mason.

Advance sheets or separates of the Reports of the National Museum have been forwarded. The titles of these are as follows: Anthropology at the Paris Exposition for 1889, by Thomas Wilson; The Catlin Collection of Indian Paintings, by Washington Matthews, M. D.; The Methods of Fire-making, by Walter Hough; The Ainos of Yezo, Japan, by Romyn Hitchcock; The Uke or Woman's Knife of the Eskimo, by Otis T. Mason.

Index Armorial. By A. D. Weld French.

The name French is identified with France, and most of the families in the country were originally from France. The earliest recorded name in Great Britain is in the Domesday survey. The anglicizing the names took place in the thirteenth century and was the result of the Norman conquest. The armorial bearings of the name were connected with the times before the conquest and originally with the Franks, who were a confederacy of German tribes. The book under review contains descriptions of the coats of arms, with the usual abbreviations employed in heraldry. It is privately printed and is designed for those who bear the name of French.

Men, Mines and Animals. By Lord Randolph Churchill, M. P. New York: D. Appleton & Co. 1892.

This is a book of travels written by a business man to the *Daily Graphic*. He describes the various adventures and experiences among the silver mines and diamond mines of South Africa.

There is very little upon the subject of archæology or ethnology, but much that is instructive as to the modern customs and ways of the people who have migrated there for the purpose of gain and have made their homes in

the land. The change has not been for improvements, for the Dutch Boers are represented as a very low class of people. The environment has resulted in a retrograde process. The survival of the fittest has not improved the species.

The Evolution of Christianity. By Dr. Lyman Abbott. Boston: Houghton, Mifflin & Co.

Henry Boynton Smith. By Lewis F. Stearns, D. D. Boston and New York: Houghton, Mifflin & Co. 1892.

The change which has come over the "theological world" is illustrated by these books, especially by the first named. The memoir of an earnest christian teacher who was strictly orthodox and at the same time very learned, is in strong contrast with the racy extemporaneous lectures on the Evolution of Christianity which have hardly a shadow of orthodoxy about them. Dr. Abbott is more in accord with the spirit of the times, and his book shows how religious thought has been affected by the doctrine of "evolution."

Prof. Smith believes the bible to be the word of God. Dr. Abbott thinks that the word of God may be in the bible. The memoir shows the contest which was carried on in the old school and new school theology, some forty years ago. The lectures are based on the contest between the old theology and the new science, and to some would indicate that science was entirely victorious. This, however, is a false impression. If the truth were known, it would be found that the older type of religious thought which is represented by the memoir is most prevalent. There is a depth of earnestness in such minds as that of Henry B. Smith which cannot be diverted into channels so entirely new, as those marked out by the pastor of Plymouth church. Still the problems have been grappled with by strong minds in America, and by those whose life work it is to solve the mysteries, and we are to respect their positions. Neither of these writers base their opinions upon the study of science, but both draw from philosophy, mainly the metaphysics of Calvin or of Spencer. Archæology is the science which deals with the facts. It may be that when archæology has advanced farther we shall find that bible christianity, and all religious truth, are the results of development. The spirit of God having worked in the minds of men to bring out these "high thoughts" as the life God has worked in the matter to bring out the higher objects of nature; but for the bible we are carried back so far by archæology in the East, that we are compelled to say that it is a different book from any other.

The Old Documents and the New Bible. By J. Paterson Smyth, L. L. B., B. D. New York: James Pott & Co.; London: Samuel Bagster & Sons.

A description of the bible in the original Hebrew, without points or without vowels, constitutes the subject of the first chapter. A view of the old manuscripts, nearly two thousand of which have been examined, from Palestine, Babylon, Africa, Islands of the Inland Sea, is the subject of the fourth chapter. The Samaritan Pentateuch is described in the fifth. The Talmud period and that of Massarah are described in the sixth and seventh chapters. The Greek or Septuagint bible, the Syriac bible, the Latin Vulgate are described in the latter part of the book. It is a very scholarly and useful volume to bible students. There is more certainty in studying such a volume than in plunging through the endless variations in the supposed original fragments, which constitute the bible of the "higher critics."

When the new bible, with the letters in colors, to designate the fragments, which has been promised, shall appear, we may be able to speak more intelligently, but for the present the Hebrew, Samaritan, Greek Septuagint, Latin Vulgate are sufficiently authenticated to supply the common demand. We strike solid foundation in this book, but a rope of sand in the other.

The Irish Element in Medieval Culture. By H. Zimmer. Translated by James Losing Edwards. New York: G. P. Putnam's Sons. 1891.

The position which the author of this book takes is that the Irish were to the North of Europe what the Moors were to Spain and the South of Europe in Medieval times. The source of letters and founders of civilization, art and architecture which followed the Roman, may be termed Scotie, as well as Irish.

It was early christian art. The celebrated monastery was founded at Bangor, in the sixth century. That of St. Gall was the chief seat of learning of ancient Germany. Celtic missionaries, such as Columba, Columbanus and Gallus confounded the Pagan masses and extended their missions from the mouth of the Rhone to Rome and the Alps. Charlemagne received Irish scholars and the Irish Apostles who spread christianity among the German tribes. Clemons was an Irish scholar, who died in 826; Scotus Erigena was another. There was a school at Paris, at Liege, in France. Ireland's mission on the continent was completed in the eleventh century, though Irish monks from the eleventh to the thirteenth century made pilgrimages to Germany. Subjugation of Ireland to England commenced in 1171. Intemperance, Ireland's besetting sin, spread among the Irish monks at this time, and there was a decline of culture. The Carlovian kingdom was converted from heathenism at the time the Irish scholars came there, though there are but few books, manuscripts, libraries and literary works that can be ascribed to them, in existence.

On the Older Forms of Terra-Cotta Roofing Tiles. By Edward S. Morse.

The history of roof-tiles may be traced back to the earliest dawn of Greek art, and began before the age of iron. It was introduced from the East. The ruins of the temple of Hera, at Olympia, dating 1000, B. C., contains the earliest specimen, though tiles may have been used in China before this. Sloping roofs may be seen in the "hut urns" which represent the Lake-dwellings. They were probably thatched roofs. Pottery existed long before tiles were invented. Mr. Morse has given a description of tile roofs in all parts of the world, with illustrations.—*Bulletin of Essex Institute; January to March, 1892.*

Little Brothers of the Air. By Olive Thorne Miller. Boston: Houghton, Mifflin & Co., Riverside Press. 1892. Price \$1.25.

This little book carries us to the forests and makes us stay among the green foliage to watch the habits of the fledgelings of the nest, which the author calls baby birds. This last expression is the key note to the book. The birds are not described according to any classification of ornithology, nor even according to their plumage, but their songs and habits are dwelt upon at great length. We are charmed, however, by the narrative, and carried away by the enthusiasm of the writer. It is a book that any one can take and read to the children and find every one interested. It is quite likely to cultivate the habit of observation, though there are few that will take such wonderful pains to study the ways of "the little brothers in the air."





MISS AMELIA B. EDWARDS.

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THE QUEEN OF EGYPTOLOGY.

BY THE HONORARY SECRETARY OF THE EGYPT EXPLORATION
FUND FOR THE UNITED STATES.

Amelia Blandford Edwards, the honorary secretary for Great Britain of the Egypt Exploration Fund, did her best and most enduring work as an *Egyptologist*. I use this still somewhat occult designation in a broad as well as a technical sense. Was she wonderfully versatile in various lines of intellectual labor? She was also many-sided as an Egyptologist. When she vividly painted the many pre-requisites of the successful explorer *in situ*, in one of her lectures, I inwardly said, "What a queen among explorers *you* would make!" As an incipient Egyptologist in 1874, she "wriggled in" through "an aperture about a foot and a half square" in "Discoveries at Abou Simbel," so graphically told by her in Chapter XVIII of "A Thousand Miles up the Nile."

Yes, this woman, whose face graces this number of THE AMERICAN ANTIQUARIAN, born on June 7, 1831, and actually writing for a weekly journal an accepted poem in 1838, entitled "The Knights of Old"; at the age of nine winning the prize for a temperance story; sending to George Cruikshank for *The Omnibus*, in 1845, a tale with such deft caricature-pencillings on the back of the manuscript as to inspire him to at once call on the rare unknown—to be greeted by a blooming maiden of but fourteen!—this woman, who rang out musical notes with such flexibility and compass at the age of twenty that the opera would seem to be her destined profession; who was well known in 1853 as a contributor to periodical literature, and as a full-blown novelist from then till 1864, when that still favorite romance, "Barbara's History," appeared; who in 1865 produced a little volume of ballads, and then in turn became a reviewer on the staff of the (London) *Morning Post*, *Saturday Review*, *Graphic*,

Illustrated News, and other journals; who, as a traveler, in 1873 prepared that spirited book on the Dolomite Mountains, with her own illustrations, "Untrodden Peaks and Unfrequented Valleys," and who published in 1880 that combinative novel of travel, scenery, incident, society and plot, "Lord Brackenbury," translated into French, German, Italian and Russian; this woman, I say, in entering the lists of Egyptology must per force be many-sided, prismatic, quick-sighted and largely sympathetic.

Miss Edwards knew Egypt personally, and its history completely; she mastered the literature of research and exploration, and caught the freshest news of every discovery*; she was profoundly interested in whatever cast light on philological and ethnical questions, or that related to the arts or sciences of contemporaneous nations, and withal she had a fair or respectable knowledge of the hieroglyphic text. Her talents, tastes, previous training, studies in her adopted profession, eminently qualified her for the post of honorary secretary of the society which she, with Sir E. Wilson and Prof. R. Stuart Poole founded in 1883. Nay, was she not born to be an Egyptologist? For "as a child," she tells us, "Wilkinson's 'Manners and Customs of the Ancient Egyptians' shared my affections with the Arabian Nights. I knew every one of the six hundred illustrations by heart." Doubtless, too, her official position inspired her superabounding versatility to claim,

"The boundless field is mine."

So, by nature and by grace, and otherwise, it came about that Miss Edwards was the best delineator that Old Egypt has ever had. *The Saturday Review* thinks "no other writer did so much to render Egypt popular. * * * * * Hers was pre-eminently the rôle of interpreter" (April 23). Her lectures to American audiences, in their substance and expressions, most happily establish my claim. Her advent christening as an enthusiastic amateur in Egyptology may date from 1877, when "A Thousand Miles up the Nile" appeared, and her confirmation in that science from 1881, when she had critically mastered all the details of the unprecedented discovery of the royal mummies at Thebes, and substantially assisted Sir E. Wilson in preparing his book, "The Egypt of the Past," which she was revising the last year of her life. *Harper's Magazine*, of July, 1882, under the title, "Lying in State in Cairo," gives her clear, picturesque, delightful story anent those regal mummies.

Both Lady Amelia (she was, by the way, maternally descended from the Walpoles) and Sir Erasmus afford an interesting parallel or coincidence. Late in the afternoon of life he took up the study of Egypt, preparing, as a result, the best work, in its scope, on ancient Egypt that I know of—already referred to—

*The late Sir Erasmus Wilson wrote me that "she is in the advance of the advanced authorities upon the results of the latest discoveries."

and she, a novelist and journalist, when entering upon middle-age, giving the world a most captivating, inspiring, instructive book that has become (as a pocket edition) almost another "Bædeker" to the Nile tourist.

One of Miss Edwards's pamphlets is in substance her paper read at the Congress of Orientalists, held at Leyden, in 1884, entitled "On a Fragment of Mummy-Case," illustrated by herself. Here I may exemplify the clearness and grace with which she transcribed hieroglyphs. On page 212 of *The New England Magazine*, for April, 1890,* I introduced a fac-simile of her manuscript that she had intended solely for my own eye. The characters are models of elegant drawing; yet I am sure that Miss Edwards executed them with a running hand. Some of my readers will pleasantly recall her electric manual touches upon the blackboard in her lecture upon the evolution of Egyptian letters and text.

Another little brochure is on "The Dispersion of Egyptian Antiquities," a paper read at the Leyden Congress; still another at the Vienna Congress of 1886, on the same topic, emphasizes "the immense importance of obtaining some knowledge of the numerous private collections which are being thus rapidly enriched in Europe and America." The author ventures to think that "many a lost chapter of Egyptian history might be recovered, at least in part, from the cabinets of wealthy amateurs." In 1888 Miss Edwards put forth a paper of valuable data on the provincial collections, such as the Peel Park Museum in Manchester and the "Mayer Collection" at Liverpool.

Dr. R. N. Cust, at the Congress which met in 1889 at Stockholm and Christiana, presented her paper upon the Cypriote, Phœnician and other signs upon the potsherds found by Mr. Petrie in the Fayûm. *The Times'* special correspondent, referring particularly to this paper, said: "The dates of which (the characters) assigned to the twelfth and eighteenth dynasties have led to the conclusion that the Graeco-Phœnician alphabet was in use in Egypt at a period antecedent to the date of the exodus." On September 18, 1889, my friend wrote me from "Richmond Villa," at Weston-super-Mare, in her usual frank vein of discourse, as to what was doing and she was about: "By this post I send you parts of two *Times'* newspapers. I am not sure whether I did or did not send you the article I wrote on Mr. Petrie's closing work in the Fayûm, July 20. I therefore send a copy with the one on his exhibition, published last Monday. The letter contains a brief reference to my paper written for the Stockholm Congress, which you may like to paragraph. I was the first person to identify the signs on Mr. Petrie's potsherds. His mother sent me his weekly letters all the time he was in

*An illustrated article on the Egyptian collection in the Boston Museum of Fine Arts. In that magazine for January, 1893, will appear a sketch of Miss Edwards's early career, illustrated, by Miss Betham-Edwards.

Egypt. She always does so, and upon them I write my notices of his work in *The Times*. In one or two of these letters he gave *fac simile* sketches of the potsherd-graffiti, and I sent him, by next post, numerous identifications of them, with Cypriote, Phœnician, Lycian, Theran, Phrygian, Etruscan, and other letters. I never told a living soul about it—and when Poole and all of them were talking of the wonderful rumors, I gravely kept silent, though I had seen and identified them! And they say a woman cannot keep a secret!! Sayce visited Petrie in the Fayûm weeks after, and re-identified them precisely as I had done. There are over sixty Cypriote letters among them. It is *the* discovery of our day. * * * * The fact is, the subject is of extraordinary interest and importance."

The American Geographical Society in its *Bulletin* of December, 1890, published her paper on "Recent Discoveries in Egypt"; being, in part, her lecture before the Society in Chickering Hall, New York, and it also appeared in pamphlet form. Its discussion of Mr. Petrie's discoveries at Tell Gurob and Tell Kahûn (in the Fayûm) is based on her Stockholm treatise of that remarkable philological revelation.

But two of Dr. Edwards's American magazine articles will be referred to here. *Harper's*, October, 1886, contained "The Story of Tanis" (Zoan), which, as an archæological paper in a popular magazine, is, as a whole, without its peer—at least in my humble opinion. Its background of study and research, its grouping of historical data and exploration details, its dignity and classic finish, its imaginative play (resting on ascertained conditions and established topography) in the portrayal of Zoan in all its glory, when Rameses oppressed Israel—particularly in the description of the scene, which a stranger approaching that great northern capital of the Pharaohs would have witnessed, when the king of all colossi in Egypt and in the world towered in majesty above the vast temple—these and more stamp this article as a masterpiece of archæological and historical verbal painting. And yet in "Bubastis: an Historical Study," the initial contribution to the *Century* for January, 1890, there is an equally charming delineation of that marvelous discovery by Dr. Naville, king of hieroglyphists, albeit simpler told, and, if anything, more to the point. It is much in the style of her lectures. Indeed, Miss Edwards almost affected simplicity of style the last two or three years of her life. This may have been owing to her constant writing for *The Times* and *The Academy*, and particularly because of her latest vocation, that of a lecturer to popular audiences, when she became largely colloquial in her manner of speech. And that simple manner, combined with dignity of bearing, always took her listeners by storm.

When the Fund's volume on "Goshen"—that invaluable discovery—appeared, I suggested to my colleague that its style

was too dry to produce the effect in the United States, that I wished in influencing people to aid our work. "It should be more in your style," I believe I wrote. "Alas! I admit all that you say about 'Goshen': it is dry and too profound," she replied; "yet how deeply interesting to us! I am astonished at the closeness of the reasoning. How ingenious and convincing it is—even to the identification of 'the water of Ra' with the Heliopolitan spring! * * * * My dear friend, it is of no use to compare Naville's reports in *The Academy* with mine in *The Times*. You must remember that the Egyptologists do not write a picturesque and popular style like that of A. B. E., who has had thirty years of literary work in the romantic school, and who has especially cultivated style—worked at it as if it was a science—and mastered it. I study style like a poet; calculating even the play of vowel sounds and the music of periods. Style is an instrument which I have practiced sedulously, and which I can play upon. But our Egyptologists, etc., what do they know of that subtle harmony? They have never flung themselves into the life and love of imaginary men and women; they have never studied the landscape painting of scenery in words; they have no notion of the art, the dexterity, the ear required for musical English; they have no time for such things. It is not their vocation. I am the only romancist in the world who is also an Egyptologist. We must not expect the owl of Athena to warble like the nightingale of Keats. Adieu, your devoted friend, A. B. Edwards."

The Britannica Encyclopædia has some specimens of Miss Edwards's good workmanship in her adopted profession, and also a special article from her for the American edition on the recent discoveries in Egypt. Her series of papers on the question, "Was Rameses II. the Pharaoh of the Oppression?" were, I believe, gathered into a sheaf, but I have never seen it. From the founding of our society till the last year of her life, she contributed occasionally to *The Graphic* and *The Illustrated News*, and regularly to *The Times*, articles upon our work in Egypt that were of the highest value to the cause. They were copied into our American newspapers, and I utilized them in various other ways. The loss of my associate to me in this particular is simply irreparable. From her I got the latest news, and by her personal letters I learned of the plans in advance of each season's campaign.

Miss Edwards's more scholarly, but never abstruse or dry, journalistic contributions on Egypt appeared in *The Academy*. Says its editor, Mr. J. S. Cotton, of her work: "*The Academy* has suffered by her death an irreparable loss. During the past fifteen years she must have contributed to our columns more than one hundred articles, many of considerable length and all requiring some research. We know not whether to admire in

them most the brilliancy of their narrative style, or the accuracy with which each detail was verified. She was, in truth, a model contributor—never declining a request, punctual to her promises, writing in a clear, bold hand, and considerate of the convenience of printer as well as editor."

I wish to press home the truthful remark of Mr. Cotton as to the accuracy of Miss Edwards's details or special statements, based on research. *The Saturday Review* considers that "her books are deserving of special praise for the small percentage of error they contain." In a New York weekly journal, *The Epoch*, of March 28, 1890, an anonymous correspondent under the caption, "Miss Amelia B. Edwards's Blunders," made a wholesale onslaught on her lectures, charging her with being ignorant of her themes and abounding in gross misstatements. "All sheer bosh and nonsense" is one of his elegant applications to the lecture which treats of animal worship. I advise my readers to see this "reviewer's" contribution and the reply of Miss Edwards, through me, in *The Epoch* of June 6. One citation will tell the tale. The "reviewer" said "she made a good deal out of an old snatch of a threshing song, which she even mis-translated." He exclaimed: "Ye gods of Egypt! Did ever such sounds offend your ears?" Miss Edwards's retort, so suggestive of fine thrashing qualities, is simple. "The translation which I gave of that song* was made expressly for this lecture by Mr. LePage Renouf (keeper of the Egyptian department in the British Museum, and successor to Dr. Birch as President of the Society of Biblical Archæology), whose profound and accurate knowledge of the structure and grammar of the ancient Egyptian language is unsurpassed." Mr. Charles Dudley Warner's pithy words in the July *Harper's* are a good peroration to our claim for her painstaking accuracy: "She never wrote about anything she did not know."

A letter of January 12, 1885, remarks as follows: * * * *
 "Most nights I have been at the desk till 2 and 3 a. m., and *The Times'* article was a matter of the whole night long. My eyes are suffering and I feel ten years older than I did three weeks ago. Enough of self. Let me turn to your marvelous work in New York. Well, no one but yourself, I think, could have performed that feat of physical and mental and diplomatic achievement. * * * And in the midst of it, you could actually sit down at the Astor House and *write*—write that lucid, compact, decisive, exhaustive article for *The Churchman*!† This is wonderful to me. I cannot write except in my own library, at my own desk, with everything to hand, and perfect peace and quiet. If our old gardener whistles at his work, pruning or weeding in the vegetable garden behind my library, I have actually to send

*"Pharaohs, Fellahs and Explorers" (Lectures in the United States), pp. 226 and 307.
 †*The Churchman* of December 28, 1884, on the Site of the Biblical Zoan, etc.

out to him to leave off! If the maids chatter in my hearing, I stop them! * * * I suppose I am very strong, too, but my strength now is more fictitious than real—more nervous than solid. Yet not so very long ago I walked up the highest mountain in central France, four hours up and three hours down, and then declared myself ready to do it again if anybody liked to turn back with me. I could not do that now." These lines are now of peculiar interest: "I look now to Griffith and Petrie (she is referring to Englishmen) to carry on the torch of Egyptian learning in the future, when Poole and I shall have passed away. My work will, I hope, in a sense, go on forever—in the limited sense of our 'forever'—for I have made my will and left an endowment for a professorship of Egyptology to University College, London. I wish I could spare the money at once and see it working before I die, but that is impossible. They will have my Egyptian library, collection of antiquities, etc., etc. This is private."

Another, dated November 16, 1885, contains these paragraphs: "Your long and most interesting and very confidential letter delighted me * * * There are some parts which I should prefer not to destroy as they relate to me, and tell me facts which I am very happy and humbly thankful to know. I mean as to the light in which my labors are viewed in America. I *do* work conscientiously. I never review a book, for instance, without carefully reading it; and I never put anything down as facts without having first gone to every reference on the subject, and when I am not positively sure of a thing, I always qualify my words with 'I think', or 'I believe.' If your people find me reliable, I rejoice that they are so convinced, because they do me justice, and it shows they know enough (I mean the general public) to discriminate on abstruse subjects between theorists and positivists. I am a positivist in science, and like the elephant, I try the bridge with my trunk before I venture to cross it. But I fear they terribly over-rate me in other ways. I am a very indifferent hieroglyphist; I have not time to work at texts as I did once. * * * My energies are diverted into the practical grooves of Egyptology, i. e., exploration, and the acquisition and analysis of all that is learned, discovered and translated in whatever country and from whatever sources. I try to let nothing escape me, and, perhaps, take me all round, I know more about Egyptian history and recent results than anybody else; but I am not a translator, and I fear now I never shall be."

Had Miss Edwards' life been spared another decade the world would have been the richer by at least two or three more new books of a calibre and merit equal to her "Pharaohs, Fellahs and Explorers"; and my earnest hope is that her revision of Wilson's "Egypt" is about ready for the publisher, as it is *the* work on the history of the dynasties and marked epochs of Egypt for the

general reader, and singularly useful for reference. Her translation of Maspero's "Egyptian Archæology" gives to the English reader a most authoritative text book on the architecture and art of the ancient Egyptians. But this translation (with notes), her volume of lectures, her "Thousand Miles up the Nile," together with the brochures and magazine articles, reveal sufficiently to us the structure and compass of her mind, and its capacities of expression. Broad as is that mental structure, the ability to convey its knowledge intelligently, captivatingly, to others, is almost phenomenal—certainly so in the realm of archæology. She could turn her search-light power of discernment upon points of investigation or announced results, and then touch her conclusions with remarkably exact local colors and a felicitous polychrome.

Shall I discriminate? Miss Edwards's genius belongs to the objective rather than the subjective school; and she assiduously cultivated her powers and tastes in the direction of objects rather than subjects of thought, or, if the latter, from without rather than from within. She splendidly illustrated what it is to see and think through the eye rather than through pure reason. I do not know indeed that she ever read Plato, Aristotle, Des Cartes and Hamilton; and although she could aptly quote "The immortal Dogberry" and other Shakspearean characters, yet I think she enjoyed the wit more than the human philosophy of Shakspeare. She was searching, investigating, logical for a woman in her deductions (witness her treatment of the Ka question), but she lacked at least in her novels, that imperial philosophic element, the *subjective* insight and genius of creation which permeates and sways the "Daniel Derondas" that are given the world. "Lord Brackenbury," so full of life, light, color, and abounding in suggestions to the imagination and eye, typifies, I think, the objective novel as distinctively as "Middlemarch" represents the subjective novel of our day. This may explain why some people fail to appreciate Miss Edwards's novels, who praise her as an archæologist.* But readers, novelists, archæologists are not all alike—thank heaven—and my associate was not a Brugsch, a Naville, or a Maspero, or anyone else but *herself*. She was *sui generis*. She knew the *whole* field of Egyptology better than any man, and no one could approach her word power to describe the field, on the side of history, art and exploration. I pray for, but I never expect to see, another Edwards in the domain of Egyptology. The queenly title is hers.

On November 7, 1889, was given in the Brooklyn Academy of Music Miss Edwards's initial lecture in America, the Rev. Dr. R. S. Storrs making an address of welcome on behalf of the

*Among her novels are "My Brother's Wife"; "Half a Million of Money"; "Miss Carew"; "Debenham's View"; "In the Days of My Youth"; "Monsieur Maurice"; "Hand and Glove". Miss Edwards, as she told me, was never satisfied with her earlier romances. She wrote "An Abridgment of French History," and her "Outlines of English History" is still a text book in American schools.

large and distinguished audience of representative men and women of New York and Brooklyn. Up to the date of her departure for home, on March 28, she gave in all about one hundred and twenty public lectures in various parts of the land, some of them under the auspices of such institutions as Yale, Princeton, Amherst, Columbia, the Universities of Michigan and Pennsylvania, the Peabody Institute of Baltimore and the Boston Museum of Fine Arts. In Columbus, Ohio, she broke her left arm, but, undaunted, she lectured that evening and fulfilled every appointment thereafter that had been made for her. It was over a year from that untoward accident before she recovered even a moderate use of that arm. The following facts illustrate her amazing pluck and endurance. Arriving in New York some two or three weeks after the accident, and being in much pain, the arm was reset. She then attended a luncheon party, followed by a small reception. The afternoon was devoted to the annual meeting of the Sorosis Club, where she was enrolled an honorary member and given a splendid banquet. At eight o'clock she was at the Metropolitan Opera House to read a paper on the birth and growth of romantic fiction as illustrated in Egyptian literature. Of the two other speakers (on cognate topics), one took exception to her claim of the Egyptian origin of such-and-such and so-and-so. (It was a meeting of the Nineteenth Century Club, of free-lance proclivities and practices.) Although past ten o'clock, and insufferably hot, Miss Edwards, in an off-hand, but unhesitating, clear, fluent, forcible, humorous speech of about twenty minutes' length, completely carried her audience with her. So, at least, *The Tribune* said, and it was my own impression.

As the memorial minutes of the Committee (in England) of the Fund truly say of Miss Edwards's lectures, "On both sides of the Atlantic, she has made Egyptology a household word, representing a new intellectual interest." No single achievement of my life is more gratifying to me than my successful effort to induce my friend to visit the United States. The invitation was a fitting *avant-coureur* to the welcome and success that everywhere were hers. Having written over two hundred personal notes to representative men and women in every department of life and work, I put out a leaflet, on March 1st, 1889, upon her capacities to lecture and her topics, to which I appended the following invitation, signed by Whittier, Lowell, Holmes, Curtis, Warner, Parkman, Booth, Vanderbilt, Morton, Storrs, the editors of *Harper's The Century*, *The Atlantic*, *Scribner's*, *The Nation*, *The Critic*, *The Literary World*, about all the leading university and college presidents, etc.—some two hundred names in all:

The proposed visit of Miss Amelia B. Edwards to the United States to see our country and to lecture upon subjects in which she is an acknowledged authority, if carried into effect, will be an event of special interest to the

intelligent and cultivated people of our land. She may be assured of a hearty welcome, and her lectures cannot fail to prove of rare profit and pleasure to her audiences.

What I predicted, having in mind her lectures in Great Britain, was abundantly confirmed by her tour:

"The picturesqueness of her style, the interest of her facts, and the sympathetic charm of her delivery have evoked unwonted enthusiasm. Her voice is peculiarly clear, agreeable and far-reaching, and she possesses, in a remarkable degree, the power of holding her audiences. Herself a practical archæologist, she relates the wonders of our inheritance in ancient Egypt and the stirring story of Egyptian exploration, with an intelligent vividness which makes those far-away subjects as interesting as a sensational romance. Herself a skillful artist, she can, in an instant, deftly illustrate with chalk some hieroglyphic puzzle or curious relationship between Egyptian and Greek arts."

Miss Edwards, on August 30th, 1889, wrote me of my preparations on her behalf: "As you know, I never lectured in my life till November 3d, 1887, and then only because Mr. Horsfall, who was on the Corporation committee, insisted on it that I *could*, should and must do it. It would never have entered into my head to attempt such a thing had he not done this. I attribute my success in lecturing to the training my voice had in youth—for I was a good singer. I could have taken to opera singing had I wished to earn my bread and fame in that way. My voice was of extraordinary compass and flexibility. Also, I had considerable taste for acting and played a good deal in amateur theatricals when a girl—between fifteen and twenty. I think these last experiences have probably much to do with that clearness of utterance, etc., which are essential to successful lecturing. But I should like the American world to understand that I do none of these things *now*—nor have done them for the last thirty years. I am a very staid, quiet, hard-working body now."

The Egypt Exploration Fund owed an unpayable debt to Miss Edwards; that debt is now due, will be ever due, to her memory. "Miss Edwards," as the obituary in the Annual Report of the Fund says, "has followed Erasmus Wilson and James Russell Lowell.* In honor of their memory, we, who survive, have a sacred duty to the great enterprise consecrated by their names." It may be truly added that the archæological bread she cast upon the waters returned to her not after many days. Her position as honorary secretary of our society and the discoveries in progress afforded her a unique opportunity, which she splendidly utilized, of depicting to our age Old Egypt as touched by the transforming wand of exploration. By that opportunity she gained a scientific as well as an official status; her doctorates from Columbia, Smith and Bethany Colleges (L. H. D., LL. D.

* Mr. Lowell was the honorary Vice-President of the Society. His successor was George William Curtis.

and Ph. D) were owing to it: because of it she lectured in Great Britain, followed by an everyway successful tour in the United States; it was the *sine qua non* of her best journalistic and magazine articles; such an opportunity led up to the throne of Egyptology, upon which this sketch crowns her queen; and, in short, it is through the society and her official position, and owing to the past decade of discoveries, that she won *enduring fame*. While we mourn her untimely call from the high mission she so grandly performed in the promotion of discovery and in the diffusion of knowledge acquired by it, we are profoundly thankful for the much that she lived to accomplish. May I add that through her personal efforts or influence a large share of the funds from Great Britain were raised for our work? And that my lamented associate was a constant inspiration to me in my literary and financial efforts to advance our cause in the United States?

The archæological survey of Egypt, advocated by Mr. F. L. Griffith (now its superintendent), was greatly promoted by Dr. Edwards. In October last she edited a special extra report of the survey, in order, as she wrote me, to create or increase an interest in it; her last official act was to issue, in November, a four-page circular respecting the claims and results of the survey. Her last important word to me, dated December 1, was a nine-page letter, mostly relating to the Vicomte de Rouge's acceptance of the results of the Funds's discoveries at the sites of Pithom, Goshen, etc., as contained in his recently published work, "Géographie Ancienne de la Basse Egypte." The cause of this able communication to me from Miss Edwards was a "sublimely impertinent letter," addressed to the society by a notorious dabbler in Egyptology, who re-locates established sites, and charges the great scholars and explorers with ignorance of the subject. "He relies," as she remarks, "on the little that is known and read in America on Egyptian subjects and on his own colossal effrontery to carry him through."

Here ends my sketch. "The rest is silence"? Not so. Intellectual culture, education, may everywhere regard Miss Edwards as a generous creditor in the great exchange of knowledge. For out of Egypt has chiefly come our knowledge of the evolution of man during a period of five thousand years B. C., and among the delightful surprises of our day is the enthusiasm, intelligence, skill, magnetism and poetry with which her pen and voice have invested the old, old subject, now regenerated to notice—public notice—by discovery, and by portrayal like hers. May other imaginative and scholarly souls take up the burden of her song in the promotion of exploration to reveal and to record monumental history by the sweet waters of the Nile.

WILLIAM COPLEY WINSLOW.

PRE-COLUMBIAN DISCOVERY OF AMERICA.

BY J. P. MACLEAN.

V.—ODDS AND ENDS.

Insuperable difficulties attend every step in the demands put forth by the Norse claimants. One asserts the Norse were the original discoverers and should immediately be recognized as such, while another admits there were prior discoveries of the continent. When the briefs of the claimants are compared, one with the other, contradictions and gross assumptions are seen to predominate. One will declare the Sagas to be simple and unaffected, and the only reliable histories the earth has fallen heir to, while another seeks to edit and twist them into the required shape—thus reminding one of the famous robber Procrustes.

Admitting that the Sagas teach all that is claimed for them, what advantage was it to the human race? Is it not a fact that the discovery amounted to nothing? Is it not also a fact that when Queen Margaret prohibited trade with Greenland, it would have stimulated commerce between that colony and the one in America? To offset the worthlessness of the alleged Norse discovery, it is asserted that without it Columbus would have known nothing of the New World. Even if this be admitted, then more is due to the Irish than to the Norse. De Costa declares that the Icelandic chronicles distinctly affirm that "half a century before the voyage of Erik, a great country was known at the west, being called Ireland the Great." It would seem that this country was first reached by the Irish, whose prior discovery was concealed by the Icelanders. The Irish had described it, evidently, as a land of verdure, while the Saga says that Erik applied the name of 'Greenland' to the part he visited, not from any particular fitness, but from motives of policy, saying that 'men would be persuaded to go to a land with so good a name.' Possibly the term 'Greenland' was originally applied to the whole of North America, as were often names that finally came to have a local meaning."* In the mutual admiration society the Irish should not be crowded out. Give them a chance. Let them help fight this battle as well as the battles of all countries except their own!

Unfortunately the reference to Ireland the Great involves us in another difficulty. In the above quotation De Costa would have us believe it was Greenland, while Prof. Rafn held it was

*Pre-Columbian Discovery, p. 33.

America.* This disagreement between the two editors would throw great doubt on the Norse theory. If Prof. Rafn is correct, then the Norse did not discover the continent, but took advantage of the achievement of the Irish. If we argue after the same methods, then the honor must be accorded to the Irish, while the Norse are shorn of all the glory there was in it.

Those who have presumed to edit the sagas must also edit the letter of Columbus, so as to make it appear that he was acquainted with the voyages of Erik, Leif and Thorfinn Karlsefne. Prof. R. B. Anderson teaches that Columbus obtained from the writings of Adam of Bremen the Norse discovery of America, and this information induced him to go to Iceland, where the "Icelanders must have told him, as they state in their Sagas, that far to the south of Vinland was Irland-it-Mikla, or Great Ireland; that this Great Ireland extended certainly as far south as the present Florida, and hence his shortest and most pleasant route would be to sail about due west from Spain."† DeCosta says that "Columbus knew of the westward voyages of the Icelanders is sufficiently evident. He clearly believed, as the Norsemen did, namely, that Greenland was an extension of Norway, and that Vinland lay contiguous, while what he desired was to reach the eastern coast of Asia."‡ Mrs. Shipley emphatically says: "The fact that the rumors of these vast discoveries in the west reached every seaport in Southern Europe, as well as the Eternal City; the fact that Gudrid, the wife of Karlsefne, visited Rome after her three years' sojourn in Vinland; the fact that she narrated these experiences at length to the holy fathers; the fact that Rome had appointed bishops to both Greenland and Vinland; the fact that Columbus, an Italian by birth, and naturally aware of these important events, went to Iceland in order to pursue the investigations, to which all this had given him the clue. After his visit to Iceland he made out to find America, as any one else could have found it, after obtaining definite directions."§

The following is quoted from Beamish: "Having had access to the archives of the island, and ample opportunity of conversing with the learned there through the medium of the Latin language, he might easily have obtained a complete knowledge of the discoveries of the Northmen—sufficient, at least, to confirm his belief in the existence of a western continent."||

Quotations to the same purport could be greatly extended, but these are sufficient. On what basis do these affirmations, declarations and assumptions rest? There is none other than the solitary letter of Columbus himself, which was preserved by his son. This vague letter the son cites in the biography of his father: "In the month of February, in the year 1477, I sailed

*Pre Columbian Discovery, p. 160.

†America Not Discovered by Columbus, pp. 13 15.

‡Pre-Columbian Discovery, p. 56.

§Icelandic Discoveries, p. 69. ||Ibid., 106.

one hundred leagues beyond the island of Tile, the southern portion of which is seventy-three degrees removed from the equinoctial, and not sixty-three, as some will have it; nor is it situated within the line which includes Ptolemy's west, but is much further to the westward; and to this island, which is as large as England, the English come with their wares, especially those from Bristol. And at the time I went thither the sea was not trozen, although the tides there are so great that in some places they rose twenty-six fathoms, and fell as much. It is, indeed, the fact that that Tile, of which Ptolemy makes mention, is situated where he describes it, and by the moderns this is called Frislanda."

If Tile is Iceland, and Columbus sailed one hundred leagues beyond, he must have entered Greenland a distance of not less than fifty miles. But of this there is no mention. Friesland is one of the most northern provinces of the Netherlands. He went farther north, and it is more than probable to the northern part of Norway. Having sailed west three hundred miles he covered half the distance to Iceland. But upon supposition he went to Iceland, what proof is there he saw the Sagas? The evidence of the sagas need not be rehearsed; for as has been seen the Codex Flatoeyensis was discovered in private hands and did not belong to the State. There is not a scintilla of evidence that this Codex, in 1477, was known beyond the actual limits of its possessor, or even that it had a possessor at that time. Even if the manuscripts were in the archives of the country, it is not at all likely that the attention of a stranger, more especially one speaking a foreign language, would be called to these fireside tales and legends.

As has been noticed, the assertion is made that Gudrid narrated her experiences to the holy fathers, and that rumors of these discoveries had reached every seaport in Southern Europe. The saga says she "went to the South." On this De Costa has an extended note. "It is understood she (Gudrid) went to Rome. It may be asked why she did not spread the news of her son's voyage in those parts of Europe whither she went, and make known the discovery of the New World. To this it may again be replied, that the Icelanders had no idea that they had found a New World, and did not appreciate the value of their geographical knowledge. Besides, there is nothing to prove that Gudrid and others who went to Europe at this period, did not make known the Icelandic discoveries. At that time no interest was taken in such subjects, and therefore we have little right to expect to find traces of discussion in relation to what, among a very small class, would be regarded, at the best, as a curious story."*

Columbus fitted himself thoroughly for the great undertak-

ing he was destined to perform. From his studies he arrived at the conclusion that the world was a sphere, but underestimated its size, while over-estimating the extent of Asia. He believed there was a western route to India, and determined to discover it. He first applied to the Senate of Genoa, his native city. His proposals were rejected. He next turned to John II of Portugal, but that monarch, through the advice of the Bishop of Ceuta, dealt treacherously with him. Upon discovering the dishonorable transaction, he secretly left Lisbon, and dispatched his brother, Bartholomew, to England with letters for Henry VII, to whom he had communicated his idea. He next proposed his plans to the Duke of Medina Sidonia, who deemed them impractical and visionary. He then presented his plans to the Duke of Medina Celi, who gave him great encouragement, entertained him for two years, and even determined to furnish him with three or four caravals; but was finally deterred through the belief that such an expedition should be under the patronage of a sovereign. He wrote to Isabella, and at her bidding Columbus repaired to the court at Cordova. Here he was kindly received, but neither Isabella nor Ferdinand had time to listen to him, owing to the struggle then going on with the Moors. He followed the court to Salamanca, and after surmounting many difficulties obtained an audience with the king. The matter was referred to Fernando de Talavera, who, in 1487, summoned a junta mostly composed of ecclesiastics, prejudiced and loth to abandon their pretensions to knowledge, which decided that his project was vain and impractical and that the sovereigns should abandon it. After encountering many other discouragements, an agreement was entered into with the Spanish sovereigns, which was signed on April 17, 1492.

In presenting his plans and arguments before the different courts and those high in authority, not once did he allude to the discovery of Leif Ericson. When before the junta, Columbus presented his arguments, and the ecclesiastics overwhelmed him with biblical texts, there was a great opportunity to present the conclusive evidence of Lief's discovery, and the fact that the pope of Rome had appointed a bishop for Vinland. Most certainly would Columbus have thus availed himself, had he possessed the knowledge. Again, the fact of his route across the Atlantic cannot be reconciled with a previous knowledge of the one from Greenland to Vinland. His route would have borne greatly to the northwest.

Much irrelative matter has been dragged into the discussion by the Norse advocates. It should here be touched upon in order to show the true animus of these erratic theorists. It will be an illustration of their ability to weigh evidence in other matters as well as in that which they have particularly chosen.

The Norse character has been pompously set forth and its pagan ethics extolled. Great benefits would result in "accord-

ing to Iceland its full due, of emulating its freedom and enlightenment during the days when it was a flourishing republic, and before it became christianized."* Norse ethics "have been the source of infinite good."† The literature of Iceland presents "in many respects an ideal civilization."‡ The Scandinavian North has "individually and collectively sustained the most brilliant role that has ever been acted in Europe, or in the world. * * * * The assumption of Christian humility and weakness so completely destroyed their ancient pride that they were not capable of reasserting themselves and gaining their former rank."§ These exalted ideas are supposed to be culled from the sagas. If the sagas were actually silent as to the moral character of the people in pagan times, the red-handed Erik and the treacherous Freydis, who not only caused the death of so many innocent men, but with her own hand butchered five women, solely for the sake of gain, should put to shame such declarations. The sagas are not silent on the moral characteristics of the people, and whosoever reads the accounts therein contained must wonder if they had within them the divine image. The feuds of the Icelanders were notorious. The degree of a man's civilization may be measured according to his ideas of woman. Saxo Grammaticus, the ablest of all the sagamen, says: "Thus you will see the worth of a woman's word. They are chaff before the wind, and change like the billows of the sea. Who can rely on a woman's heart that alters like a flower shedding its leaves, or as the seasons change, obliterating each other's traces?" In matters of marriage there was little love-making. The wishes of the women were seldom consulted, and they were disposed of to the best of advantage by their fathers or guardians. Even the very word (*brud-kaup*) means "wife-deal," in the sense of a sale. On the marriage day it was bad taste not to be drunk and find a bed on the rushes on the floor. Solid drinking continued from Wednesday until Saturday. Polygamy was also practiced. Divorce was frequent. In the *Laxdaeler's* saga—one of the complex sagas of West Iceland—examples are given showing on what slight grounds divorce could be obtained. Gudrun, in 989, at the age of fifteen, was married to the Thorwald of Garpsdolen. Because she was not consulted in regard to certain personal ornaments she formed an acquaintance with Thord Ingunsson, and through his advice she made her husband a shirt with a large opening in the neck. Now it was the law if a woman dressed as a man, or vice versa, it was a reasonable ground for a divorce. Thorwald wore the shirt, which was so low as to expose the nipples of his breast. A divorce was declared. This same Thorwald Ingunsson had a wife nicknamed *Brok Aude*, because she wore breeches like a man. So Thorwald declared himself divorced, and shortly after married Gudrun.

*Icelandic Discoverers, p. 183.

†Ibid., p. 192.

‡Ibid., p. 165.

§Ibid., p. 195.



THE ZUNI SHRINE, WITH SYMBOLS OF THE SUN.

The Vikings were lawless in a bad sense, and their expeditions by land and sea in quest of plunder were characterized by a bloodthirsty savagery of a vicious type. The women who accompanied these expeditions distinguished themselves by a fierce cruelty. They adopted a mode of life and a diet which suited few men, or even beasts of prey. The older the records the darker the picture. They ate nothing but raw cured meat and slept out of doors. The most atrocious cruelties were practiced by them, and they spared neither man, woman nor child. After awhile they applied a certain code of laws in which it was agreed that they should not plunder their own coasts or merchant-ships belonging to their countrymen, unless it was in a case of a family feud. They would start out in their piratical expeditions when the cuckoo was first heard and return as late as the autumnal storms. The Hebrides were a favorite cruising-ground. Their merciless ravages along the coasts of Scotland have been given by Skene* and need not be here repeated. Their irruption into Ireland has been frequently retold. In 794, when paganism must have been in its purity, they utterly laid waste the Western Isles of Scotland and plundered the church of Iona.* They were not finally expelled until the crushing defeat they suffered at the hands of the Scots, under Alexander III, at the battle of Largs, fought in 1263, when king Haco's broken army and fleet were forced to retire.

Recurring again to the sagas, we find the Volsungasaga—probably written in Iceland about the close of the thirteenth century—among many other things gives an extended account of king Atle and Gudrun, his wife, which is a story abounding in atrocities. Among other things the record tells that Gudrun cuts the throats of her own sons, then takes their skulls and fills them with wine mixed with their blood, and gives the same to Atle to drink. She also takes their hearts and covered the same with honey and gave it to her husband to eat. Not content with this atrocity she set fire to the hall and destroyed King Atle and his men. The records of history nowhere recite a crime so fearful as that practiced by the wife of King Atle. The sagas abound in stories of implacable hate, and thirst for revenge. A thirst for blood was an attribute of the people. A man was murdered in cold blood for a slight provocation. It was proper and fit to waylay or stab a foe in his bed, or burn him to death in his house. In the saga of Halfred it was related that Sokke, a Viking, burnt the house of Thorwald, a man living in Norway. The latter demanded to know why he was injured. Sokke replied that his intention was to burn him and his alive, and to annex his goods after Viking rules. According to the saga, this appears to have been a sufficient answer.

One of the principal amusements of this people was horse-

*Celtic, Scotland, Vol. I, pp. 302, 311, 327, 339, 347; also Chronicles of the Picts and Scots, pp. 8, 9, 330, 361, 363. *Ibid., Vol. I, p. 304.

fighting. Horses were reared purposely for fighting, and foals having long teeth were specially selected. The places selected for such exhibitions were flat meadows, with some rising ground near, on which spectators, and in particular the women, could sit and see what passed. When the horses rose on their hind legs and began to bite, each trainer was allowed to use a staff to encourage his horse. Often bloody affrays grew out of these sports. In the *Njál* saga it is related that Starkad, who owned a good fighting-horse, had three quarrelsome sons. These sons challenged Gunnar to a horse fight in order to involve him in a bloody feud, which they accomplished. The *Gretti* and the *Vigaglú* sagas give accounts of blood feuds growing out of horse fighting.

It is neither necessary nor pleasant to carry these citations any farther. Their natures were more savage than that of any North American Indian at the time of the discovery. Into this mass of savagery Christianity was introduced by two really pagan kings, who thought they had become Christians. They propagated it with a vengeance. Olav Tryggveson and Olav Haraldson, when kings of Norway, suppressed heathenism with a strong hand. They sought to convince the stiff-necked heathens by either cutting off their heads or gouging out their eyes, and both kings sowed priests broadcast over their dominions. Christianity had a long and patient struggle with these people. Their wild and barbarous natures were subdued. Their better natures have been called into activity. The Norwegians and Icelanders of to-day fare far better than their ancestors did in saga or pre-saga times. They pursue the paths of peace, cultivate knowledge and build up their homes with the reasonable assurance they will remain protected. Instead of gaining renown as a pirate, the Norseman becomes of great advantage in the progress of science and art.

The next and last point to be considered in these papers is the extravagant claim of our debt of gratitude to the Northmen. We have already quoted, in Chapter I, from DeCosta. It is here repeated: "In vindicating the Northmen we honor those who not only gave us the first knowledge possessed of the American continent, but to whom we are indebted for much beside that we esteem valuable. In reality, we fable in a great measure when we speak of our 'Saxon inheritance.' It is rather from the Northmen that we have derived our vital energy, our freedom of thought, and, in a measure we do not yet suspect, our strength of speech."* This was probably inspired by Samuel Lang, the translator of the *Heimskringla*. What he says is given at length by Prof. R. B. Anderson.† "All that men hope for of good government and future improvement in their physical and moral condition—all that civilized men enjoy

*Pre-Columbian Discovery, p. 7, taken from "Heimskringla," Vol. I., p. 7.

†America Not Discovered by Columbus, pp. 98-100.

at this day of civil, religious and political liberty—the British constitution, representative legislature, the trial by jury, security of property, freedom of mind and person, the influence of public opinion over the conduct of public affairs, the Reformation, the liberty of the press, the spirit of the age—all that is or has been of value to man in modern times as a member of society, either in Europe or in America, may be traced to the spark left burning upon our shores by the Norwegian barbarians.”* This is a most astonishing declaration to be made by a sane man. No one would make it who was acquainted with history, unless he had an utter disregard for the truth. Any man competent to trace “all that civilized men enjoy at this day of civil, religious and political liberty” to a “spark left burning” by a band of pirates, deserves to be classed as a greater discoverer than Christopher Columbus. The world, its teachings, the improvements and the civilization, prior to that time, outside of Scandinavia, is a blank so far as our present welfare is concerned! The struggle of the ages resulted in nothing. Mankind owes no debt of gratitude save to the spark left burning by a band of northern sea-rovers. It must have inspired Martin Luther, for the reformation was due to it. What is the proof of this extravagant claim? Exactly the same as the great bulk of declarations put forth in behalf of this Norse theory. Simply *Nothing*. There is not a single subject discussed during the last twenty-five years that so abounds in unwarranted assertions, unsupported declarations, and the making of mountains out of mole-hills, as this Norse business. But the zeal thrown into the subject seems to have made them blind to the facts and the teachings of history. If the same methods were resorted to in order to show the contrary on this subject, invective would be called forth and harsh epithets applied. The charge of being unscrupulous would be hurled without any qualification. It is not to be implied that the intent is here to cast opprobrious words upon the advocates; for it is fully recognized that their zeal has outstripped their judgement.

*No wonder the mandate has gone forth that “Americans are to put on the Norse armor and seal the glorious work for universal liberty that their ancestors have bequeathed to them!” *Icelandic Discoverers*, p. 57.

THE RUINS OF SOUTHERN UTAH.*

BY WARREN K. MOOREHEAD.

On the first of March an expedition consisting of eleven men left Durango, Colorado, for the purpose of examining the ruins in Southern Utah. It was sent by the *Illustrated American* of New York. The members of the party were aware that the more important ruins upon the San Juan River and its tributaries had been explored by Messrs. Jackson, Holmes, and others. Hence, we desired to cover such territory as had not been entered by the government surveys and to examine such ruins as private individuals had hastily viewed. In this paper particular attention will be called to the work projected.

In taking a general review of the San Juan country, one observes two classes of ruins—the boulder dwellings, and houses of stone. One might sub-divide the hewn stone structures according to location and say that they occupied caves in the canon side, prominent points upon the edge of canons—or when located in fertile mesas took the form of large compartment houses—commonly known as pueblos. The boulder ruins invariably occupied the mesa and are not found upon the canon bluffs or in the canons themselves.

If we mistake not, these facts were noted by Messrs. Jackson and Holmes. One might go still further and say that all the hewn stone ruins represented the same architecture, whether located in the caves or upon the mesa, whether comprising one or two rooms or several hundred rooms.

Upon reaching Southern Utah a survey finds very rich material for exploration. Few individuals have ever visited the ruins of Epsom Creek, Cottonwood Creek, or the McCombs Wash.

Among the ruins in the main canon of the Colorado, Mr. Charles McLoyd is the only person who has projected considerable work. He has spent two winters in collecting photographs, drawings and such objects and burials as occurred in the houses. Although he was accompanied by a number of men, he found the ruins so extensive that he was unable to visit but one-third of them. Many small canons extended back from the Colorado two or three miles, ended in a semi-circular amphitheater, with sides ranging from two to five hundred feet in height. Such gorges are called box canons. A small trail barely wide enough

*Read before the Rochester meeting of the Am. A. A. of Science, Aug. 18, 1892.

to allow a person to descend on foot, leads from the mesa into the canon. Upon descending one finds the caves literally filled with buildings of various sizes. In caverns having a dirt floor, there are seldom stone buildings, but instead, a most singular and unusual type of dwelling. Upon inspecting some of the caves, stone slabs four or five feet across were seen upon the surface. Perhaps the sand and dust which the winds had swept within, had half covered these stones. Upon removing them, openings two or more feet in diameter were disclosed, leading into small dome-shaped cavities. It is not without difficulty that a person is able to lower his body into the dark, uninviting depths of the cave.

The chamber had the appearance of a bell, small at the top and large at the bottom. The rooms averaged six feet in depth and seven in width at the bottom. There would be as many as twenty of these rooms in one cavern. Many of them penetrated through the clay and were excavated into the soft sand-stone beneath. Small doors at the sides frequently led from one to another, so that a whole series of ten or fifteen rooms would be connected. Some of the smaller underground rooms were used as granaries, and several were discovered filled with seeds and corn. Skeletons were frequently found in the rooms, accompanied by textile fabrics, deer-skin garments, flint implements, etc. In no instance was pottery found in the underground rooms. The canons are so dry that everything used by the inhabitants of both cave and cliff dwellings was preserved almost as perfectly as the day it was buried. For instance, the following were obtained: Beautiful feather-cloth robes and head-dresses of the smallest feathers, rendered mouse-colored by age; pieces of spindles and cotton fabric in various processes of weaving; cotton seeds and cotton cloth garments, many of which were painted in fanciful designs; buckskin robes, on the inner side of which were picture writings similar in character to the winter counts of the Sioux. Bone, obsidian and flint cutting implements, mounted in original handles, stone spears, with the shafts six or eight feet in length, basket work, blankets, pottery, and hosts of other objects and implements such as were used in the every day life of the savage. The most interesting and valuable part of the collection were the mummies. We found some twenty men, women and children wrapped in feather-cloth, buckskin garments and linen cloths, many of them with sandals still upon their feet.

The atmospheric conditions for the preservation of these mummified bodies were exceedingly favorable. The skin remained dry upon the face and other parts of the body. The eyebrows remained intact, the lips seemed rather full, the hair was still attached to the scalp, the larger muscles of the body are all preserved, the nails remain upon the fingers and toes, and the weight of the entire body is about twenty pounds. The mum-

mies, as found in the wrappings, were three and a half feet in length. The limbs were doubled and the knees drawn nearly to the chest. The friends of the deceased removed the heart, lungs, bowels, and other internal organs before burial. This is plainly shown by an incision in the abdomen of each subject. Children have been occasionally found in the arms of adults, presumably their mothers.

Small squashes, gourds, beans, corn, and cotton seed occasionally accompanied the interment. Numbers of singular objects have also been found. For instance, bundles of feathers, small strands of linen rope, rawhide thongs, crutches, medicine wands or sticks two or three feet in length, with the claws and teeth of animals, beaks of birds, pieces of obsidian, etc., tied to one end. Baskets usually covered the heads of the mummy. Frequently the door of the room in which the mummy was buried had been walled up. Occasionally a burial occurred in an ash-heap in the rear of a dwelling.

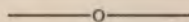
During our journey we covered some sixteen hundred miles of territory, and in order to be more expeditious, split the party into two sections. Considerable excavating was done in the cemeteries in the valley and mesa ruins. The graves presented a uniform appearance. They could be divided into two classes, those skeletons found five or six feet deep occupying hollow stone vaults, those but two feet from the surface buried in the sand. Beautiful pottery, bone implements, minute arrow heads, bone spoons, beads, and shells accompanied the grave burials.

We found every river and creek literally lined with boulder ruins and small pueblos. The ruins did not exist, as in the Ohio Valley, every few miles, they actually were continuous. In our opinion, no section of the country can be found where an institution could make larger collections in a short time as in Southern Utah. For instance, our trip up Cottonwood Creek, 50 miles north from the Mormon settlement, was through a section about twenty miles square, containing a great many caves and valley ruins, which were practically unknown at the time of the government surveys from 1876 to 1880. The larger of these caves contain good springs; several large cemeteries and pueblos occupy the surrounding plain.

Some very interesting conclusions are deduced from an inspection of the ruins. No copper or metal of any kind has been found in the cliff houses or in the caves. All cliff houses and dwellings upon the edge of the cliffs were built manifestly for defense. The cliff houses themselves, whether large or small, have but one main entrance. That entrance faces the canon. Each room contains a number of port-holes pointing in every direction. The larger rooms frequently contain as many as twenty or thirty of these port-holes, all of which are neatly and smoothly plastered, so that an arrow may be conveniently discharged.

In some of the stone buildings and in the caves turkey dung covers the floor to a depth of two or three feet. Upon the walls in the rear of houses are usually hundreds of sculptures and rude paintings. Many, many times the turkey and the goat are shown in series of pictographs. Hence, we conclude that aside from what was grown by means of irrigation, primitive man in the San Juan country lived largely upon the goat and the turkey.

No metal has been found in any of the ruins, and such caverns and pueblos as we saw bore no evidences that the builders were associated with the Spaniards. Our observations led to this conclusion. The region was inhabited by two and possibly three tribes more or less alike in manner of living, in agriculture, in pottery making, in weaving, and in other arts. They differed in unimportant matters. For instance, the Cliff and Cave Dweller made mummies of their dead, the Valley Dweller placed his in graves. One flattened the skull by artificial pressure, the other did not. One lived in inaccessible fortresses, the other dwelt upon the plain. It seems to us that these differences are not sufficient to warrant us in setting them apart from each other as distinct and separate peoples.



CASA GRANDE.

William C. O'Neil, president of the Board of World's Fair Managers of Arizona, has recently visited Chicago to arrange, among other exhibits by that Territory, the exhibit of a *fac-simile* reproduction of the famous Casa Grande. This edifice is one of the most remarkable of the ruins of North America.

It was first visited by Europeans in 1538, when Cabeza de Vaca and his fellow fugitives of the ill-fated Ponce de Leon expedition discovered it, and four years later Coronado made it his headquarters during his expedition to the southwest. In the vicinity of the ruins are found the remains of immense irrigating ditches and cemented reservoirs, one of the former during the last year having been cleaned out by an English company and acres of land thereby reclaimed. The building is between five and six stories in height and about fifty feet square, made of sun-dried bricks, with heavy buttressed walls. Like all other prehistoric ruins in the Southwest, it presents the evidences of having been destroyed by fire, the charred remains of the rafters still remaining in the walls, while in every direction for miles the ground is strewn with the remains of broken pottery, arrow heads, stone axes, and similar articles, apparently indicating the abandonment of the city by a panic-stricken people, a belief that has been to some extent verified by the finding of a number of skeletons in the ruins.

THE MAYA CODICES.

BY PROF. CYRUS THOMAS.

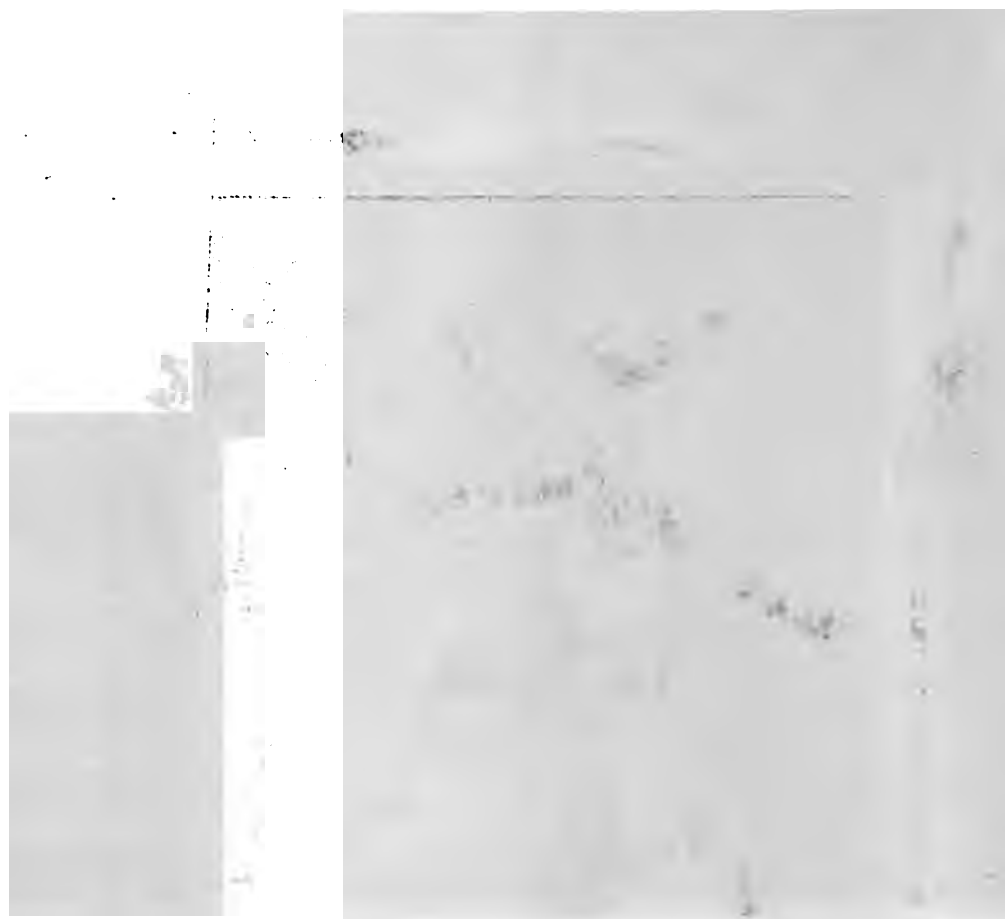
In reply to your communication allow me to say that I trust the notices given of my discoveries relating to the Maya Codices may not prove disappointing to antiquarians. I have no desire to put forward a claim which the facts do not seem to justify. That I have succeeded in penetrating, to some extent, the mystery which has hitherto surrounded these aboriginal manuscripts will, I think, be ultimately conceded; however the word "key" used in the first announcement may have led some astray as to the real nature of the discovery.

I do not think there is any "key" to these writings in the usual acceptance of this term. It will be admitted, however, that if a number of the characters are correctly deciphered, they will furnish a basis for further progress, and in this sense give us a "key" to the writing. If found to be phonetic we will have positive proof that the writing is, in part at least, phonetic. But it does not necessarily follow from this, that, by analyzing these we can ascertain their primary elements and thus obtain a true key to the writing. These primary elements may not be, and so far as I have been able to ascertain, are not, except in a few cases, indicated. The Maya scribes do not appear to have reached that degree of perfection which enabled them to indicate all the letter elements; at the time the Codices were composed, the writing was in a transition stage from simple conventional symbols to phonetic glyphs. Its true character may be inferred from Landa's words, "These people also use certain characters or letters with which they write in their books their ancient affairs, and their sciences, and with these and certain symbols in the figures, they represent their concerns and explain and teach them. * * * Of these letters I give here but the a, b, c; *their great number does not allow of more, because they employ a character for all the aspirations of the letters and another for marking the divisions, and thus they become infinite.*"

Although this language is somewhat obscure, yet it seems to indicate that instead of giving signs and marks for the vowel and subordinate elements other symbols were formed for this purpose. And such in fact appears to be, to some extent, the case. A few characters have been deciphered in which the ultimate elements can be traced, but these appear to be exceptions and not the rule. And this is to be inferred from the fact that a



THE ZUNI SACRED SPRING, WITH POTTERY VESSELS.



number of the glyphs are but simple conventional symbols. The attempt therefore to follow up a clue on a single line without due consideration of collateral relations is likely to end in disappointment, at least such has been the result of my attempts on this plan.

As we have no Rosetta stone or bi-lingual inscription to aid us we must proceed chiefly by comparison and trial, the only ray of light to mark our pathway being Landa's letter list, which has hitherto proven so unsatisfactory that it has been cast aside as useless.

One great obstacle in the way of progress is the difficulty of verifying our interpretations, for, as you correctly remark in your letter, "true progress can only be made by establishing every point." The failure of previous attempts at deciphering these writings show the necessity of this precaution. It is an easy matter to find coincidences where different combinations of the same characters will give satisfactory results on the supposition that they have a certain phonetic value, yet the interpretation may be far from correct. To illustrate this I have only to refer to the symbols of the four cardinal points.*

That Leon de Rosny and I were correct in assuming that certain glyphs were used as symbols of these points, and that the two with wing-like appendages refer to the east and west, is now conceded. That the latter two, which we may designate as *a* and *b*, are phonetic, is indicated by the fact that the lower portion of each is the same, and that the Maya terms for these two points have the same terminal syllable:—*Likin*, "East;" *Chikin*, "West." Now if we assume that *a* denotes east, it follows that the phonetic value of the first part is *li*, and that the phonetic value of the first part of *b* is *chi*. If this assignment be incorrect the results derived from the interpretation must also be incorrect; yet as I know by trial, a few, apparently satisfactory interpretations, can be obtained by assigning either to the east, This fact makes it evident that something more than one or two agreements in different combinations of the same characters is necessary to furnish proof of the correctness of our interpretations. I have therefore endeavored to bring to bear every available test at each step.

As is well known I have devoted much time to the study of the general character of these Codices. Although I have had to abandon some of the positions taken in my first published work on this subject—"A study of the Manuscript Troano"—yet the more important conclusions therein reached have, so far, stood the test, at least they have not been questioned. One of these, which has a special bearing on the attempts at translating the text, relates to the direction in which the writing is to be read.

*See AMERICAN ANTIQUARIAN, Vol. VIII, p. 352, Figs. 1 and 5.

The true method was first made known in that work; in the same work the direction in which the inscription on the Palenque Tablet is to be read was also pointed out, which is now proven to be correct by the explanation it affords of the chronological system followed therein.

Another test which is applied wherever the data will admit of it, is the appropriateness of the interpretation to what appears to be the purport of the pictures which usually accompany the text. This test is generally most satisfactory when it surprises us by giving an unexpected but applicable interpretation to the picture.

A third test is found in the fact that new combinations give us true Maya words.

The method of grouping the symbols, usually four in a group, apparently forming a sentence, and the evident parallelism often observable in a series of these groups, afford some aid in obtaining a correct rendering even where we can determine but a single character in a group.

I give some examples to show my method, though I must be limited to general statements where the necessary figures can not be introduced.

Let us take the symbol for twenty.* As this has been determined mathematically there can be no question as to its signification, be it phonetic or not. Assuming it to be phonetic, its Maya equivalent must be *Kal*. If found in a connection where it cannot consistently be rendered 20, we must presume it has some other signification there. At one place in the Codex Troano we observe a series of three pictures, each a head inclosed in something like a wicker basket, and in the text over each this symbol for *Kal*. As this word also signifies "to inclose," or "imprison," it is a fair inference that we have obtained the correct interpretation and that the Maya equivalent of the symbol is *Kal*.†

Referring next to the Codices, especially to the Codex Troano, we find at several points a certain character in such relations that no other reasonable interpretation can be given it than "earth" or "ground". In a series of plates in the Codex Troano, which are, with good reason, believed to refer to the bee industry, we see the same character in connections where the signification "earth" or "ground" is wholly inappropriate. Again, we find the same character used as the symbol for the day *Caban*.‡

Now the Maya word *Cab* has several significations, as "earth, land, honey, and a hive." If we find the two symbols, those for *Kal* and *Cab* combined, a reasonable interpretation, on the supposition that they are phonetic, is, "to imprison or inclose

*See Fig. 96, p. 159, "Study MS. Troano."

†See Fig. 388, p. 371, Sixth Annual Report Bureau of Ethnology.

‡See Fig. 84, p. 153, "Study MS. Troano."

in the earth, or in a hive." Referring to the symbols for the months, *Yax* and *Yaxkin*, we find them to be composed of two parts or characters, the upper, or first part, being the same in both. If phonetic, the chief element of this first part must be *Y* or *Ya*. Turning to a certain passage in the Cortesian Codex, we find this character combined with that for *Cab* making *Ya'-Cab*, and this followed by the combined characters *Kal-Cab*. As the signification of *Yalcab*, as given in Perez's lexicon, is, "to gather a swarm of bees," a reasonable and consistent translation of the two compound characters taken in connection is, "gather the swarm of bees and house, or imprison them in a hive."

We have now found the symbol for *Kal* giving satisfactory results, on the supposition that it is phonetic, in three different relations. In the meantime phonetic values have been given to two other characters, *Cab* and *Y'* or *Ya*. The first of these has been found in three different relations, agreeing with the different significations of the Maya term.

We will take next the *Ku* of Landa's letter list. Although rudely drawn by the old bishop its equivalent is easily recognized wherever it occurs in the Codices.

We find it in one or two places in the Dresden and Troano Codices, with a bird of prey of the vulture kind pictured below.* In each case it has appended to it, either below or to the right (though imperfectly drawn), the partially closed hand character which forms the first part of one of the symbols we have referred to as used to indicate the east and west cardinal points. As this character, if assigned to the east, will give us *li*, and to the west, *chi*, the correct interpretation depends upon a correct assignment. If referred to the east it will, when joined to the *Ku* symbol, give us *Kul*. Now it happens that this is a good Maya word having several meanings. According to Perez it is used in speaking of certain ripening fruit; it is the rump of a bird to which the tail feathers are attached; and also signifies "to worship or adore." Henderson, in his manuscript lexicon, gives as additional significations, "a plant, a sucker," "to smear, daub or rub over." As one case where this symbol is found (Troano 17) shows the bird devouring a deer, this forming the entire picture; and the other (Dresden 13) a human (female) figure with vulture's head, apparently holding converse with a dog-like animal, neither of the foregoing definitions appears to be in any way appropriate.

Changing our assignment so that the symbol having the partially folded hand as its upper portion is referred to the west, the phonetic value of this upper part will then be *chi*; and placing it after or below our *Ku* symbol we obtain *Kuch* as the phonetic value. *Kuch* is also a Maya word having several significations.

*See marginal Fig. 27a, p. 357, Sixth Annual Report Bureau of Ethnology.

Perez gives, "a thread of cotton or other material of which cloth is made: and a species of leprosy." Brasseur de Bourbourg gives, "thread; and a bird of prey, a species of Sopilote." Henderson gives "to spin, and a crow." Ruz gives, "a kind of crow; a thread; and to arrive." As the definition "a bird of prey" gives an appropriate rendering we are justified in adopting it unless some valid objection occurs.

Referring again to the east and west symbols, we call attention to the following facts, which furnish some aid in forming a decision. One of these, which we will call *a*, has for its upper portion the symbol for the day *Ahau*;^{*} the other, which we will designate *b*, has for its upper portion the symbol for the day *Manik*, which we have described as the partially closed hand. Now it is apparent that we can not suppose these to be phonetic and give as their equivalents the names assigned to the days. We must therefore assume that while some of the day symbols *appear to be phonetic* (in the Maya tongue), *others are not*, a conclusion which all who have tried to use them in attempts at deciphering have reached. Examining Landa's letter list we observe that his second *l*, if turned part way round, is evidently a rude attempt to draw the *Ahau* symbol which forms the upper portion of *a*. Adopting this as the phonetic value of this character, we have *likin*, or "east," as the phonetic value of this symbol; it follows then that symbol *b* must be assigned to the west, its phonetic value being *chikin*, or "west," and of its upper portion *chi*. This gives *Kuch* as the rendering of the symbol above mentioned. There is, however, still another fact which favors this conclusion. The first *x* of Landa's letter list, if turned part way round, will show a rude attempt to draw the *Manik* or partially closed hand character. As the Maya *x* is equivalent to "sh," and is frequently interchanged with the soft sound of "ch," we obtain, by adopting this interpretation, substantially the same result.

Referring to Plate 16 of the Dresden Codex we notice in the lower section the *Ku* character doubled,[†] and below it the figure of a woman with a bird perched upon her head. According to Brasseur, *kukuits* is "a bird identical with the quetzal." Henderson says "like the quetzal." As the bird figured has very long tail-feathers, and the feathers on the head are prominent, it may be accepted as an attempt to represent this royal bird. It is true there are other Maya words which would come as near fulfilling the phonetic requirements as that selected. But aside from the applicability of this and the entire inappropriateness of the others to the subject of the figure, a careful study of the parallelism in this case will satisfy any one that the glyph denotes a bird, even though it be but a conventional symbol.

As this parallelism affords considerable aid in attempts to de-

^{*}See lower left hand figure p. 352, AMERICAN ANTIQUARIAN, Vol. VIII.

[†]See Fig. 20, p. 356, Sixth Annual Report Bureau of Ethnology.

cipher these Codices, I will illustrate it, using letters to represent the glyphs, the repetition of a letter indicating that the glyph it represents is repeated. There are six groups in the series, the characters of which are to be read in the alphabetic order of the letters.

A B	E D	G H	I	K	N
C D	C F	C D	C	L	O
			D	C	C
			J	M	P

In these groups *c* is a woman's head,* doubtless the conventional symbol or phonetic glyph for woman. It appears in each group. *D*, an undetermined character, appears in the first three groups. Each of the three figures under these three groups (there are none under the others) represents a sitting female with a bird perched on the back of her head, probably a symbolic representation of the native method of seeking an augury by the flight or notes of birds.† Be this as it may, the parallelism of the groups is manifest. This is further shown by the fact that though the women are alike in every respect, the birds are evidently of different species, a fact which must be one of the chief points in the message. These being different, the names, if given in the text, should be different.

By comparing our diagram with the original, we notice that *a* of the first group is a bird's head, and that *k* of the fifth group is a bird's head;‡ *e* in the second group is our double *ku* which we have interpreted *kukuits*, the Quetzal; and *n* of the sixth group, as we know from other evidence we will not attempt to introduce here, is the symbol for *Cutz*, "the turkey".§ These facts render it at least probable that the first character of each group is the symbol of some bird. We may add that *g* of the third group is probably the symbol for *Moo*, "the Guacamayo or Macaw"; and *i* of the fourth group the symbol for *Hchom*, a species of vulture.

So far the phonetic value given the *ku* symbol has borne all the tests we are able to apply.

Referring now to the lower division of Plate 9 (Fig. 29) of the Codex Troano, we see it joined to the upper character of the symbol for east (the Ahau glyph). This gives *Kul* as the phonetic value of the compound character, the chief signification of which, as we have seen, is "to worship." As this is repeated in each of the four groups forming the series in this division, and in each case is followed by the symbol for *Cab*, we have here another instance of parallelism.

*See Fig. 17, p. 351, Sixth Annual Report Bureau of Ethnology.

†See Fig. 376, p. 351, Ibid. ‡Fig. 276, p. 357, Ibid. §Fig. 33, p. 357, Ibid.

We may add further in reference to these groups that, as a general rule throughout the Codices, each is assigned to particular days which may be ascertained by using the day column and numerals belonging to each series, as explained in my previous works. The latter symbol, that for *Cab*, denotes "honey" in this connection, as shown by the pictures below the text. As the literal rendering of the two characters taken in connection will be, "worship with honey", the meaning is probably, "present honey as an offering." This interpretation appears to be confirmed by the fact that in, at least, three of the four groups these characters are followed by what are admitted to be symbols of deities.

These examples will serve to illustrate, in part, the method followed in testing my interpretations. There are, however, usually other tests which apply only to the particular cases under consideration.

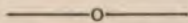
The progress of decipherment will necessarily be slow until taken up by one who is as familiar with the Maya language as with his native tongue. Even were the lexicons complete, which unfortunately is far from being the case with those which have been published, the work of solving a riddle, or word puzzle of this magnitude by such means must be tedious. The difficulty is increased by the peculiar nature of the writing, which we have partly explained above. While in a very few instances all the phonetic elements of a glyph appear to be represented by its parts, as a general rule the subordinate sounds are to be ascertained by other means. This is accomplished in part, as Landa intimates, by the use of additional glyphs having the same leading phonetic elements, but different subordinate sounds. Hence we find in the old bishop's letter list two or more characters for the same letter, yet as he tells us he has given us only the *a*, *b*, *c* of the list. But these variations do not give us all the sounds, many being left to be inferred, for example, the same character is used for *Yal*, *Ya*, *Yax* and *Ye*, and numerous other similar instances occur. Possibly we may yet find that different subordinate phonetic elements are indicated by slight variations in the symbols or by determinatives which have, as yet, been overlooked.

Then a part of the writing is of the character Dr. Brinton has aptly designated *Ikonomatic*, though much the larger part belongs to a more advanced stage. As one somewhat singular example, we may cite the character for *Chac* or *Chaac* (Fig. 30), "the tempest or hurricane." The Chacs, or subordinate rain gods, are figured under the form of dog-like animals (Troano, plate 26, etc.), and the head is used as the character, apparently phonetically, for *chac* "the tempest" (Dreseen 72c, etc.).

It is apparent from these facts that the writing was in a transition stage at the time the Codices, which have come down to our day, were written. I am doubtful therefore in regard to ob-

taining satisfactory results by commencing with the supposed primary elements, and attempting by means of these to obtain the signification of the glyphs. It may succeed in regard to the few which seem to have reached the true hieroglyphic stage, and Dr. Cresson, who, it seems, is following this method, states that he has obtained thereby precisely the same result in a number of cases as obtained by me. This method, however, appears to me to be based on the theory of a higher grade of phonetic writing than was reached by the Maya scribes. Nevertheless, Napoleon's criterion, "success," will apply here. And if Dr. Cresson will fortify his theory of the use of the "antennae and sting" signs, in the Maya glyphs by satisfactory proofs it must be accepted.

To trace the *evolution* of the *symbols* would, as you suggest, be very interesting and instructive, but the first step in our study of them is to determine what they are, and what they signify. If I can succeed in doing this, though but incompletely, I will have accomplished a work acceptable to antiquarians and linguists, I may, however, if desired, furnish you some notes in regard to what seems to be the purport of these Codices as indicated by the interpretations I have thus far succeeded in making.



THE TABLETS OF TEL-EL-AMARNA.

A remarkable discovery, in 1887, of tablets with cuneiform inscriptions upon them, at Tel-el-Amarna, a station between Memphis and Ramases, in Egypt, has resulted in much valuable information. These tablets have been deciphered and proved to be letters which were written to Amenophis, a king of the eighteenth dynasty. This king appears to have extended his expeditions to Babylonia. He held possession of the land of Palestine. Many of the letters were written by an officer in that land who was besieged by enemies.

Some of the letters are written from Biblos Acre, Ashkelon. They show that Western Asia was a scene of activity in the sixteenth century before our era.

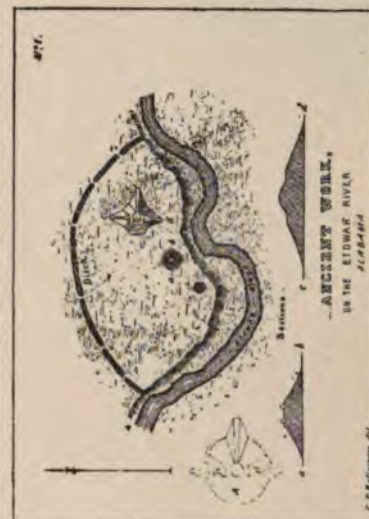
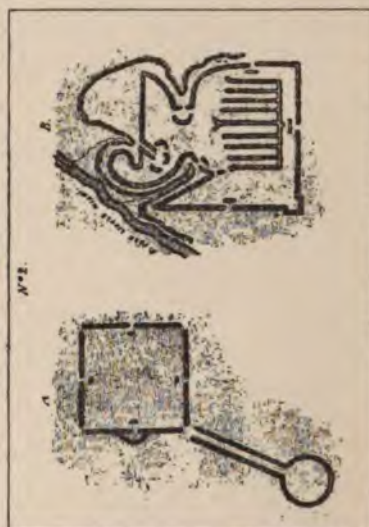
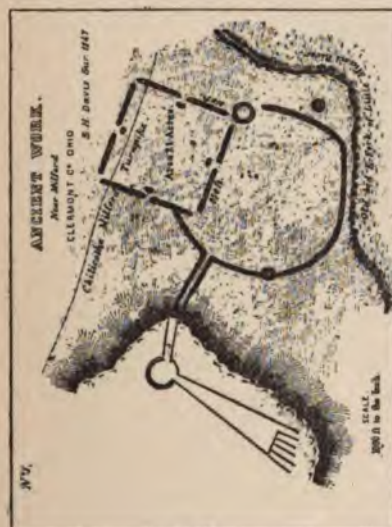
There is a mention of the name of Moses in one of the tablets, and of Hebrews in another.

THE BORROWED MYTHS OF AMERICA.

BY STEPHEN D. PEET.

We have spoken in a previous number of the prevalence of the "deluge myth" in various parts of America, and have intimated that the wide distribution of this tradition is proof that it had come in some way from another continent, and is in itself an indication of pre-Columbian contact. Prof. E. B. Taylor, however, takes the ground that all such deluge myths can be ascribed to the influence of the missionaries, and that they were all post-Columbian in their origin. He maintains that many of them are owing to the misinterpretation of the picture writings and other traditions of the natives. To illustrate: The migration myth of the Aztecs has been preserved in a kind of picture writing. In part of this picture there may be seen a curved mountain, which arises from a lake; on either side of the mountain crowned heads; beneath it is a boat; above it a tree. In the tree a bird; from the mouth of the bird issue a number of symbols, resembling "commas," which might be taken for tongues. Fifteen human forms are in front of the bird, each one with a totem above his head. This part of the picture has been interpreted as representing the Ark, Noah and his wife, and Mt. Arrarat, the confusion of tongues and the dispersion of the races. This interpretation Dr. Tylor thinks entirely gratuitous, and maintains that the picture contains no reference to traditions which prevailed among the civilized races, but in reality represents the history of the immigration of the Aztecs. It was the popular tradition among the Aztecs that their starting place was an island in a lake, and that the voice of a bird started them on their wanderings; so a bird with the usual symbols of speech was drawn above the mountain.

Mr. H. H. Bancroft also says that not one of the earliest writers on Mexican mythology, those who were familiar with the old traditions at the time of the conquest, seem to have known this tradition. "A careful comparison of the passages (in the later writers) will show that the escape of the Ancon and his wife by a boat from the deluge, and of the distribution by a bird of different languages to their descendants, rest upon the interpretation of the Aztec paintings." He intimates that the tradition which connects the great divinity of the Toltecs—the white god, who was called Quetzatlcóatl—with the pyramid at Cholula, came from the same source. The story about the departure of this god belonged to the ancient Toltec period, which pre-



"SACRED ENCLOSURES" NEAR WATER COURSES IN OHIO.



ceded the Aztec, and the person that represented the national god of the Toltecs, who had, like all the national gods of the Americans, a personified nature worship as a basis, but the historical tradition fastened itself upon the pyramid because of the resemblance of the divinity to the ancient Noah.

There is a plausibility about this view which becomes more apparent as we examine the myths of the civilized races. In these myths we find allusions, not only to "the mountain," "the boat," "the bird," "the gift of tongues," and other events of the "flood," but we find also many allusions to the "creation," with the same figures which are used in the Scriptures. To illustrate: from the fragments of the Chimalpopoca manuscript we learn that the Creator produced his work in successive epochs under one sign (Tochtli) the earth was created, in another (Acalt) the firmament, in the third (Tecpatl) the animals; on the seventh (Checatl) man was made out of ashes or dust, by that mysterious personage or divinity (Quetzalcoatl). This manuscript is supposed to be prehistoric, although, according to Bancroft, it shows traces of Christian influence and is by him ascribed to the Toltec School.* Still it is regarded as "one of the most authentic accounts of such matters, extant." There is also the tradition of giants upon the earth. We are told by Boturini that the first age or sun was called the "Sun of the water;" it was ended by a tremendous flood, in which every living thing perished except a man and woman of the "great race." The second age was called the "Sun of the earth"—giants or Quinames were the only inhabitants of the world. The third age, the "Sun of the air," was ended by tempests and hurricanes. The fourth age is the present, and belongs to the "Sun of fire." It is to be ended by conflagration. Another Mexican version is that, in the "age of water the great flood occurred, and the inhabitants were turned into fishes and only one man and woman escaped." The man's name was Coxcox. They saved themselves in the hollow trunk of a bald cypress. They grounded their "ark" on the peak of Colhuacan, the "Ararat" of Mexico. Their children were born dumb, but a "dove" came and gave them tongues. A Michoachan tradition has the name of Tezpi as a substitute for Noah. When the waters began to subside he sent out a vulture, but the vulture fed upon carcasses. Then Tezpi sent out other birds, and among them a humming bird. The humming bird found the earth covered with new verdure and returned to its old refuge bearing green leaves. There is another version which fastens upon the pyramid of Cholula. According to this the world was inhabited by giants; some of these were changed to fishes, but seven brothers enclosed themselves in seven caves. When the waters were assuaged one of these, surnamed the "Architect,"

*See Bancroft's *Native Races*, Vol. II, p. 547; also Vol. II, p. 69.

began to build an artificial mountain, but the anger of the "gods" was aroused. As the pyramid slowly rose toward the clouds they launched their fire upon the builders and the work was stopped. The half finished pyramid still remains, dedicated to Quetzalcoatl, the god of the sun. According to another extract of this Chimalpopaca manuscript, the god Titlacahuan warned the man, Nata and his wife Nena, saying hollow out for yourselves a great cypress in which you shall enter and he "shut them in." The Miztecs have a legend which they were accustomed to depict in their primitive scrolls. In the year and in the days of obscurity and darkness before the days of the years were, when the world was in great darkness and chaos when the earth was covered with water, and there was nothing but mud and slime on the face of the earth, behold, a god became visible named the deer, and surnamed the "lion snake," and a beautiful goddess also called the deer and surnamed the "tiger snake." The palace of the gods was on a mountain, in the province of Mizteca Alta. It was called the "palace of Heaven." Two sons were born to them, very handsome and learned. The brothers made to themselves a "garden," in which they put many trees, flowers, roses and odorous herbs. They fixed themselves in this garden to dress it and to keep it, watering the trees and the plants and the odorous herbs, multiplying them, and burning incense in censers of clay, to the "gods"—their father and mother. But there came a great deluge afterward, wherein perished many sons and daughters that had been born to the gods, but when the deluge had passed the human race was restored as at first. In Nicaragua it was believed that ages ago the world was destroyed by a flood and that the most of mankind perished. In the Papago county, lying south of the Gila, there is a tradition that the "Great Spirit" made the earth and all other things, but when he came to make man he descended from heaven and took clay, such as the potters use, from which he made the hero god, Montezuma, and afterward the Indian tribes in their order. He made them all brethren; men and beasts talked together in common language, but a great flood destroyed all flesh, Montezuma and his friend, the Coyote, alone escaping. This Montezuma afterward hardened his heart and set about building a house that should "reach up to heaven." Already it had attained a great height, when the Great Spirit launched his thunder and laid its glory in ruins. This legend accounts for the connection of the name of Montezuma with ancient buildings in the mythology of the Gila Valley, and perhaps, also for the connection of the same name with the various ruins in Arizona and New Mexico. The legendary adventures of this hero are narrated by the natives in all this region.

We have thus given nearly all the deluge myths which have been presented by the Mexicans, and would ask whether there

was not a good reason for the interpreting, the "picture writing" of the Aztecs, as having reference to the same event. The picture refers to an event which had occurred at the very earliest date of history, the place where it is located being often the starting point for the tribe or nation. May it not be that the picture itself embodied this tradition, and that it represented the starting point of the Aztecs, exactly as their traditions represent the starting point of other tribes? So we maintain that the correspondence between the verbal traditions of the wild tribes and the written or recorded traditions of the civilized peoples proves that the deluge myth was at the bottom of both.

Let us look at some of the traditions. Mount Shasta, with the wigwam of the great divinity. The smoke was formerly seen curling above it. The Great Spirit stepped from cloud to cloud down the great ice pile, and planted the first trees near the edge. He blew upon the leaves and the leaves became birds. He broke sticks in pieces and they became fishes and animals. The sun melted the ice and they became rivers. The daughter of the Great Spirit looked out of the wigwam and was so curious at the sight that she flew away to the earth, and mingled with the great bears, and became Eve, the mother of the human race. The Papagoes have the tradition that a great flood destroyed all flesh, but Montezuma and a Coyote escaped. Montezuma was forewarned and kept his canoe ready on the topmost summit of Santa Rosa. The Coyote prepared an ark out of cane, and the two sailed over the waters and repopulated the world. In Northern California the tradition of the flood is connected with Tahoe. Lake Tahoe was caused by an earthquake. A great wave swept over the land; the Sierra Mountains were formed; the inhabitants fled to a temple tower, which rose like a dome above the lake; but the divinity thrust them like pebbles into a cave and keeps them there until another earthquake shall occur.

The Californians tell of a great flood which covered the earth, with the exception of Mount Diablo and Reed Peak. The Coyote escaped to the peak and survived the flood. At that time the Sacramento and San Joaquin began to find their way to the Pacific. Thus we see that the myth is localized in connection with nearly every mountain, river and lake. The springs on the Pacific coast are also localized among the former tribes of the Atlantic coast. Now the inquiry arises, would a tradition which had been introduced by the missionaries at different times, and received by the converts to Christianity, and so altogether modern, have been likely to spread so extensively among the pagan tribes and to have been so thoroughly adopted by them as an integral part of their history. It is to be noticed that the tradition, as localized by the pagan tribes, always refers

to an event which occurred at the very earliest date of history and has reference to the starting point or original home of the tribes. The only exception to this is the one that relates to the pyramid of Cholula, this having been the last place of refuge, rather than the starting point of the Toltec race. In the picture writing of the Aztecs, the starting point is like that of other tribes. It is represented as a mountain beside a lake. After the departure from the mountain to the various points of the immigration route the same symbol of the mountain and the tree continues. This correspondence between the verbal and the written, or in other words, the traditionary and recorded, proves that the story must have existed in pre-Columbian times, and perhaps was known by the Aztec before they commenced their wanderings.

It is to be noticed further that the imagery which is used by the pagan tribes wherever any is used in repeating the story of the deluge is always such as would be natural to them. The



Fig. 1.—Aztec Picture Writing.

wild hunters of the north used the figure of the canoe, the island and the lake; the semi-civilized, in the interior, used the figure of the cave, the mountain, the auroya; the civilized tribes of the southwest used the figure of the boat, the curved mountain, the symbol of speech, the temple and the pyramid. This might have occurred if the tradition was modern, for the story, when filtered through the native minds, would naturally receive the tinge of their own thoughts and would vary according to different habits, conceptions and surroundings of the people. We must remember, however, that while there is a great difference between the versions of the story, yet the same elements remain—the boat, the mountain, the ancient divinity who was the first ancestor, the flood, the survival from the flood and the re-peopling of the land.

These elements or images seem to have spread as far as the story of the deluge itself. They are evidently prehistoric in their character and are associated with the prehistoric cultus. They have been regarded as autochthonous, but taken in connection with the deluge story, they furnish an additional evidence of contact with historic countries. There are also symbols of the cross, the suastika, the serpent, the horse-shoe, the hand, the eye, the spectacle ornament, the loop, the turreted figure, the bird, the Nile key. These symbols are the most

prevalent in Oriental countries, and the most widespread in this country. These symbols are, indeed, associated with the various forms of nature worship and are rarely with the tradition of the deluge. In this we recognize a contrast. The water cult in this country was, like that of Great Britain, a pre-historic system. It always was localized at some spring and was preserved by the spring into historic times. There are many springs in America which were regarded as sacred by the people in pre-historic times. They are found in the Mound-builders' territory, in the regions of the Pueblos, among the wild tribes and among the civilized races.

The largest number of symbolic works were placed near streams and fountains, indicating that the use of waters was essential to religious ceremony. The traditions linger about many of these springs, some of which are interesting and very suggestive. No animal may partake of the sacred waters of the spring. The most

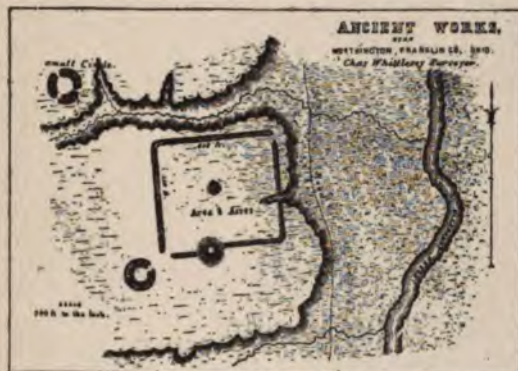


Fig. 2.—Enclosure and Spring near Worthington, Ohio.

ancient vessels were kept on the wall of the spring. The frog, the rattlesnake and tortoise were depicted upon these and were sacred to the patron of the spring. The Shoshones have a spring whose origin they explain as follows: Wankanaga was the father of the Shoshones and the Comanches. He arose from a cloud as a white-haired Indian, with his ponderous club in his hand and with his totem on his breast and struck a rock with his club and caused it to burst forth with bubbling water. In Sitka they had a light and fire, but no fresh water, as Kanuph kept it all in his well. Yehl, the great divinity, visited this personage and managed to steal the water and scattered it in drops over the land, and each one became a spring.

The question arises, how came these symbolic works to be so connected with springs and with water courses. Shall we say that the symbols of nature worship originated in this country and that they are associated with the springs according to the

law of parallel development. In England sacred springs are regarded as proving that the water cult was introduced, and localized, and afterwards perpetuated into historic times. M. Lawence Gomme has treated of this in his book, called "Ethnology in Folk Lore." He maintains that the localizing of such myths as relate to the water cult, stone worship and demons, preceded the tribal myths, and that they were pre-historic or pre-Aryan in their origin; that the pin wells, rag wells, and other sacred springs were the same as those that were haunted by the rain gods and water divinities. The appearance of river gods, sea serpents, hill deities and well worship was nearly universal, which was contemporaneous with the area of the neolithic monument.

In this country the localizing of the myth and the water cult



Fig. 3.—*Legendary Rock.*

may also have preceded the tribal myth, though the presence of symbols near the spring would show that the cult was transmitted. The "rain gods" and the "nature powers" were associated with the springs, and there were offerings to the water divinities exactly as in Great Britain during pre-Aryan times. The association of the story of the deluge with some of these springs may be merely accidental, yet the presence of the symbols known in historic countries, near some of the springs, would render it probable that the water cult and the deluge myth were introduced, perhaps, at the same time, and perhaps in the same countries.

The story of the deluge prevailed among the eastern tribes of Indians, the Algonkins, the Sioux, the Athabascans, the Crees, and the Cherokees. In these the mountain and tree, the lake, the raft or canoe, are prominent, and the ancient Noah appears as a divinity, under different figures and names. There is generally an animal, either a muskrat, a loon, a diver duck, or otter, which serves the behests of the chief divinity, in bringing up the soil from below and making a new earth. The story has been localized. A rock at the Mackinaw, another on the Ottawa River, a beach at Grand Traverse Bay, and a mountain on Thunder Bay are selected as the spot where the event occurred. The falls of Sault St. Marie are the scene of another tradition—that of the Great Beaver, who opened the dams and let out the

water,—a tradition which reminds us of one which is common in Great Britain, which is contained in Faber's History of Idolatry.

Ewbank speaks of the High Priest of the Zuni, whose special duty was to officiate before the water deities. He seeks for some sacred spot where he plants sticks in a circle adorned with feathers and threads, and dedicates them to the divinities of water, such as frogs, snakes and turtles; these embody his invocation for rain. They are, in fact, snares for the spirit of the "water divinity". Near these "sacred circles" there are wooden columns covered with such symbols as the crescent, the Nile key and the suastika. These symbols remind us of the nations of the east, but the custom is peculiar to the Zunis, among whom there is a tradition in reference to the Montezuma as having been the divinity of the springs and the preserver of the people. The myth bearer is contained in the legendary rock represented in the cut. See Fig. 3. This rock perpetuates the tradition of the flood and the pair which was sacrificed to appease the water divinity. The ruins of an ancient town upon a high mesa are said to be the place to which the Zuni escaped. A horizontal vein in the rocks marks the line of high water.

Both the Moquis and Zunis have a custom of bringing water from a sacred lake to their pueblo before they commenced their rain-dance.* They have one who represents a "fire-god" during these rain-dances. There is another singular custom which reminds us of the one described by Catlin as common among the Mandans. A man comes from the west and approaches the pueblo and finally enters the estufa, while he remains. Food is handed down to him. He may represent the ancient man, possibly the Noah of the Zunis. There is a rock spring near Williams River, within which is a pool of water and a crystal stream flowing from it. The rock is covered with pictographs. There are figures cut upon the rock near Arch spring near Zuni. There seems to be a similarity between them and the inscriptions near Rocky Dell Creek. There is a story which is told of the sudden deluge which swept over the country, destroying all men and beasts. The ruins of an ancient town upon a high mesa are said to be the place to which the Zuni escaped, and a yellowish horizontal vein mark the line of high water. The Zunis have pottery vessels in the shape of the Rocky mountain goat or sheep, and rude statuettes made from pottery which may be called idols. Thus we see that the worship of fountains or well-worship was as common as in the Eastern hemisphere.

*See Studies of the Ceremonies of the Moquis, by Walter Fewkes.

THE EARLY RELIGION OF THE IROQUOIS.

BY W. M. BEAUCHAMP.

The primitive religious opinions and practices of any people are of interest, and their changes often form a curious study. With all their permanence in some ways, so quickly are they affected in others, that we have to go back to the very earliest accounts, in our own land, for an unmixed condition, and are hardly sure that this is purely primitive even then. We are apt to think that in New York and Canada all things were purely aboriginal at the end of the sixteenth century, and yet occasional white wanderers or captives may have already modified primitive belief. We have examined what seem certainly the two earliest villages of the Mohawks in their New York territory, probably still occupied by them in the year 1600. One of these had a few European copper beads; the other a clay pipe, with a bust within such a shrine as serves for the figures of saints. This was that of a child, and suggested the infant Christ. It may be questioned whether this unique article had any religious meaning, but that religious ideas may have been affected by indirect white contact, before the colonization of the State, no one will deny.

In any case, the Iroquois religion is not what it once was, and practice has been modified along with opinions. In a broad way, it has existed in three different conditions since our first knowledge of it. The first may be called its aboriginal state; the second was during and after the active preaching and labors of the French missionaries; the third after their acceptance of the teachings of the peace prophets, nearly a century ago. In the statement of the first period it is necessary to include the belief of the Hurons, so nearly related to them, for the French were in contact with these Indians nearly thirty years before any of their missionaries entered an Iroquois town, while, at the same time, their Huron converts were often held there as captives. With both, however, the French found some common ground in mere observances. Alike they had a high regard for religious fasting, though in different ways and for different objects. If the one venerated saints and angels, and looked for their aid, the other had his tutelary spirits of a much lower grade. Public feasts needed only a new purpose and modes of observance. It was easy to change from wampum beads to the rosary, for both were intended to assist the memory. In things like these there

were other points of contact, in spite of wide differences, and all were studied with care. Some have doubted whether the idea of one Great Spirit, overruling all others, was an aboriginal conception. The evidence is somewhat conflicting, but on the whole it seems most likely that they gained this in a definite form from the whites. The statement of Cartier, the earliest which concerns the Huron-Iroquois, seems at first quite strong. He said that at Quebec, in 1535, the whites believed that "there is one God, known by the name of *Cudragny*. He speaks often to men, and gives them warning of the changes of the weather, but when offended, he throws dust in their eyes, or makes them blind. When men die their souls rise to the stars, and descending with these to the west, are received to the happy plains where there are beautiful forests and delightful fruits." This statement, however, is so different from all subsequently made, that Cartier may have mistaken some inferior deity for the Great Spirit. I attach little importance to it.

In 1624, Father Le Caron said that in eight or nine nations down the St. Lawrence towards Todoussac, he found no acknowledgment of a deity, but only some confused ideas. He added, however, that "the nations up the river seem to have a universal spirit that rules everybody; they generally imagine that there is a spirit in everything." Whether he distinguished the universal spirit from those in everything, may be a question.

In writing from the Huron country, in 1627, another missionary said, "Our Indians believe that there is a certain invisible spirit which governs all, one good and one bad, yet without power to understand or specify which is the fortunate, which the unfortunate genius."

This lack of distinction will frequently be found. At times there seems a distinct priority in the spirit world, but for the most part all is confused, and the lower deities had certainly more honor than the higher, because of their supposed nearness to man.

It must be remembered that their stories of all were often as contradictory as those of the Greek and Roman mythology. We are not, therefore, surprised to find their accounts of the creation assuming different features. That which was related by David Cusick, in this century, though old in form, was modified by two centuries of contact with the whites, but in none of its forms does it go back to the origin of all things. The woman falling from heaven had a previous existence there, with other like beings. The monsters of the deep, which prepared for her reception, the turtle which received her on its back and became the great island, had already lived long. In one early form of this tale, men were not only then living upon the earth, but had ascended into heaven. In this one, too, Ataheutsic is kicked out of the sky by her angry husband, Tarenyawagon, the "holder

of the heavens," who elsewhere figures as her grandson. She gives birth to good and evil, and the former kills the latter, and creates men. In this confusion again ensues, Agreskoue is sometimes Tarenyawagon, the Great Spirit, being the principal Mohawk deity under the former name; otherwise he is the husband, son or grandson of Ataheutsic. In Huron he is Jouskeka, who is the good spirit; in the Mohawk, Enigorio, the good maid. In Cusick's story, Ataheutsic dies at the birth of her children, and becomes the moon. In the early Huron and other legends, she survives and gives the government of the world to Jouskeka, whose representative is the sun. She ruled over all evil beings, while Jouskeka governed the good genii, known as Okkis. Some have called the latter evil spirits, because the missionaries so regard them, but they were generally the personal guardians of men and promoted their interests. This protection did not come until a boy had become expert in the use of the bow and arrow, and had dreamed in the customary way. Women also had their Okkis, and all made them offerings. Tobacco and dogs were favorite gifts. There is a survival of these offerings among the Onondagas now, not only at the public feasts, but on other occasions. If rain is desired, tobacco is burned. When collecting ginseng, some strew a little tobacco on the first plant they find, for good luck, and leave it untouched. Such gifts were formerly made at many places, and evil spirits, even, were honored, lest they should do harm.

All deities had bodies, and many were much like the Greek and Roman gods, being merely higher kinds of men. Their ideas of dead men were much the same, the spirits of these were shadows, resembling the living man, and Indian opinions in this differed only in degree from the rest of the world. The spirit did not essentially change, and so, with the body, they buried the things it needed here. The rational soul remained near the tomb for awhile, as some still think, but after a time it went to the land of souls. Many thought there were two souls, somewhat as we distinguish between the life and the mind, yet with a difference. The one lived consciously, and moved freely in the other world; the other was attached to the body, never leaving it, except in the case of young children, who might be born again, having had but a short life here. From this belief the bores of the dead were called souls, and the mournful cry peculiar to them was constantly repeated in the great funeral processions at the Huron Feast of the Dead. Unless this was done, the souls or bones become a heavy burden for their bearers. The other soul, as the Hurons thought, remained in the cemetery until this feast, when it became a dove, or went to the village of souls. There is little evidence of the holding of this feast in New York after the end of the sixteenth century, none

at all in some parts, and the customary condolence, which took its place, may have allowed the spirit to depart.

Meanwhile, however, the soul required food, until it could grow accustomed to its eternal fast, and so this was placed on the grave, or in a separate dish on the table, at the ordinary dead feast. The latter custom is still prevalent.

There were different rules for those who died by violence, and they greatly feared the spirits of those prisoners whom they had tormented. By loud cries and violent acts they tried to drive these out of their villages. An instance of this is related in a Seneca town as well as in Canada. The souls of the dead traveled far westward, having a terrible journey, and sad was their fate if it ended in the realms of Atahetsic. There, all were tormented, but if welcomed by Jouskeka instead, they were eternally happy. The lower animals had a future existence and could greatly affect the welfare of men upon the earth after they were dead. So certain bones of many beasts were carefully preserved or thrown into the river. "They pretend," said one of the earliest writers, "that the souls of these animals come to see how their bodies are treated, and go and tell the living beasts and those that are dead; so that if they are ill-treated the beasts of the same kind will no longer allow themselves to be taken, either in this world or the next." In fact, to the Iroquois' mind man himself was but a higher form of animal, sometimes, indeed, a direct descendant, and so they treated their remote kindred with high respect. The Indian dreams of a happy land,

"And thinks, admitted to that equal sky.
His faithful dog shall bear him company."

In this respect the Iroquois anticipated both Bishop Butler and the modern evolutionists.

Sacrifice sometimes entered into their worship, such as it was, and has hardly vanished yet. Beyond the occasional offering of a dog to some wayside duty, there are few traces of this among the Hurons. At the great feast in honor of Autoerjh, in 1636, in consequence of a pestilence, there was nothing of this, nor was it common among the western Iroquois at an early day. With the fierce Mohawks it was different. In 1643 they held a feast to Agreskone, with an offering of two bears, promising to do better at the first opportunity. When that came they burned a woman in a peculiar way, as an offering to this deity, and portions of her body were eaten in all their villages. In later days came the burning of the white dog, now almost abandoned.

Beyond this instance of human sacrifice there is hardly a trace of any public worship of any Great Spirit, though the Mohawks certainly had a high regard for Agreskoue. The important feast of dreams, which became that of the white dog, had no reference to any lower one, and the other ancient feasts cannot be compared with those of later days.

In 1624 Le Caron had said, "Their language, natural enough for anything else, is so sterile on this point that we can find no terms to express the Divinity, nor any of our mysteries, not even the most common." Accordingly the French missionaries formed and gave to them the name of Hawanneyu, or God, equivalent to the Great Spirit. Among the Onondagas now this is commonly used by all the Indians. The name of Taenyahwahke, the "holder of heaven," is used in religious ceremonies only at the white dog feast. At other feasts, Sone-yah-tis-saye, the One that made us, takes its place, and is often used by the Christian Indians. He made the Indians of red clay, which accounts for their color, and the whites were formed afterward, of ocean foam, out of which they come, and so they are white.

A French missionary to the Mohawks persuaded that nation to abandon the worship of Agreskoue in 1669, and on this the jugglers threw their turtle-shell rattles and other implements into the fire. The Onondagas retain them still, for this change did not greatly affect the other nations, though probably having its influence upon them. Many things afterward prepared the way for the coming of the Peace Prophet.

It is well known what an important part the dream plays in the American Indian's life. This had features both ludicrous and terrible among the Iroquois, but all did not explain it alike. The dream was the soul of their religion and ruled their lives, yet Father de Carheil said they did not worship the dream as the master of life, but one of those genii who were called Agat-konchoria, and who spoke in dreams, commanding them to obey. Among these Toren yawagon was the supreme master of life. The object of the dream, animate or inanimate, was also called the master of their life, and if it could be procured it was used as a charm. How they dreamed they did not clearly see, though they had ingenious suggestions. The rational soul visited the object of the dream, while the bodily soul remained. The dream might be a design inspired by the genius, or a command from him, and it was implicitly obeyed, though often with ingenious evasions. One dream could be opposed by another, often a desirable feature. Some were merely significant of good or bad fortune, as with us. Charlevoix properly gives the Iroquois feast now known as that of the white dog, the title of the festival of dreams, and the telling and guessing of these are still prominent features.

Wizards or witches, for they were commonly women, alone dealt with evil spirits. These had so bad a reputation that they might be put to death without trial. The medicine men or jugglers, like the false faces now, opposed the efforts of these, though some fear was felt of them in turn. Serpents figured largely in their mythology, and many are the tales of their evil deeds and destruction. Often this evil spirit hid himself in the ground,

and then his presence might be known by the hillocks which he temporarily raised and which subsided when he moved away. If a warrior could climb to the top of a sapling near these, bend it over and secure the upper branches around the root, the power of evil was overcome.

The Thunders were among the lower deities, and the special foes of the evil serpents. Their dances are yet prominent in all the feasts. Other minor deities are not forgotten, but these were best remembered when circumstances directed particular attention to them. The deity of a waterfall or river, of a dangerous ravine, of a rock like that on Lake Champlain, might always expect offerings from those who passed by. This was of vital importance, for their anger might follow those who omitted the gifts or despised their persons.

It is not necessary to enumerate all the ways in which their relations to the unseen world found expression. These were seldom of a national or a public character, but were usually personal. Such as they were, they could not altogether withstand the influences actively exerted within and without. Without giving up their primitive belief, it was essentially changed. With this change my present subject properly ends.

Conyatauyou took advantage of this and remodeled everything. All the tribes are not new, but the thoughts and words are. He gave new rules, prepared new speeches, authoritatively taught new ideas, and the new religion stood forth immeasurably above the old. It had authority, system, definiteness, a high tone of morality, and certainly did, for a time, effect a great reformation. Even in its decay there are some things about it which impress us deeply, but they are not those familiar to the Iroquois 300 years ago.

Correspondence.

PALEOLITHIC RELICS.

Editor American Antiquarian :

I have made a discovery in paleolithics during the past summer which casts the "primitive fisher's outfit" deeply into the shade, and which presents the most difficult problem that I have yet encountered. So far as my investigations have extended, these objects are uniformly emblematical, representing the animal, bird, fish, toad and numerous nondescripts. Among the animals I recognize the quadrumana, two specimens; the elephas—possibly primigenius—three examples; the ursus; the bison; the feline, or cat tribe; the opossum, or allied species. These objects present only a profile, or side view, and in many instances the head or head and neck.

Here you are ready to inquire, How do you certainly know that these forms represent the animals named? Because the approach to the original is so natural that the animal looms up unbidden. Even the most skeptical and the most stolid alike recognize that peculiar form of the elephant's trunk when seen in profile and at rest, the extremity recurved.

But the perplexing part of this discovery consists in the immense numbers of these objects. They are found on the surface—where the gravel crops out, in the boulder clay, in the underlying modified drift, in the river gravel, and in the diluvium or glacial drift.

You would ask, Are they clearly artificial? I answer, If these objects are natural, then I have fostered a bright hallucination for these many years. If these are of nature's fashioning, so also are those in my cabinet. Indeed, they excelled modern skill in stone cutting in that they have produced some symmetrical forms of quartz and even flint—gouging out cavities suitable for paint cups.

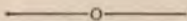
Among the interesting objects which I took from the boulder clay, I would mention a tusk three and a fourth inches long, following the curve, triangular in form; the widest of the three sides, the convex, is three quarters of an inch, and its circumference at the fracture is two inches. This is probably Foster's *Castoroides Ohioensis*. This tusk was found in close proximity with unequivocal evidences of handiwork. Moreover, the tusk was *broken* off, which required considerable force. But the strongest proofs of man's contemporaneity with the great beaver is seen in the

grinding or smoothing of the rough points of the fracture. This vestige is remarkably well-preserved, presenting, as it does, that peculiar glossy appearance noticeable in the teeth and tusks of the mastodon. As an evidence of age, I may observe that it is encrusted, in patches, with minute crystals of sulphuret of iron, while the base is colored a dark brown. I have hitherto withheld giving publicity to this discovery, with the hope of discovering some remains of the *Elephas Americana*. I have part of a molar from the river gravel, which had evidently been washed out of glacial drift. Now this fragment of a tooth, in proximity with the handiwork of man, is suggestive of the contemporaneity of man and this old elephant.

Among my finds in the boulder clay are three excavated objects, somewhat on the gouge or trough form, wrought out of sienite, and one that resembles a large mussel-shell, the cavity of which is three quarters of an inch. But hitherto I have failed to find any clearly utilitarian object—even the flint nodules are flaked into some animal form, but they show no signs of use.

S. H. BINKLEY.

Alexandersville, Ohio, Sept. 21.



RACES IN THE SAN JUAN DISTRICT.

Editor American Antiquarian:

My collection of photographs and drawings is very good, for I have a large number which I took throughout the trip, especially of the new ruins discovered, and also about one hundred sets of picture-writings. The latter I brought home a week or so ago, too late to appear in Col. Garrick Mallery's volume on Pictographs, for the work had just gone into the hands of the public printer. One of the most remarkable discoveries made during the trip was the fact that the ruins along the San Juan River, and westward towards the Grand Canon of the Colorado, show unmistakable evidences of having been occupied by two distinct races, one seemingly much older than the Cliff-dwellers, so-called. Even the skulls show marked differences, although both are found in the same cliff dwelling or cave, one being near the surface in the debris, and the other much deeper down.

LEWIS W. GUNCKEL.

Lakewood, N. Y., Aug. 14, 1892.

Editorial.

THE DISCOVERY OF AMERICA.

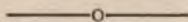
During the last month the literature of this continent has blazoned with the name of Columbus. His life and achievements have been praised. His faults have been overlooked. Eulogy has been in the air. The nation is given to hero-worship. Columbus is the hero of the hour. Few have considered that there may have been discoveries before Columbus, and explorers after him who are also worthy of honor. We go back to the time when the Norsemen plowed the waters and reached the shores which they called Greenland, as the first point on the Atlantic coast, which was ever discovered by the white man, but we go back to this and make a note of tokens on the Pacific coast, at various points, and conclude that there were unknown voyagers who sailed from the far east across the larger sea and reached this continent, from that direction. The "historic record" begins with the discovery in 1492, but what shall we say about the pre-historic record? American history has an introduction which is larger, at least covers more time than the history itself. This is likely to be overlooked in the eagerness for new things, but is it not important? Columbus saw the pieces of carved wood which had floated from the distant islands. These, with the light in the fisherman's boat, convinced him that that land was inhabited. When he reached the island he called them Indians. He died without knowing that he discovered America.

The pre-historic tokens which we are studying are like those carved images. They belong to the Stone Age, but they suggest a realm for discovery. We do not know what that realm is. We join this continent to the Asiatic exactly as Columbus did, hardly admitting that there could have been a separate history and a parallel development, but the outlines of our science are coming gradually to view and we shall ultimately reach the truth.

Mistakes will be made, but others will correct these and the history of "Man in America" will be disclosed.

There is a mission for those who have entered upon this field not as glorious as that one which Columbus fulfilled, yet very important. The entire continent is to be traversed. The tokens are to be compared, the surviving races are to be studied, that which lies buried is to be brought out, obscure languages are to

be explained, hieroglyphics deciphered, skulls measured, caves ransacked, palaces explored, relics of art preserved, myths recorded, customs analyzed, mysteries fathomed, the record made complete after long and patient study. It is not all to pass away in a blaze of fireworks, whose fashion is to perish, for the record is enduring.



IMPORTANT DISCOVERIES IN EGYPT AND THE HOLY LAND.

The discovery of the tablets of Tel el-Amarna has led to another discovery, which is a veritable romance of archaeological science. Among the letters written in the Babylonian language, and in the cuneiform characters of Babylonia, which were sent to the later kings of the eighteenth Egyptian dynasty by the governors and vassal chieftains of Canaan, and which have been found in the mounds of Tel el-Amarna, are a good many dispatches from the south of Palestine. Several of these are from the vassal king of Jerusalem, who claims to hold his office, not by hereditary descent, or by the appointment of his suzerain the Pharaoh, but in consequence of an oracle of a native god. Other dispatches are from the governors of cities which had been deprived of their own kings. One of these cities was Lachish, the governor of which was at one time a certain Zimrida or Zimridi. Among the Tel el-Amarna tablets is a letter from this Zimrida, which runs as follows: "To the king, my lord, my gods, my Sun-god, the Sun-god who is from Heaven thus (writes) Zimridi, the governor of the city of Lachish. Thy servant, the dust of thy feet, at the feet of the king my lord, the Sun-god from Heaven, bows himself seven times seven. I have very diligently listened to the words of the messenger, whom the king, my lord, has sent to me, and now I have dispatched (a mission) according to his message."

We learn from the king of Jerusalem that Zimrida was subsequently murdered at Lachish by some of the "servants of the king," and a new governor must have been appointed in his place. As the Tel el-Amarna collection contains a letter from another governor of Lachish called Zabni-el, it is probable that this Zabni-el was his successor. Be this as it may, we now know that at the close of the fifteenth century before our era, Lachish was governed by a certain Zimrida in the name of the Egyptian king.

Now, two years ago, Dr. Flinders Petrie undertook excavations for the Palestine Exploration Fund, in an artificial mound in Southern Palestine, called Tel el-Hesi. The want of time prevented him from doing much more than cutting a section through the Tel. What he found, added to his long practical experience as an excavator, enabled him to come to one or two conclusions of considerable importance. In the first place he identified the Tel with the long-lost site of Lachish, one of the chief fortresses of the kingdom of Judah. In the second place he founded the science of Palestinian archaeology. His previous discoveries in Egypt enabled him to date certain pottery which he had disinterred at Tel el-Hesi, at a particular depth, and in this way to arrange in chronological order the various strata of which the Tel was composed. The lowest stratum, that upon which the debris of the later towns rested, went back, according to this arrangement,

to pre-Israelitish times. The ruined city it represented must have been one of those cities of the Amorites which had been garrisoned by Egyptian troops before the days of the Israelitish invasion of Canaan.

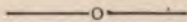
Mr. Bliss was appointed to continue the work. The first results were disappointing. A considerable amount of money and labor was spent, and little was found except Greek pottery belonging to the uppermost stratum of the Tel. It was not until the excavations were on the point of being closed for the season, at the beginning of June of the present year, that the great discovery was made.

He eventually made his way to the debris of the Amorite city, and his latest work must have been in the immediate vicinity of the governor's palace, if not within the walls of the palace itself. Various objects were found which take us back to the age of the Tel el-Amarna tablets, and prove that Dr. Petrie was right in the relative ages he assigned to the successive strata of the mound. Among the objects are Egyptian scarabs and beads of the time of the eighteenth dynasty, and one of the beads has upon it the name and royal title of Queen Teie, the wife of Amenophis III and the mother of Amenophis IV, to whom most of the Tel el-Amarna correspondence was addressed. Besides the scarabs and beads there is also a porcelain cylinder, which must have been manufactured in Egypt, though it is modeled after the pattern of a Babylonian one. But this was not the only seal-cylinder which was discovered; there are also cylinders which had been imported from Babylonia itself, and which belong to about B. C. 2000-1500, as well as cylinders which were made in Syria and Cyprus, in rude imitation of those of Chaldea. Similar seal-cylinders have been found in the pre-historic tombs of Cyprus, the date of which is now fixed for the first time. Interesting as the cylinders and beads may be, and eloquently as they testify to the correctness of Dr. Petrie's chronological conclusions, their interest is far surpassed by that of a discovery which was made on the very day the approach of summer caused the work of excavation to be closed. A small clay tablet was brought to light, covered with cuneiform characters. It proved to be the first written record of pre-Israelitish times ever found in the soil of Palestine.

But this was not all. When I came to copy and read the text, I found that it was a letter in which the name of that very Zimrida, with whom the Tel el-Amarna tablets had just made us acquainted, is twice mentioned. Such a discovery is without precedent in the annals of archæology. The fellahin of Upper Egypt came across a collection of cuneiform documents, some of which turn out to be letters from the south of Canaan, among them being a letter from a certain governor of Lachish named Zimrida. Hardly had the documents been copied and published when Dr. Flinders Petrie identifies the site of the city of Lachish, and shows that the ruins of the Amorite city of which Zimrida was governor still exist on the spot. The spade of the excavator is driven into the ground, the Amorite stratum is at length reached, and lo! a cuneiform tablet is discovered buried in the soil. And this tablet, the first which is found, proves to contain the name of the very governor with whom, but a few months previously, the tablets of Tel el-Amarna had made us acquainted. For more than 3,000 years the letter which Zimrida had addressed to the Egyptian Pharaoh, and the letter which he had read at home had been lying beneath the ground, the one

on the banks of the Nile and the other on the desolate site in southern Palestine. But the time has come when the archæologist and the Assyriologist can work together; and, guided by the Assyriologist, the archeologist has persevered in his work in Palestine until at last his efforts have been rewarded, and the broken halves of a correspondence which was carried on before Moses was born, have been once more joined together.

The existence of such legends in the libraries and archive-chambers of Canaan would explain the strong Babylonian coloring not only in the cosmology and mythology of Phœnicia, but also of the earlier chapters of Genesis. It would no longer be necessary to suppose, as has been somewhat the fashion of late years, that the close similarity of the Babylonian and the biblical accounts of the deluge was due to Jewish intercourse with Babylonia in the *age of the Captivity*. It would further explain the Palestinian character of the Elohist version of the story, which shows that it had already been long at home in Canaan before it was embodied in the Old Testament. If Babylonian legends make their way to the archive-chamber of the Egyptian Pharaoh, it would have been because they had first made their way to the libraries and archive-chambers of Palestine. The fact that the Babylonian language, and the complicated syllabary of Babylonia, were the common medium of intercourse in the civilized east in the century before the Exodus, shows plainly that Babylonian influence in Western Asia had been long and profound. The further fact that each district of Western Asia had its own peculiar form of cuneiform script, so that we can now tell by merely glancing at the handwriting of a tablet whether it had been sent from Mitanni, from the land of the Amorites, from Phœnicia, or from Jerusalem, makes it pretty clear that a knowledge of Babylonian literature had formed a large part of the Babylonian influence which had been carried to the west. One of the cities of Southern Canaan, which were destroyed by the Israelites, was Kirjath-Sepher, or "Book-town," and long before the discovery of the Tel el-Amarna collection I had maintained that the name indicated the establishment there of a library of clay books similar to those which existed in Babylonia or Assyria. —*Letter from Rev. A. W. Sayce, D. D., in the Independent of October 20, 1892.*



SITE OF AN ANCIENT CITY IN OREGON.

William Hanley, of Ashland, who has just returned from a trip through Eastern Oregon, reports that on the desert near Silver Lake the site of an ancient city has been discovered. One side of the square has been traced for 400 or 500 yards. The top is just above the surface, and is about four feet wide, made of cement similar to those of Arizona and Mexico. The city evidently antedates the Aztecs and Toltecs. No geologist has yet visited the ruins. The cowboys have done a little prospecting on their own hook. Among other things found is an imprint of the cement work showing that the hod-carriers of those days went barefooted. A cast of a large-sized trowel was also found. It is quite likely the city was built upon the shore of Silver Lake, which is now distant about thirty miles.—*Portland Oregonian.*

BOOK REVIEWS.

Primitive Man in Ohio. By W. K. Moorehead. New York: G. P. Putnam & Sons. 246 pp. 1892.

Mr. W. K. Moorehead prepared this book in the field, using the material which he has gathered from the mounds in Southern Ohio for a basis, but embodying chapters written by W. K. Davis, Mr. Gerard Fowke and Dr. H. T. Cresson; the purpose of which is "to do away with certain illusions" in reference to the high grade of civilization of the Mound-builders. He claims that books written by certain "field-writers" have a value far in excess of previous publications. The impression made by the book is so different from that made by other writers, some of whom were in the field early and some of them quite recently, that we have concluded to cite the opinions of others; mainly gentlemen of mature judgment and established reputation.

Prof. Putnam advances the theory that there were two races among the Mound-builders of Ohio, the "Short-heads" and the "Long-heads". This theory was advanced in the following words: He says that "our explorations have brought to light considerable evidence to show that after the rivers cut their way through the glacial gravel and formed the present channels, leaving the alluvial plains on which the forests had not grown, a race of men with short, broad heads reached the valley from the southwest, established their towns, surrounded them with great embankments. Here they cultivated the land and raised crops of corn, became skilled artisans in stone, in native metals, shells and terra cotta.

In the same valley we have found the village sites and burial places of another race—the long, narrow-headed people from the north, who can be traced from the Pacific to the Atlantic, extending down both coasts, and extending their branches toward the interior. In the Ohio valley we have found places of contact and mixture, and have made out much of interest, telling of conflict and of defeat, of the conquered and of the conquerors. Numerous village sites and extensive earth embankments were built by a short-headed race, which differed entirely from the long-headed race. Both were Mound-builders, but the descendants who came from the mixture of the two races, we now call Indians."

Mr. Moorehead draws the same conclusion that his chief, Prof. Putnam, had reached about the "two races," but he goes much further, and claims that neither race was raised above the upper condition of savagery, that the title of "primitive man" applies to both. The "long heads" waged battle with the short heads for many years, keeping up "towns" as headquarters to which they might return. A few villages of the "long heads" have been found in the Miami and Scioto Valleys. He thinks that no "short heads" entered their territory in Clinton and Clermont Counties. Mr. Moorehead explored Fort Ancient at two different times. He found many stone graves, which he ascribed to the "short headed" race. The greatest village site was just below the walls of Fort Ancient and occupied

the broad bottoms of the Little Miami. In one place he found three village sites, one above the other. The lower burial site presented a singular appearance. Sixteen graves were opened in the presence of 1100 people. The two villages were in existence before the advent of the French traders. Upon Caesar's Creek was found a village occupying sixty or seventy acres of ground. Three hundred graves have been opened near the South Fort, at Fort Ancient. In Oregonia, in Warren County, he opened a large cemetery in a village site, more recent date than those at Fort Ancient, but the condition of the graves, together with the size of the trees towering above them, confirmed the assertion of the age of the burials. They were probably the people who erected the walls of Fort Ancient. The most remarkable find was in a Hopewell mound. Here there were two races, the "long head" and "short head," though he fails to state which was the earlier.

Prof. Putnam speaks of the serpent mound in Adams county, Ohio. He says everything connected with it points to great antiquity. The signs of late occupation have nothing remarkable, simple ash beds, where the dwelling stood, no elaborate structures and no special ceremonies. A single person buried with great ceremony in connection with fire. A village site and burial place occupy the same area. Of the two periods our explorations show the serpent mound was built by the first. Prof. Putnam used the word Indian when he described the bodies found in the upper burials, and the term Mound-builders when speaking of the ancient burials.

The long-headed skull is oval, a narrow bulging occiput, the forehead high and narrow, with marked superciliary ridges. The short head has a flattened occiput, the frontal bones retract, the face is short, the superciliary ridges are heavy, brows are straight, orbits open and square, jaws are prognathic. In the cemetery at Madisonville, Ohio, 1,200 out of 1,400 were brachycephalic. Prof. Putnam describes the typical Mound-builder's skull as having two distinctive peculiarities. One of these is what is called the "Inca" bone.

It was long ago found out that in the short heads of the Peruvians a suture across the upper portion of the occiput left a triangular bone between the parietals, to which the name "Inca" is given. A large number of skulls in the Peabody Museum show that this is common in the "short skulls" of Ohio and Peru.

The book gives rise to the question, what were the characteristics of the Mound-builder's skull? Nadaillac says that we are able to establish certain "general characteristics of the Mound-builders; such as the small height and capacity of the skull, the obliquity of the zygomatic arch, the flattening of the tibia and the perforation of the humerus. These characteristics are met with in most skeletons of the so-called Mound-builders, and they may help us to distinguish their bones from those of more modern Indians." These are peculiarities recognized mainly in the northern mounds, especially those of Michigan and Wisconsin and Ohio. They are characteristic of the hunter tribes, and show that these northern Mound-builders were more like the modern hunter Indians than any of the southern Mound-builders. Mr. Henry T. Gilman endeavored to show that flattening the shin bone, perforation of the humerus, were signs of a very low order of a man. They were Simian traits. But Sir William Dawson has shown that the common Indian skull is equally low in its grade, the facial angle being

scarcely any higher than that found in the Neanderthal skull. These facts show that craniology is very unreliable in the matter of determining the actual mental capacity of the races. For certainly the Indians are regarded as much superior to the Neanderthal man or any of the troglodytes of Europe. All of these northern skulls differ, however, from the Scioto skull, which Squier and Davis advanced as representing the Mound-builders. This skull was discovered under a mound near Chillicothe, and was remarkable for its vertical and transverse development and for the truncated or flattened form of the hinder portion. It was long looked upon as the most complete type of the mound-crania. According to Dr. Wilson, the forehead was wide and lofty, but the flattening of the occiput was artificial. This type of a skull has been found not only in Ohio, but in Illinois, Wisconsin and Tennessee. Gen. Gates P. Thruston has described the skulls of the stone grave people. He says a greater number has been taken from stone graves than from any other section. The typical short skull with flattened occiput is very common, though by no means characteristic of the entire series found in the stone graves. He says that there is also a marked characteristic of the skulls found among the remains of the Cliff-dwellers. "The Mound-builders, the stone grave builders and the ancient people of the southwest were evidently closely related, or were originally of the same general stock." Mr. C. C. Jones, Jr., has figured two skulls, one that of a modern Indian buried near the surface, accompanied with venetian beads and copper hawk bells, the other the cranium of a primitive Mound-builder, which came from the bottom of a mound and was vastly older; it had been artificially distorted, the front portion had been flattened. Mr. A. S. Gatschet says that the flattening of the forehead was characteristic of the southern Indians. Dr. J. Q. Farquharson has also described the skulls taken from the mounds near Davenport, and has given a table of measurements. His diagrams show great variety, though many perforated skulls were found here as well as at Detroit.

Here, then, we have many specific types of skulls; the long skull, the short skull, the straight skull, the boat-shaped skull, the perforated skull, the skull flattened behind and the skull flattened before. To these might be added the skulls which have been described by Mr. William P. Clark as occasionally found in Wisconsin, and by Prof. M. C. Read as found in Tennessee. These skulls differ from all the others in that the skull is much rounder, the bones thicker, the jaws much more projecting, and the parts indicate a much lower order of being. Some have conjectured that these belonged to a very ancient race, possibly the descendants of the old paleolithic people, the fragments of which were afterwards scattered through various parts of the Mound-builders' territory.

Now, what is the lesson which we learn from the study of the skulls taken from the mounds in so many different localities? We have thrown out the conjecture that there were several different tribes or stocks of Mound-builders, those at the south akin to the people of the southwest; those at the north akin to the wild tribes which are supposed to have come from the northwest, and others in the middle district, having a diversity of origin, but that the earlier Mound-builders present the most resemblances.

This conjecture seems to be confirmed by the description of skulls which have been thus far brought out. Still we remember that Dr. D. G. Brinton

has recently advanced the theory which Dr. S. G. Morton formerly did; namely, that there was but one race and that should be called the American Race, and that this opinion has been reached by the study of languages, as Dr. Morton's was from the study of the skulls. This theory we do not undertake to reconcile with our own conjecture or that of the author, but would only say that in the present stage of science we consider it unwise to base any conclusion upon the examination of the crania.

Man and the Glacial Period. By G. Frederick Wright. New York: D. Appleton & Co., 1892.

We have quoted Prof. G. F. Wright a number of times in this journal, but crediting him before all others with the finds which he has endorsed, though some of them have seemed to us unreconcilable with the principles of archaeology.

The finds of paleolithic relics in the gravel beds in Delaware, Ohio and Minnesota we have acknowledged were in accord with those which are common in Europe, though they do not carry the age of man, by any means, as far back, for they are all post-glacial. The Calveras skull, the Nampa image, we have always questioned as being inconsistent with the science. We are gratified to know other gentlemen, and among them several connected with the government surveys, have candidly advanced the same opinion. The paleolithics of Delaware were from the talus and not from the undisturbed gravel. Those in Minnesota were still more recent. The Nampa Image was a clay toy made by the Pocahontas Indians. The Calveras skull and steatite vessels were left in an old house by aborigines who were miners, before the time of Columbus. We are thankful to Prof. Wright for having given us the information, but still more thankful to the Washington parties for making these corrections. We would, however, respectfully ask both parties whether this involves an abandonment of the paleolithic age. That age in Europe is made up of three different epochs, the last epoch post-glacial. Why not, then, class the paleolithic with the post-glacial and acknowledge it as introductory to the neolithic in both countries.

Ethnology in Folklore. By George Lawrence Gomme, F. R. S.

This little volume is very suggestive, and will prove valuable reading to one who wants to know the origin of the various customs, myths and tales prevalent in Scotland, Ireland and England. It will also prove very suggestive to those who are studying the myths and customs of the savage races in America. The author holds that the distinction between the Turanian and Aryan races does not do away with the theory of the European origin of the Aryan race. He maintains that there was no continuous evolution of folklore, but rather a survival which indicates different layers or strata of population, different waves of thought. The non-Aryan races have disappeared, but non-Aryan customs have survived. Among these customs are, first, those connected with village life, the sacrifice of lambs, attendance of votaries at religious festivals in a state of nudity, carrying a stag's head on a spear, making offerings to the goddess of boundaries under the guise of an ill-shapen stone. Second, the superstitions and tales which have arisen from hostility between races. The author thinks that demon cult originated in this way: Wild, ignorant savages were termed demons, were supposed to possess secret powers of magic and influence with the old

malignant deities of the soil. The demonism of savagery is parallel to the witchcraft of civilization. Implements used by witches were stone arrow-heads, which are supposed to have belonged to elves. This reminds us of the Eskimo type of witchcraft called shamanism. The demons are under the power of Shaman, to call up the game or drive it away. Third, Druidism was an ancient cult and at the same time a factor in witchcraft. Practices attributed to witches were reproductions of the practices of druids. Druidism thus continued after it was effectually dead. Interpretation of dreams, raising the tempest clouds raised by incantations. Druidism was of Turanian or non-Aryan origin. Fourth, the appearance of local divinities, river gods, sea gods, sea serpents, miraculous virtues of wells, hill deities. There are rag wells and pin wells in England and Wales. Well worship in Ireland was nearly universal. This is the worship of the rain god, which has survived from ancient times.

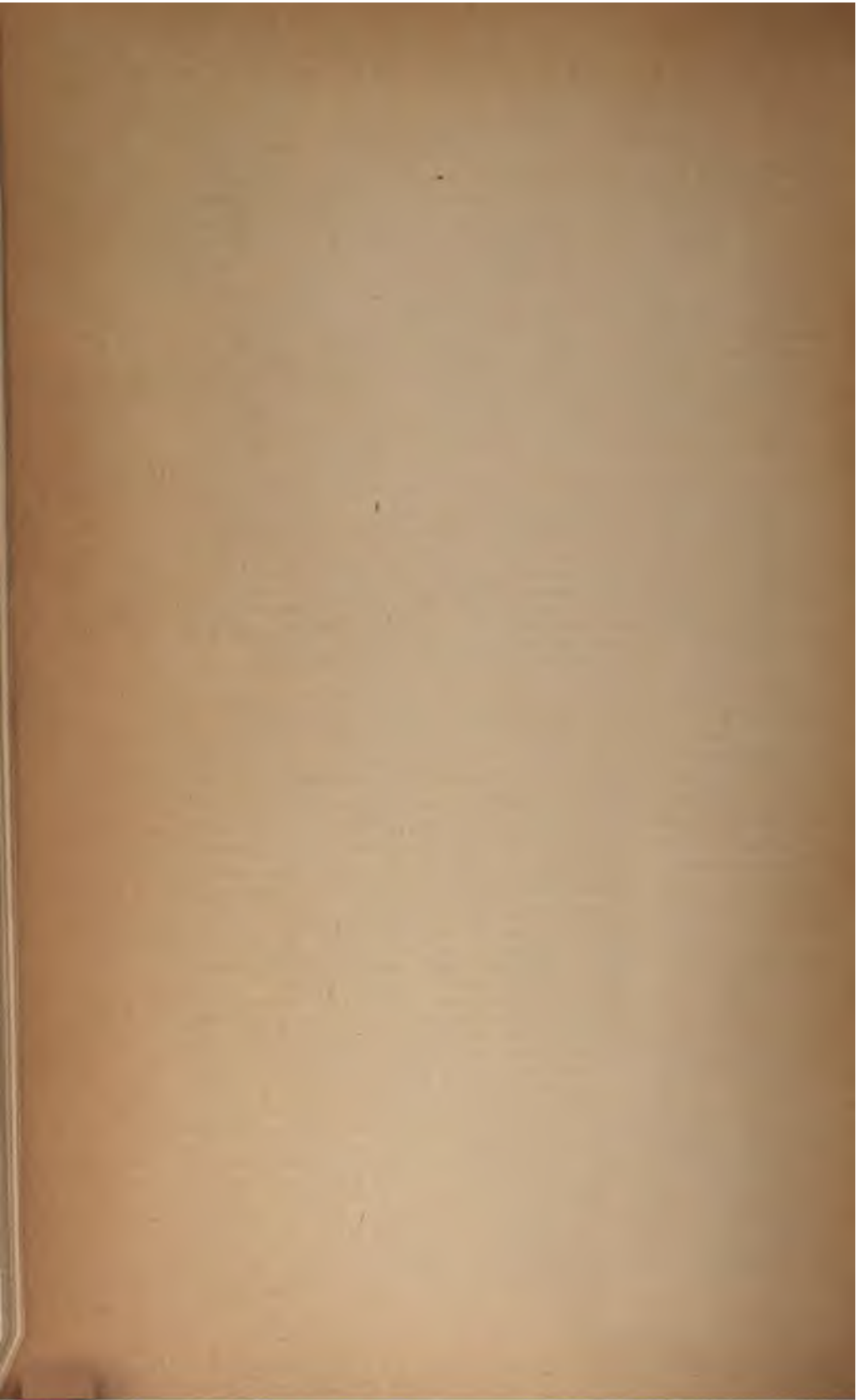
This book will be valuable to American readers, as it shows that many of the pre-historic, or at least pre-Aryan, customs and myths have survived into historic times. The survival in America is not as common, for the two races—the red and the white—were so unlike that it was almost impossible to transmit any native custom from one to the other. Still there are myths and customs concerning which there is much doubt whether they were aboriginal or were introduced by the white race. The localizing of the myths in different parts of the country will have a tendency to perpetuate them. It will be the work of the archaeologist to discriminate between those which were purely aboriginal and those which were introduced.

America: Its Geographical History, 1492-1892. Six lectures delivered to Students of the John Hopkins University. By Walter B. Scaife, Ph.D. Baltimore: John Hopkins' Press. 1892.

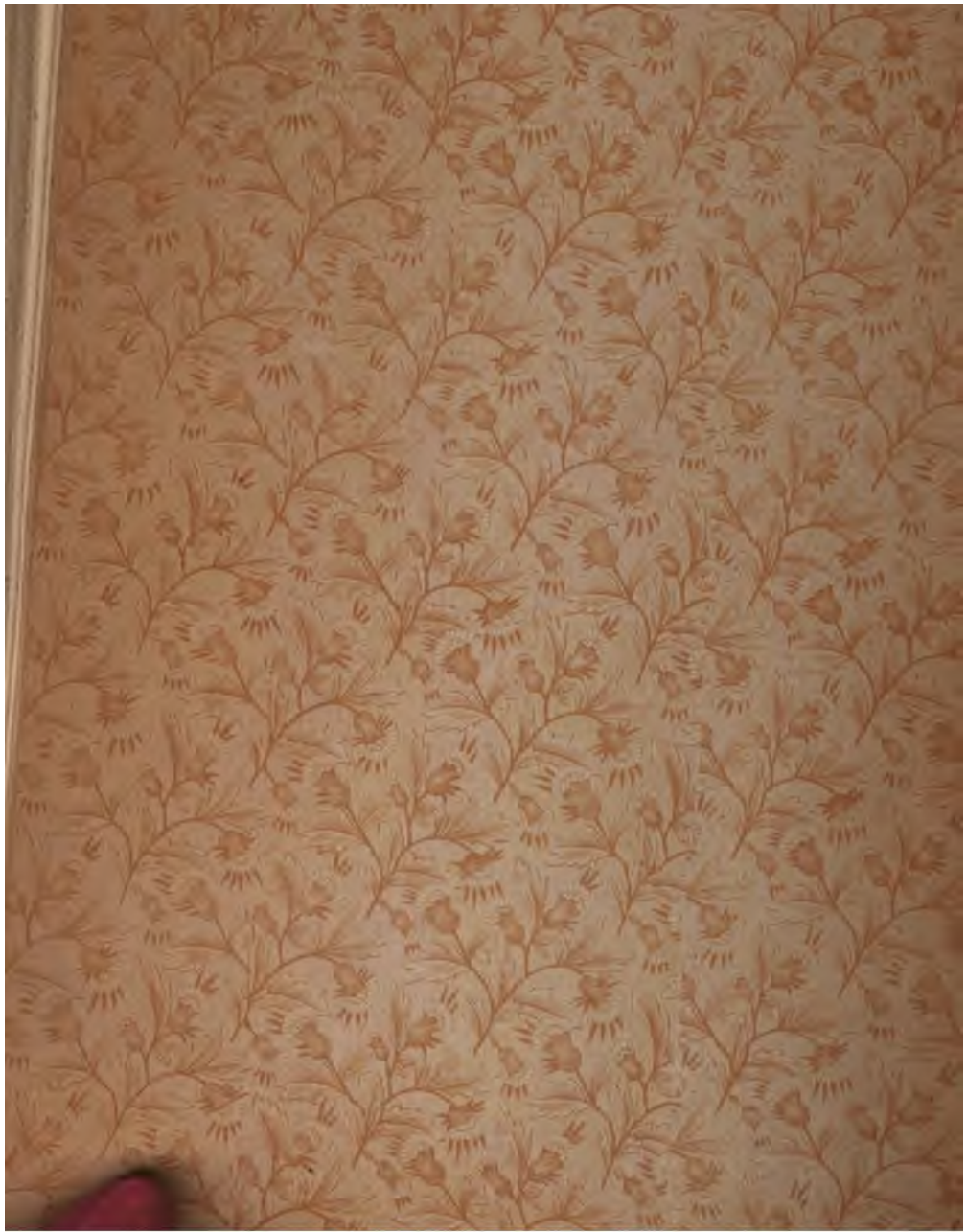
The author has put us under great obligation, for he has entered one of the most interesting fields of research. We hope that he will follow up the study and give us not only this volume with its maps, but other volumes which shall contain maps that now lie waiting publication. The field has long been neglected, but now that the process of engraving maps has become so much cheaper, we shall expect these buried treasure of geographical literature to be brought out. We would be glad to coin a word, "carto-lore," or map lore, for as the picture and the myth are to be associated, so the map and the early history. We can hardly understand the one without the other. It is a new "old department," but promises great things.

Still, the volume would have been more valuable if it had covered less ground. The development of the knowledge of the Atlantic coast line in the consciousness of Europeans would have been sufficient, for in that we have the history of the Discovery of America. The development of the Pacific coast geography might also fill a volume instead of sixteen pages. The geography of the interior is an exceedingly interesting subject. We have been hoping that some one would enter this field and publish a volume on the early explorations, as illustrated by the maps.

The author has given three other chapters; one on Geographical Names, another on State Boundaries, another on the Geographical Work of the Government, beside a supplement on the question whether the Rio del Esparitou Santo was the Mississippi River. He quotes Winsor, Fiske, George Bancroft, B. F. French and Dr. J. G. Kohl, as favoring this, also Peter Martyr and Herrera; but takes ground in opposition to them and quotes Cox's Carolana, also Weimar's map of 1527, Ribero's map of 1569 and Franquelin's map of 1684. This matter of the naming of the river does not seem as important as the locating of the river, for the locating on the map shows what the progress of knowledge was; though changes in the names of the Mississippi River contain a history in themselves.







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