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Pipe from Zapotecas, Mexico.

Ancient Pipe from the Valley of Mexico.

Pipe unearthed in the Ruins of Palenque.

THREE ANCIENT PIPES FROM MEXICO.

THE  
*American Antiquarian.*

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NO. I.

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THE LEGENDS OF THE MICMACS.\*

BY REV. SILAS T. RAND, D.D., LL.D.

In preparing a paper on the legends of the Micmacs, I will begin with a few historical reminiscences. In the year 1846 my acquaintance with the Indians began. At that time I was induced to attempt to learn their language. I soon, however, found that the difficulties were even greater than I had counted on. I was upon the point of giving the matter up in despair, as others had done before me, when I met, one day, in the market square in Charlottetown, where I resided at the time, a white man among the Indians, who had lived as the Indians lived, and had so done for about forty years. He spoke good English, understood French, and could use the Micmac with equal readiness. He was a man of intelligence, and I found him able and willing to render me assistance. When I mentioned an ordinary English word, he understood it and could give me its equivalent in Micmac. The ensuing winter he came to my house and remained several weeks (for he had removed his family further from the town), and gave me instruction. From this man and his family I learned much about the character, customs and manners, habits and language of the Indians. He could not recite their legends, but he told me about them, and thus excited my curiosity. He informed me that a woman named Susan, a relative of his wife—who was an Indian squaw—could relate any amount of them, and that she had learned them from her father, who rejoiced in the title of doctor, he being an expert in the healing art.

I was afterward introduced to this woman and made an arrangement with her to tell me some of these legends. She began by telling me one in Indian, which my friend the French-

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\*A paper read before the Nova Scotia Historical Society, in the Assembly Hall, Halifax, N. S., April 9, 1888.



man interpreted into English. It was a wild, weird affair. It told of giants, of man-eaters, of love, jealousy, and murder, and all the particulars that go to make a story interesting to young people. I subsequently wrote out the story at Susan's dictation. I found that she had it all by heart, the words as well as the substance, and she could take up the broken thread at any point and go on with the story. I had only to read over the few last words I had succeeded in taking down, and she could give me the next word, and wait till I had secured that, and then give me the next. As I had to take down the words often by piecemeal, one syllable at a time, it was often no trilling task, and she would often have to exercise no little patience, as well as myself, before we could go on to the next word. It cost me two whole days of pretty hard labor before I succeeded in writing out the whole story. I wrote out subsequently a number more from Susan's dictation. Then friend Joe gave me the English, which I carefully interlined. As I now had portions of Indian composition, I was prepared to write out a vocabulary and begin my Micmac dictionary and grammar.

The greater portion of these "legendary remains" were written out at first, not in Indian, but in English. In hearing them and committing them to writing I was accomplishing several important objects. I was becoming better acquainted with Micmac, and was performing an act of simple justice to the Indians, and to the white people as well, in preserving some of the native literature of this region. Not many of the Indians can tell these stories, and these are continually growing more scarce. What is done in the matter must be done at once, or the opportunity would be lost.

I never found an Indian, either man or woman, who would undertake to tell one of these stories in English. I heard them related in all cases in Micmac. I usually had pen, ink and paper at hand. If I came to a word I did not understand, I could stop the speaker, jot down the word with its meaning, and make a few other brief notes, and then write out the story in English from memory, aided by the brief notes I had made. But this was not all. I always read over the story in English to the one who related it, and made all necessary corrections. It does not require much knowledge of such matters to be able to understand how an Indian, who has any tolerable acquaintance with English, could understand a story with which he was familiar, when read to him in that language, even though he might not be quite competent to repeat it in English, but could in his own "mother tongue."

I have never found more than five or six Indians who could relate these queer stories, and the most, if not all, of these are now gone. Who their original authors were, or how old they were, we have no means of knowing. Some of them are, evi-

dently, of modern date, because they refer to events that have taken place since the advent of the whites. Some of them are so similar to some of our old European "fairy tales" and "wizard stories", as told in our English "story-books", as to lead to the impression that they are really one and the same. I once published one of them in a Canadian magazine, which was noticed by a gentleman living on Prince Edward Island, who gave what seemed to be a very fair duplicate of European origin. He suggested that the Indians had learned it from some European; and that my version was simply the Indian modification of the story after passing through many hands. To me this did not seem wholly impossible or improbable. I have heard a "tom-fool" Indian story which, in its outlines, though not in its details, is marvelously like the one with which we used to be entertained in our childhood.

The beautiful story of Cinderella and the Glass Slipper is said to be of Egyptian origin—and somewhere I have seen what purported to be the original; but I have one in my collection of Indian legends fully as interesting and as much like the original as is the one related in English story-books.

Having no clue for fixing dates I have no objection to the theory, should it be entertained, that many of these stories are of modern date. Some of them, as already intimated, are manifestly so. All I claim is that in every case I wrote them out in substance as I heard them related by Indians. I had no hand in their manufacture.

I must mention a slight exception,—Mr. Charles Leland, a clever American writer, who published, recently, a volume of "Algonkin Legends", extracted mainly from my collection—for which he gave ample credit—in relating the story of a magician, a mighty hunter, who had made the strap with which he fastened the load to his shoulders out of a *piece of a rainbow*, criticises severely the author of the story for cutting up the beautiful strap. He should have wound the whole rainbow around the neck and shoulders of his hero. Unfortunately I had no opportunity of seeing his volume before its publication, or I could have easily corrected this, and shown that the author of the story, whoever he be, did not make the blunder; that the reporter had "tampered with the speech", and that the error was one of transmission and not in the original.

I may here give a brief summary of what the legends contain. We have all sorts of wild impossible adventures. Animals that have all the powers and properties of men; monstrous birds and serpents; a bird called Aculloo, an exact congener in size of the fabled Roc, of Arabian mythology; an immense serpent called *Chepitch-calm*, exactly described in the "Encyclopedia of Religious Knowledge", by Rev. S. B. Edwards, as edited by Rev. J. Norton Brown, under the article Dragon, in describing the

"dragons of the hills and mountains" of India. The Indians seem to be very positive that there really exists such a monster in this country, although I have never met one who would positively affirm that he had seen it. They believe in magic, in witches, wizards and fairies, and omens and signs. Their fairies are exactly like those of European folklore. They are very small, and live in caves or burrow in the ground; they generally remain quiet by day, but come out in the night, to revel and dance and do mischief, and perform wonderful feats. If you should happen to offend them and they give chase, you make for the nearest brook, and if you can succeed in reaching the further bank, you are safe. For like those

"In Briton's Isle in Arthur's days  
When midnight fairies danced the maze."

And like the Scotch witches in the time of "Tam O'Shanter", "a running stream they dare not cross"; or as Sally Paul expressed it, in a style much less poetical, "they don't like to wet their feet."

One of these fellows seems to have been a pretty near relation of our "*Puck*" or "*Robin Good-fellow*". Rather a good fellow he is supposed to be, so far as I can learn, to have around, if you keep the right side of him. But he is somewhat fond of fun, and of enjoying a joke at the expense of others. He is invisible and comes prying around often when you are very busy—when you are in a great hurry and somewhat excited and nervous withal—and snatches up something that you are continually in need of, and slips it away; directly you want the article, but it is nowhere to be found. You tumble things around in your search, and get vexed because you cannot lay your hand on it; and after he has enjoyed your embarrassment for a little, he slips it back, and lo! to your astonishment, there it is right before you, in plain sight. He is called *Pjeskibannib*, which indicates that he is a very little fellow, but has a long neck. He comes around in the form of a little bird. I translate the word *Elfin Longneck*.

Their stories abound in *giants*, and these correspond in every particular with the horrid monsters of European folklore. Even the name Kookwes or Googwess, seems etymologically connected with *gigas*, the Greek term for a *giant*, from which the Latin *gigantes*, used only in the plural, and our English term are evidently derived, (or at all events with which they are connected). Both in Greek and in Micmac, it is a word of two syllables, each of which begins and ends with a like consonant in each language.

That these and similar fabulous beings were not imported from Europe, but are genuine "aborigines", "natives of the soil", seems clear from their *names*. These names are not foreign, but genuine Indian. They call the fairies wig-gal-lad-dam-mooch-kik, and this one, whose pranks have been here particularly described, they call Ame-ske-ba-jee-jit.

Among their fabled beings is one called Miggāmoōsoo, very much resembling the fawns or dryads of classic lore. They reside in the woods. They sing in a most enchanting manner, and play on the pipe—pepoogwōkūn (the Micmac word for *flute*, *flute* or any *wind instrument*). They are invisible, but show themselves occasionally to deserving hunters, whom they wish to favor, and they always bring him good luck. They generally appear under the form of a beautiful woman (as our painters are wont to "draw" the angels). She meets him, salutes him pleasantly, and invites him to her lodge. She treats him hospitably, teaches him to sing and to play the flute, and aids him in his hunting expedition. But he must show himself worthy of her regard; he must keep his humble distance. She allows no liberties to be taken, if he in any way offends her, she banishes him at once.

In one of their tales a poor orphan boy, who had the misfortune to be very ill-looking and awkward, and was looked down upon and shunned, especially by the fair sex, and who found it very difficult to support his aged grandmother, who had cared for him when a child, was so fortunate as to fall in with one of these "nymphs of the woods" in one of his hunting excursions. He remained in her company, on two occasions, for a year at a time, though to him it seemed only a few days. The result was that he returned to his village entirely changed. He was no longer either lazy, awkward, or ugly. He was handsome, a sweet singer, a splendid player on the flute, and he had with the assistance of his fair friend brought in such loads of venison as afforded a supply to the whole village for a long time. The Miggūmoōsoo had assisted in bringing his load only to the outskirts of the village, whence, at his request, bands of young men went out and brought it in. The haughty young ladies, who had formerly looked down upon him, now changed their tune, and began to "set their caps" for him. The chief, who had several marriageable daughters, by whom he had been treated with contempt on a former occasion, now sent him a friendly message, inviting him to visit his family. But he did not feel disposed to return good for evil, nor to forget kindnesses that had been shown him. A poor widow, with several daughters as poor as herself, who lived on the outskirts of the village, had treated him kindly in former and darker days. To them he now directed his steps, and chose a companion from among them.

An honest and intelligent old Indian woman of my acquaintance—Nancy Jeddre—assures me that she has heard these wood nymphs sing many a time. She says: "You go out into the woods when all is still, and walk around or work until you get pretty tired, and a little sleepy withal, then sit down on a log and rest, and listen, and soon you hear strains of the most enchanting music."

But their most important supernatural personage they call *Glooscap*. He constantly figures in their legends. Many of them seem still to believe that there was and is such a being. He was supposed to be of celestial origin. He was immortal, possessed of miraculous powers, and was the friend and teacher of the Indians, and ready to help in every time of time.

Another remarkable personage of the Indian folklore they call *Koolpejot*, "rolled over by means of a hand-spike." He is a great medicine man; he has no bones, always lies out in the open air, and is rolled over from one side to the other twice a year, during spring and fall. An intelligent Indian once suggested to me that this was a figurative representation of the revolution of the seasons. He can do wonders with his eyes and breath. And this seems to confirm my Indian friends's explanation.

In some of these legends there is no small amount of poetic imagination. The different kinds of animals, for instance, are spoken of as different tribes. Thus they have the moose, the bears, foxes, raccoons, otters, martins, rats and mice, as well as birds, and even fishes, partridges, crows, loons and whales, etc., and these tribes have the peculiarities of the animals whose names they bear. The otters are a very pious and honest set. They never trespass upon their neighbors nor steal. They are a hard-working class of fishermen, who pitch their tents on the banks of rivers, and are clad in beautiful soft black robes. Not so the foxes and raccoons, the rats and the mice. These are very dishonest, and do not hesitate to appropriate to their own use whatever they can lay hands on. And the rats and mice love to make their depredations in the night, under cover of the darkness, that they may escape detection, for they are a cowardly set.

In one of these stories, Mrs. Partridge, who has a large family of children to care for, instructs them how to keep out of the way of Mr. Fox when they see him coming. They must run up stairs and hide. Now this is quite a poetical delineation of the fact that the young partridges can fly almost as soon as they are hatched, and are taught by instinct to fly up into the trees and conceal themselves when they see an enemy approaching.

Here is a description of the manner in which some of the birds build their nests: A number of women are represented as consulting together as to the best manner of building their wigwams. Mrs. Pigeon recommends them to build high, but with open lattice-work. Mrs. Night Hawk sees no necessity for building at all. Her children can do very well without a shelter during the warm rains of summer, and before the cold storms of autumn come on, she migrates with them to a milder climate. Mrs. Pigeon also gives it as a reason why she need not make her house very tight, that they leave the country at an early period,

as soon as the berries are all gone. But Mrs. Partridge, who has much the largest family, says she never leaves the country, and she builds low, in some snug concealed place, so that her enemies will find it difficult to discover her residence.

Here is the summary of a tale that would supply all the materials for an epic poem. It describes the adventures of two remarkable heroes, named Aoolamsun, *Rushing Wind*, and Utkoo, *Rolling Wave*. They are brothers; but Rushing Wind is the elder of the two. They can each perform astonishing feats in his own sphere; but they work best together, the one assisting the other. They are fond of each other, and generally go in company. They plan an excursion in which they expect to be gone from home some years. Their parents are old and infirm, and they will not leave them destitute and dependent during their absence, so Rushing Wind betakes himself to the forest, where he easily succeeds in slaughtering a good number of animals by throwing down trees upon them; while Rolling Wave goes a fishing and brings in a bountiful supply from the abundance of the seas, and of the treasures hid in the sand. They now bid good-bye to the "old folks at home", and start off on a seven years' trip. In a few days they arrive at a village where a chief resides, and engage to work as his servants for a short time. Being questioned as to what they can do, they honestly confess that they know little about the employment of ordinary mortals, but they can bring in the vast resources of the air and the sea. They stipulate that they shall not be separated, but be allowed to work in company. Their services are secured, and in a few days they have brought in fowl and fish sufficient to supply the village for a long time. So they are paid off and dismissed, their employer being well satisfied with his bargain.

But the winds and waves can do evil as well as good, and this important fact must be illustrated in our story. And so our adventurers, just for the fun of the thing, must give, before they leave the place, an exhibition of their power to do mischief. To this end Rushing Wind bursts out into a regular cyclone, sending the tents flying in all directions; and Rolling Wave rushes up in a tidal wave, over the flying debris, and they destroy in one short hour more than all the good they could have done in years. Pleased with the feat they have performed, they go rejoicing and laughing on their way. They are away *seven years*.

x a medicine, for instance, compounded of seven *barks or roots* is supposed, as I have been assured, to be very potent, and then the most potent of all medicines is one compounded of *seven such compositions*. ↗

But we return to our narrative: In the course of their perigrinations, our heroes come on to a village, where they see a number of young women, who take their attention, and they are

reminded of the main design of the expedition, which is to secure each a good wife. They are particularly attracted by two sisters, whose mother is a poor widow, and apply to her, not to the girls, who have no say in the matter. But the mother objects. Her two girls are her main dependence, and she cannot spare them. Finally, she consents to let one of them go, "but," she tells them, "you must go to one of the other families for the second". But they argue: "We are two brothers, closely united [like the Siamese Twins of our day] and we can not be separated." And this is exactly the case with your two girls, one of which was named *Wibbün*, *Calm on the Sea*, and the other, *Kogüm*, *Sea Foam*, the froth that gathers on the water during a dead calm, but which is instantly dissipated by the slightest agitation of the surface. "These two sisters, so closely joined by nature, must not be separated", and as they engage to provide for the old lady, as well as for their own parents, she thinks better of it and concludes to accept the offer, and gives her consent. *Rushing Wind* chooses *Calm on the Sea*; and *Rolling Wave* takes to his bosom *Sea Foam*.

Then follows, as is the custom in all ages, nations and conditions, the wedding festival, after which they take their wives with them, and return home. They find the old folks still living, hale and hearty, and they are welcomed back with every expression of joy.

But the course of true love does not always flow smoothly in fable or in reality. The moral of the marriage remains to be shown. *Rushing Wind* and his better half, *Calm on the Water*, do not always agree in their views and plans, neither do *Rolling Waves* and his beloved *Sea Foam*, on all occasions, "pull together". This calls forth a seasonable and sensible admonition from the mother-in-law, to the effect that there can never be a real quarrel without the consent of two parties. *Calm on the Water*, for instance, has considerable power to keep quiet in the vis inertiae. She need not get ruffled at every little breeze that blows. By a little exertion at self-restraint she can keep still and smooth till the little gust is over. And so of *Sea Foam*. She need not become agitated, jump up and run away, at every little agitation of the unstable *Billow*. Capital lessons these, and capital illustrations, to which we all would do well to take heed.

The figurative and poetical significance of the whole allegory are so plain that they need not be particularly pointed out. In addition to the curious fables of the kinds referred to, they have handed down by tradition accounts of their quarrels with neighboring tribes and their white invaders, their wars and battles, with the exploits of individuals. And these are, generally, freely interlarded with feats of magic. And the *Micmaes* have the infirmity of all other nations, especially the English, the Americans, the Scotch and the French, in deeming themselves better, brighter



and braver than all others put together. In all their conflicts they, of course, usually got the upper hand of their enemies.

X I will conclude by relating one of their stories. I am at a loss in the selection, many of them are so bewitchingly interesting. But I will take the Indian version of "Cinderella and the Glass Slipper." The glass slipper, however, that "let the cat out of the bag," undergoes the slight transformation of becoming a rainbow, with a few other changes as trifling as this may well be deemed in the regions of fairy land and of human fancy and fiction, but sufficient so to diversify the story as to escape the charge of piracy or of their having received it from the white people.

Now, then, we must paint the scene. "Booske ahtookwét pegasink," "Here comes an old story-teller." Call all hands into the wigwam, children, and let them be seated round in a circle, and let them keep quiet. When all is ready, the speaker begins, "Wee-gijik hesegoogh," a phrase with which every story begins. Literally, it means, "The old people are encamped," but the meaning here is about equivalent to the heading of a Scandinavian tale, viz., A tale of ancient times. Then comes a response from the old people present, "Käiskwöh," the particular meaning of which, if it has any, I have never been able to discover; but here it means, "All right, go on with your yarn." This response is ever and anon repeated as the story proceeds. The word is sometimes used on more ordinary occasions, as a gentle hint to a fellow who is getting off a tough story that staggers belief, that he is making it up out of "whole cloth," as we say.

"There is a large Indian village," "Mes keek oodün." The village is on the border of a lake. In a wigwam which stands by itself some distance from the rest, dwells a remarkable youth. His totem, I suppose, is a moose, and from this comes his name. They call him Te-am—The Moose. He is a mighty hunter and a brave warrior—a prince of his tribe—but he is invisible except when he chooses to show himself. All the young women in the village consider him a most desirable match. He gives out word that any girl that can see him shall be his wife. This excites curiosity, and many of them, arrayed in their best, visit his wigwam to try their luck. But they are disappointed. He comes and goes, and of this they have proof, but they fail to see him. He has an only sister, who "keeps house" for him. She always treats her visitors kindly, and when the hour arrives for him to come in from his hunting, she takes them with her down to the lake. As soon as she sees him coming she notifies the girls, and asks them if they see him. "Alt tēlooējik aye, alt tēlooējik mogway" Some say "Yes;" others say "No." Then comes the question that decides the matter in her mind: "Of what is the strap made that binds on his load?" They will

reply, mentioning one or other of the many things they have ever seen or heard of as used for that purpose; but the real strap they do not see, and thus she knows they do not see him. "Very well," she answers, "let us return to the lodge." She tells them to be seated, but not to go near her brother's mat. They can see his moccasins when he has pulled them off, and the cloths he has wrapped around his feet—his "socks"—which his sister wrings out for him and hangs up to dry. She then prepares his dinner, and the girls keep up their hopes, thinking they will see him when he comes to eat. But no, they are disappointed. Sometimes they remain all night, but can not see "the prince."

Now it chanced that in that village an old man resided who had three daughters, whose mother was dead. The care of the household devolved upon the eldest. The youngest was a poor little puny thing, and her sisters, especially the eldest, treated her unkindly. They let her go almost naked, whipped her severely and often, and moreover burned her on her hands, arms and face and other parts of her poor little body, so that she was completely covered with the marks of this cruel treatment. The father would often enquire of the older girls what the matter was with their sister, and would be told that she had been playing with the fire and burned herself. The poor thing was afraid to tell the truth, lest it should go harder with her.

From the effects of these burns she received the name of *Cochigea'skw*, which, from its etymology—the effects of fire—is sufficiently near to the import of Cinderella, that, with a small degree of license of free translation, we may adopt it, and call her Cinderella. But, *kaaska*, we will go with our story. One day the father brought a lot of beautiful little shells, such as they used to make their wampom belts and necklaces of, for which in later times they substituted, with the same name—*wciopskoo'*—"glass beads". On the morrow the two older girls set themselves to work at stringing them up. Cinderella begs for a few, and is denied by the older sister in a very harsh manner; but the other has a kinder heart, and makes intercession for the poor little thing and succeeds in obtaining for her a few of every kind.

Cinderella then goes out and obtains some sheets of birch bark, out of which she constructs a dress, a petticoat and loose gown, with cap to match. She then soaks an old pair of her father's moccasins and draws them them onto her little feet and limbs. They come up to her knees. Her small proportions are strikingly suggestive of the tell-tale ditty of the parrot in our English story.

"Pare your heels, and pare your toes,  
But under the tub the slipper goes."

She now goes out, telling her sisters she is going to find the invisible young man. They ridicule her, storm at her, and order

her not to go. They had both tried their luck in that line, but had failed. She pays no heed to them, but marches on. But she has to run the gauntlet of a regular tornado of ridicule from all the inhabitants of the village, young and old, as she proceeds in her singular costume:

But she, undaunted, calmly shuts her ears  
To all their cruel mockings, gibes and jeers,  
And in her resolution bravely perseveres.

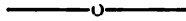
(Her bravery and pluck deserve to be set up in verse.) In due time she arrives at the "prince's lodge". She is kindly treated by the sister, despite her harlequin dress. At the proper time they go down to the shore, and as soon as the young man is in sight his sister puts the usual question: "Nemeet nchigünüm?"—"Do you see my brother?" She replies instantly: "Yes, I see him." Then comes the critical enquiry: "Kogooá wisko-booksich?"—"Of what is his shoulder strap composed?" She answers instantly: "A rainbow"—Munkwön.

"Ah," says the young woman, "you do indeed see my brother. Now let us hasten home." Arrived at the lodge, she is disrobed of her birchen dress and undergoes a thorough ablution, which removes all the scales and unevenness of her skin caused by the burns and bruises. When the comb is about to be applied to her hair, she wonders what that can do, as her hair has all been singed off. But no sooner does the magic comb touch her head than out sprouts a beautiful head of hair, which is duly arranged and braided. Then a splendid bridal dress is brought out, in which she is arrayed. She is now told to cross over to the opposite side of the lodge and take her seat in the wife's place, on her brother's mat, but below him, next to the door. Soon the young man comes in, laughing. He knows all that has transpired. "Ha, ha," he exclaims, "so we have been discovered at last." Ak loke weledahsit. "He is mightily pleased."

That evening, when he came in from his hunting, the father missed his youngest daughter, and enquired what had become of her. They told him that she went out and went off, they know not whither. But next day he goes round the village to look for her. He finally enters the lodge where she has become domiciled, but she is so transformed that he can not recognize her. She knows him, however, and makes herself known to him. She recounts her adventures, and the old man is delighted at her good fortune. He goes home and reports the matter to her sisters and friends. He tells them what a splendid husband Cinderella has obtained and how beautiful she herself had become.

My edition of the tale fails to state in what manner the news was received by her sisters and the other young ladies of the village. But we can readily imagine what would be their disappointment and chagrin. There is a supplement to the story

as I received it, which ends very tragically, but it has been suggested that it is a tale by itself that has been misplaced by being attached to this. At all events, as here is a good place to leave off, we may wind up with the usual word, equivalent to our word *finis*, with which the Indian stories usually end—"Kespelooksit,"—"Here endeth the story."



## DESCRIPTION OF A GOLD ORNAMENT FROM FLORIDA.

WITH OBSERVATIONS UPON THE PROBABLE SOURCE OF THE METAL  
USED IN THE FABRICATION OF THIS AND OTHER GOLD  
OBJECTS FOUND IN THAT STATE.

BY A. E. DOUGLASS.

In July, 1878, Mr. J. M. Pearce found on an island in the Kissimmee River, near Fort Bassinger, Brevard County, Florida, the gold ornament represented in the accompanying figure. Subsequently it came into the possession of Mr D. Greenleaf, of Jacksonville, Florida, from whom it was purchased by the writer. This object, which I call a gorget, is two and a quarter inches long and one and a quarter inches broad. The thickness is precisely that of a half-dollar. Its weight is 37.5062 grains, and specific gravity 10.87. An approximative test showed the following constituents: Gold, sixty per cent; copper, thirty per cent; silver, ten per cent. From the varied bands of color which cross it, the admixture of these metals was evidently imperfect. A depressed channel, an eighth of an inch broad, crosses the face about the centre, pierced with two square perforations. The margin at the ends of this channel is also slightly cut away. The upper margin of the object has a semicircular projection, pierced for suspension. The face presents the figure of a cross, with the *Orbis Mundi* at the intersection of the arms, the base resting upon a rude or conventional representation of the cubes or gradines, which characterize the mounting of the cross throughout Spanish American nations. Just below the centre, on either side of the cross, appear two pear-shaped figures, possibly representing hearts, which we take to symbolize the two thieves. All these markings are in deeply incised lines, evidently by a well practised hand. The reverse of the plate is perfectly flat, and presents rude tracings illustrative, probably, of Indian mythology or superstition. A straight line runs through the centre longitudinally. The upper right hand quarter and that on the

lower left hand present each three equidistant perpendicular incised lines, parallel to the centre line, from the margin to the line of the square perforations. On the remaining quarters are traced two crescents, or new moons, the horns of which rest upon the centre perpendicular lines. The workmanship is of the rudest kind.

Having described the object before us, it becomes a matter of great interest to know something of its history. So far as its present form and etchings are concerned, it may be assumed to be of post-Columbian manufacture, but as respects its material it is worth a few moments' consideration to trace its origin, its course to Florida, and its conversion into its present shape.

Florida was generally known to produce no precious metals. Acosta even implies that the natives were quite unconscious of



Obverse.

their value, for he says: "We have found some barbarians which know neither gold nor silver, as it is reported of those of Florida, which took the bags and sacks wherein the silver was, the which they cast upon the ground, and left as a thing unprofitable."<sup>\*</sup>

Still we know that Ponce de Leon, in 1512, obtained



Reverse.

small quantities of gold from the natives, though evidently not in sufficient amount to stimulate the cupidity of the Spaniards. In 1515 Diego Miruelo, a Spanish pilot, obtained from the Indians on the Florida coast pieces of gold.† Subsequently the expedition of Panfilo de Narvaez landing on the southwest coast of the peninsular, on the 15th of April, 1528, found "a tinklet of gold among some fish-nets." (p. 21.) A few days after they found "traces of gold," (p. 24) and upon asking the Indians whence they procured it, they replied, "That very far from there was a province called Apalachen, where was much gold."‡

Cabeza makes no further mention of gold during the disastrous march of that expedition. We next hear of the precious metal in the testimony of two Indian captives who, in May, 1539,

<sup>\*</sup>The Nat. and Morall Historie of the Indies. Trans. by F. G. London: 1601. p. 26  
<sup>†</sup>Historical Collection Louisiana and Florida. New York, 1875. P. 242, note.  
<sup>‡</sup>Relation of Cabeza de Vaca. Trans. by B. Smith. New York, 1871.

were brought to DeSoto in Havana, and reporting "that there was much gold in Florida, the governor and all the company were greatly rejoiced, and longed for the hour of departure." Before that month closed DeSoto and his company sailed, but in the copious annals of that ill-fated expedition, we look in vain for any record of acquisition of gold, or that it was even seen in native possession either in Florida or Georgia. On the contrary, Juan Ortis, a Spaniard, whom on his arrival DeSoto rescued from a thirteen years' captivity in that country, assured him that "there was no gold in the country."\* As DeSoto's route through Florida followed the western base of the hilly ridge which divides the State longitudinally,† and traversed a thickly settled country, the presence of gold, if at all current, would have been known and recorded by the adventurers. We cannot avoid the conclusion that native gold in use did not exist, notwithstanding the Indian testimony to its abundance above given, which, as in numberless other instances, was probably colored to gratify the known greed of the Spaniards, or willfully misinterpreted from considerations of policy.

Following in historical sequence the records of the early chronicles, we begin to understand how gold *did* happen to be found in Florida and from what source it was derived. Of this the most minute particulars are given in the "Memoire sur la Floride," by Hernando l'Escalante Fontanedo, translated from the inedited original by Ternaux Compans in Vol. XX of his *Memoires Originaux de l'Amerique*, Paris, 1841. The narrator was shipwrecked upon the Florida keys in 1551, and as a result of his experience of seventeen years' captivity among the Calos Indians, published his "memoires" in 1580. He states that the Indians about him possessed neither gold nor silver (l. c. p. 10), doubtless referring to *native gold*, for he further states, in recounting his shipwreck (pp. 26-27): "The country of Ais (Indian River inlet) and Jeaga is very poor. It contains neither gold nor silver mines, and verily it is the sea which enriches it, for many ships freighted with gold and silver are shipwrecked there, such as the 'Farfar' and the brig owned by the mulatto, the Biscayan vessel upon which Anton Granado was passenger. \* \* I was shipwrecked in 1551. We had also on board two sons of Alonzo de Mesa and their uncle. All were rich. I was the poorest, and yet I had twenty-five thousand pesos of fine gold. \* \* They were sending us to Spain to be educated, but we were shipwrecked upon the Florida coast, as many other ships were, and also the fleet from New Spain, commanded by the son of Pedro Melendez."

He subsequently interviewed one of the sailors of this last

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\*Biedma's Relation Ternaux Compans, Vol. XX, p. 5. Paris, 1841.  
 †DeSoto in Florida, Westcott. Palatka, 1888.

mentioned fleet, who stated (l. c. p. 28) that the Indians went around to the coast of Ais, and "he had seen them return with great riches, in ingots of gold, sacks of Spanish coin, and quantities of merchandize." Fontanedo afterward (p. 32) explains how this wealth was distributed. "I will speak of the riches which the Indians have found, in this case amounting to more than a million in ingots of gold and Mexican jewelry, belonging to the passengers. The cacique divided them among those of Ais, of Jeaga, of Guacata, of Mayayuaca and of Mayaca, retaining the most valuable part for himself." This country of Mayayuaca he afterwards (p. 35) locates as just north of Ais and bordering the region where "our pilots say Pedro Melendez made peace with the Indians." This locality of a well-known council held by the governor of St. Augustine has been fixed by recent writers as the vicinity of Cape Canaveral.\*

All the above mentioned tribes lined the Atlantic coast of the peninsula, and were subject to King Calos of the Calos or Caloosa Indians, whose village of Tegesta was upon the present Biscayan bay, at the outlet of the Mayaimi River. This covered the entire extent of the dangerous strait where the numerous wrecks took place, called the canal or channel of Bahama. This contracted passage, from forty to seventy-five miles in width, and about two hundred miles in length, lined with invisible reefs—full of perplexing currents, liable to hurricanes and northers—swallowed up annually from one-third to half of the vessels freighted with the plunder of Peru and New Spain which sailed upon its waters.

It will be noted that this author is quite aware of the prevailing Indian tradition of a country to the far north which produces gold. Indeed, he identified it by a reference to its climate, which was not before named in the Spanish versions of the tradition. He says (p. 23), speaking generally of Calos and the subject tribes I have mentioned, "I say that it is a powerful nation, rich in pearls, but no gold is found there, because it is remote from the mines of Onagatano, situated in the snowy mountains of that name." And, in referring to tribes on the Atlantic coast north of those just described, he again repeats that they have no gold there. Summing up the testimony of our author, it appears that, while having knowledge of the prevailing tradition of a gold producing country or region far to the northward, he distinctly denies that any gold from that region is to be found among the southern tribes. In this respect his assertion is confirmed, so far as the entire west coast of the peninsula is concerned, by the Spanish explorers previous to his day.

I have now given the testimony of the early explorers as to the absence of native gold in the peninsula of Florida up to the

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\*Hist. Florida, Fairbanks, p. 1 B.



year 1560, and shall proceed with the record left by the French Huguenot colonists under Ribault and Laudonniere, who reached the Atlantic coast of Florida in 1562, and were exterminated under circumstances of the greatest atrocity by the Spaniards in 1565. On this subject we shall find the relation more copious than that which Spanish historians have supplied us. The artist of this expedition was LeMoyne de Morgues (whose account is given by De Bry in the "Brevis Narratio," etc., etc., Frankfort, 1590, p. 7). Speaking of the Indians whom they first encountered on the banks of the river of May (St. John's), he says: "And in many instances flat discs, as well of gold as of silver and brass, were suspended from their legs, so that in moving they gave a sound as of bells." This was in 1564, by which time, it may readily be conceived, the accumulations of wrecked treasure during forty years of Spanish occupation of New Spain and South America had been well distributed throughout the peninsula. He still repeats the tradition of gold from the mountains of Apalache, as told by Satourioua (p. 9), in a conference with Laudonniere, but on a subsequent occasion this chieftain informs Laudonniere that these metals were obtained by warfare with the Timuquas, and as this nation included the coast to the vicinity of Canaveral, and lined both banks of St. John's for many leagues to the south of Fort Carolina, until they bordered upon the domain of Calos, and as the French emissaries who penetrated that territory brought back reports of large stores in gold and silver among those tribes, it may safely be concluded that the ornaments named above were derived from the source which Fontanedo assures us supplied all the treasure in South Florida.

It may be observed, in this connection, that an able article by Mr. George K. Kunz in THE AMERICAN ANTIQUARIAN for July, 1887, figures as a Florida find several gold and silver discs which bear a singular resemblance to those described by Le Moyne

Subsequently, according to the same narration, an emissary named La Roche Ferriere, sent by Laudonniere, procured from the Indians gold and silver, which they assured him could only have come from the mountains of Apalache, for "it was the produce of wars with the tribes who lived there." (p. 12.) The gold probably came from the same source as the silver, and assuredly the latter metal could not have come from Northern Georgia. Finally, we are told that the same emissary, ingratiating himself with the above "tribes who lived there," procured from them many objects of the same metals, which he sent to Laudonniere. "Among these were gold and silver discs as large as moderate-sized plates, with which it was customary to protect themselves, also much gold alloyed with copper and impure silver. He also sent quivers covered with fine skins, the

arrows in which had golden heads." (p. 14.) The naming of this alloy at once discredits the emissary's account of the origin of these ornaments; or, if another ground for doubt were needed, it would be in the impossibility of a single European reaching the vicinity of the mines in the short period of his absence, a distance of some three hundred miles, through a region filled with hostile tribes. It is to be inferred from the account given us of these expeditions that the emissaries followed the course of the St. John's River for a considerable distance, certainly as far as Lake George, a course which only led them so much farther away from the mountains of Apalache. However, it brought them nearer the great accumulations of treasure, the plunder of wrecked vessels, and the plunder could well be massive, when we consider the masses of gold ingots and sacks of Spanish silver, of which Fontanedo reports the plunder consisted.

In this connection we may recall the testimony of two Spanish captives, who were rescued from the Indians by an expedition sent by Laudonniere an hundred miles or more up the St. John's river. They reported that they had been cast way on the "Martyrs" on the Florida coast, about fifteen years before, and had lived miserably among the Indians ever since, and that the King of Calos recovered the greatest part of the treasure which was in their ships. Laudonniere continues: "They told me, moreover, that he had great store of gold and silver, so far forth that in a certain village he had a pitful thereof, which was at the least as high as a man and as large as a ton, \* \* beside that which I might get of the common people of the country, which had also great store thereof. They further also advertised me that the women going to dance did wear about their girdles plates of gold as broad as a saucer, in such number that the weight did hinder them to dance at their ease; and that the men wear the like also. The greatest part of these riches was had, as they said, out of the Spanish ships which commonly were cast away in this strait, and the rest by the traffic which this king of Calos had with the other kings of the country."\* (No doubt procured in the same way.)

Though possibly an exaggeration of the facts, common to the European mind in that age, this statement is not altogether unlikely, when we consider Fontanedo's testimony before cited, as to "ingots of gold" among the wrecked treasure, and again suggests the origin of the "plates of gold as large as saucers", which were brought by La Roche Ferriere to Laudonniere, as just stated. Indeed, it would appear that subsequently Laudonniere ceased to give credence to the tale of gold from Apalache. Sir John Hawkins, the English adventurer, on his return from the West Indies to England in that same year, 1565, visited that

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\*Hist. Coll. Louisiana and Florida. New York, 1899. p. 281.

colony, and most generously relieved their pressing want of provisions, and unquestionably heard nothing of such a report, for the historian of that expedition (John Sparke) says: "And how they came by this gold and silver the French know not as yet but by guess, who having traveled to the southwest of the cape, having found the same dangerous by means of sundry banks, as we also have found the same, and there finding masts which were wrecks of Spaniards coming from Mexico, judged that they had gotten treasure by them. For it is most true that divers wrecks have been made of Spaniards having much treasure."\* He says further (*idem* p. 47): "It seemeth they had estimation of their gold and silver, for it is wrought flat and graven, which they wear about their necks, and others make round like a pancake, with a hole in their middle, to bolster up their breasts withal."

I have not thought it necessary to quote other references to gold and silver ornaments observed among the Indians by the chroniclers of the French expedition, but would remark that the Spanish treasure wrecked in transit to Spain no doubt comprised the fine and the impure. Much of that in Mexico was more or less adulterated. The Spanish smelters in Mexico were restricted by law to one eighth of alloy, and this law was so far evaded and exceeded that "complaints were now made of the excess of alloy which was mixed with the gold, and at length two gold workers were detected in stamping the gold mark on pure copper."† A large proportion of the treasure sent home from the Spanish Main generally was alloyed with copper, which itself contained a considerable proportion of silver. In fact, among the Indian tribes around the Orinoco copper was used to facilitate the melting of the gold gathered from the sands of the rivers. Sir Walter Raleigh, in the description of his voyage up that river, in his unsuccessful quest for the Eldorado, in 1595, thus describes the process: "I after asked the manner how the Epuremei wrought those plates of gold, and how they could melt it out of the stone. He told me that the most of the gold which they made in plates and images was not severed from the stone, but that on the Lake of Manoa, and in a multitude of other rivers, they gathered it in grains of perfect gold, and in pieces as big as small stones, and they put it to a part of copper, otherwise they could not work it, and they used a great earthen pot with holes round about it, and when they had mingled the gold and copper together, they fastened canes to the holes, and so with the breath of man they increased the fire till the metal ran, and then they cast it into moulds of stone and clay, and so make those plates and images."‡

\**Voyages of the Elizabethan Seamen*. London, 1890. p. 67.

†Hernán Díaz, *Conquest of Mexico*. Trans. by Lockhart. London, 1844. Vol. II. pp. 130-131.

‡*Voyages of Elizabethan Seamen*. London, 1890. p. 381.

Bernal Diaz also, in his "Conquest of Mexico," before quoted, Vol. I, p. 36, and Vol. II, pp. 126, 344, asserts the impurity of the Indian gold ornaments; in several instances he says, "considerably mixed with copper and silver," a characteristic found in the gold procured by Laudonniere from the Indians in Florida. It is, however, not unreasonable to suppose that a considerable proportion of treasure was of great purity, particularly that which was reduced by Spaniards from grains or ore and sent home in ingots.

I have now presented all the evidence we seem to possess, from the early explorers and colonists in the peninsula of Florida, as to the presence of gold there, and its origin, up to the year 1565, and it seems to me impossible to escape the conviction that, notwithstanding the prevailing tradition of its existence in the distant region of Apalache, absolutely none of the product of that fabulous store had ever found its way in the shape of ornament or implement or money into the Florida we are now considering. So far as tradition is concerned, we know that the same report of the gold of California was current among the Spaniards two hundred and fifty years before its discovery, and the very historian who records that report in 1758, recounts the progressive settlement of the country by Spanish missionaries up to his day without the slightest trace of the metal among the tribes.\* If gold trinkets and ornaments had gradually appeared as the Spanish vessels made their way along the Californian coast to the bay of San Francisco, and assuredly if the abundance had increased as they had approached the mining region of the interior, there could have been no doubt of the locality of its origin but no such indications appeared, and this argument applies with equal force to the question of the source of the finds of gold objects in the mounds or fields of Florida.

The earliest Spanish expeditions to the Florida west coast, of which we have any detailed accounts, are those of Panfilo de Narvaez, in 1528, and Hernando de Soto, in 1539-40; and on the Atlantic coast that of Vasquez de Ayllon, 1524, who ravaged the shores of Georgia in the search for Indians to work the Cuban mines. None of these expeditions found gold: the first two because as yet the plunder of wrecked vessels had not been abundant enough to have filtered through the maze of tribal communities to the west coast, and the last because they had no source of supply whatever, not even from the mines of North Georgia. Now it is incredible that if the Indians worked the Georgia mines, the appearance of gold on DeSoto's memorable journey should not gradually have become more marked as he approached the point of production. If the ground had been mined, the metal smelted, and ornaments fabricated, as some

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\*Venedas, *Hist. of California*, Vol. I, p. 176. London, 1750.

recent writers have suggested, the product of this labor must have been found among the thickly settled tribes in the immediate vicinity, in greater or lesser quantities. DeSoto spent five months in the State, crossing it from its southern boundary to the Savannah River, then to the headwaters of that river; then, passing the watershed to the westward, he followed the rivers down to the Bay of Mobile; again northward to the boundary of the present State of Tennessee, only one hundred and fifty miles to the westward of the gold bearing region; but on this entire route he never saw gold in the possession of the Indians, and the historian only refers to the metal upon two occasions. The first was shortly after he had entered the State from the confines of Florida, and is thus recounted by the Knight of Elvas: "Of the Indians taken in Napetuca, the treasurer, Juan Gaytan, brought a youth with him who stated that he did not belong to that country, but to one afar in the direction of the sun's rising; \* \* that it's name was Yupaha, and was governed by a woman; the town she lived in being of astonishing size, and many neighboring lords her tributaries, some of whom gave her clothing, others gold in quantity. He showed how the metal was taken from the earth, melted and refined, exactly as though he had seen it all done, or else the devil had taught him how it was," etc.\* This youth led the expedition through many barren solitudes, where they suffered great privations, and finally it transpired that he did not know the country, that he had never seen Yupaha, and merely enlarged upon tales that he professed to have heard. They ultimately reached Cutifachiqui, on the banks of the Savannah River, about thirty miles below Augusta, and found the chieftainess, who had control of a large territory; but her wealth was in pearls--the gold did not exist, and the youth's tale was proved to be a pure fabrication. By toilsome marches DeSoto traversed the northern part of the State, frequently resting in the Indian towns, till reaching Chiaha (now Rome) he was informed by a cacique of Acoste, "that towards the North there was a province Chisca, and that a forge was there for copper or other metal of that color, though brighter, having a much finer hue, and was to appearance much better, but was not so much used for being softer.†

I follow B. Smith's translation of the Knight of Elvas' narration as probably the most accurate, from the known ability of the translator, but it is proper to say that Hakluyt's rendering, being older, has been largely used, and his phrase is "copper *and* another metal." Two Spaniards, with Indian guides, were sent in that direction, but returned in a few days without gold, reporting that they had only seen a fine variety of copper, such

\* Narratives of Hernando de Soto. B. Smith's translation. Bradford Club, N. Y., 1896, p. 50.

† Idem, p. 72.

as they had before met with; that the country was rough and mountainous, and quite impracticable for the army. We may fairly conclude that if there had been the slightest encouragement of a discovery of gold on the strength of native reports, the known craving of the Spaniard for that metal would have halted that expedition at that point, and caused them to prosecute the search in the mountains, where in after years its presence was so well established; but DeSoto saw no gold in the State of Georgia and left it for a hopeless quest, and a grave beneath the waters of the Mississippi.

Now, if we look at the testimony of the mounds, we find no evidence of gold in the great tumuli of Georgia. On a recent visit to Augusta I was shown by Col. C. C. Jones, Jr., a small elongated gold nugget, in its natural water-worn state, not quite an inch in length, having a perforation at one end for suspension, which he assured me was the only object of this metal ever found in a Georgia mound. When the mounds in the very State where this deposit occurs are shown to be destitute of any relics of this sort, it certainly seems in the highest degree unreasonable to attribute to a native origin any objects exhumed from the mounds of Florida, supplied as the peninsula was, with abundance of gold of every variety of fineness, from the wrecks of Spanish treasures upon its Atlantic margin, for the greater part of the sixteenth century. The gold object found in a Florida mound described by Dr. Rau, in the Smithsonian Reports of 1878, page 299, was stated by him to be the exact fineness of the Spanish "ounce" of 1772 and its origin is sufficiently accounted for. He decides that it is post-Columbian. This object now before us is unquestionably from some portion of the Spanish Main, originally in the shape of a plate or an image, having been acquired by an Indian from the wreck of a treasure ship, has been beaten out and perforated for suspension, in a manner described by Sir John Hawkins, has been "graved" by a Spanish priest with the cross, and subsequently by ruder, perhaps Indian, hands with devices of a heathen character.

These engravings upon the gorget are deserving of some consideration. We may take it for granted that, having been beaten out and shaped by the Indian, it was destitute of any tracings, but was valued for its color and brilliancy, or for the facility of attaching, by reason of its perforations, certain appendages of feathers or metals. How, then, does it present two designs of a character so opposite? Perhaps even this may be explained by a brief consideration of the religious history of Florida during the first two centuries after its discovery. Dr. D. G. Brinton, in his most able and comprehensive summary of the history of ancient Florida, "Notes on the Floridian Peninsula," (Phila., 1859, pp. 152-3,) states that as early as 1567 Pedro Menendez, governor of St. Augustine, "sent the two learned

zealous missionaries, Rogel and Villareal, to the Caloosas, among whom a settlement had already been formed under Francisco de Reinoso. The following year several others were sent, the majority of whom, we are told, "worked with small profit in the southern provinces;" and in 1569 the Padre Rogel gave up in despair "the intractable Coloosas," and notwithstanding every effort made by fresh installments of missionaries, we learn that in 1628, "these Indians are described as idolaters and given to all abominable vices, and not a few of the missionaries suffered martyrdom in their efforts to reclaim them;" (p. 159) and again it is recorded that, while the tribes of Northern Florida readily accepted the faith, "to the south, the savages were more perverse and clung tenaciously to heathendom." (p. 161.) The etching of the cross may be, therefore, attributed to some one of the Spanish priests, probably upon the conversion of the savage owner of the gorget, and after his relapse into idolatry, in contempt or derision, the latter inscribed upon the reverse surface the new moon as the object of his devotion, and added the three upright lines which appear on the second and third quarters, with that regard for the number three which is so characteristic of aboriginal superstition. The worship of the moon, both full and new, is described by Jonathan Dickerson in 1696 as witnessed by him on the South Atlantic coast of Florida ("God's Protecting Providence," etc., 7th Edit., Lond., 1790, pp. 31, 71, 72); and Laudonniere's narrative of Ribaues' first voyage in 1562 describes religious feasts among the tribes at the mouth of the St. John's River, in which the number three is invested with a peculiar mystic signification.\*

All the gold objects found in Florida have been found in what may be considered the southern half of the peninsula. A gold bead in 1877 by Lieutenant Harrison of the Coast Survey, near Mosquito Inlet; the ornament described by Dr. Rau, from a mound in Manatee County, south of Tampa Bay; a gold arrowhead, reported to me as found in the neighborhood of Charlotte Harbor;† the four ornaments described by Mr. Kunz: No. 1, found in Orange County, associated with beads of European manufacture; No. 2, found in same County; in company with an ornament of silver; No. 3, found in same County; No. 4, found in the vicinity of Lake Apopka, in Sumter County, in a mound which also produced a silver ornament; and finally, the object before us, the southerly relic of all—found in Brevard County, not far from Lake Okeechobee.

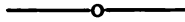
I am not aware of any objects or ornaments in this metal having been discovered to the northward of these localities, within

\*L. *Historie Notable de la Floride*, 1591. Reprint, Paris, 1837, p. 41.

†see Smithsonian Report for 1882, p. 291, where this arrowhead and a gold miniature axe or celt, both "largely alloyed with much lighter metals," are described as found near the line dividing Polk and Orange Counties, associated with objects of silver and iron.

the confines of the State, nor in the vast space of some four or five hundred miles, which intervenes between them and the gold bearing district of Northern Georgia. When therefore we consider that all these ornaments have been exhumed at points the most remote from the reputed source of native gold, with no intermediate finds to warrant a connected stream of such material from that source; when these objects occur in a region peculiarly abundant in accumulations of wrecked treasure, and, in most instances, associated with other metals and ornaments which could have reached the peninsula in no other way, it appears to me impossible to escape the conclusion, that *all* the gold objects so far found in Florida are post-Columbian in date, and are fabricated from metal wrecked upon the Atlantic coast while in transit to Spain.

New York, Aug. 14th, 1889.



#### CLIFF DWELLERS IN MOROCCO.

It was not until last year that the Moors would permit any examination of the cliff dwellings which have long been known to exist, some days' journey southwest of the city of Morocco. This strange city of the cave dwellers is almost like some of those in New Mexico and other territories which archaeologists have explored. The dwellings were dug out of the solid rock, and many of them are over 200 feet above the bottom of the valley. The face of the cliff is in places perpendicular, and it is believed that the troglodytes could have reached their dwellings only with the aid of rope-ladders. Some of the dwellings contain three rooms, the largest of which is about 17 by 7 feet, and the walls of the larger rooms are generally pierced by windows. Nothing is known as to who these cave dwellers were.—New York Sun.



## THE MONUMENTS OF THE STONE AGE.'

BY STEPHEN D. PEET.

The monuments of the stone age, which are found in Europe and America, are to engage our attention in this paper. These monuments are interesting, as they show how the stone age was first recognized and how it came to be established, and at the same time show how the two continents are marked by the tokens of the prehistoric races. It is remarkable that the stone age was known so much earlier in Europe than in America, and yet the resemblances between the two continents have only confirmed the conclusions before reached, and thrown new light on discoveries before made. The monuments of Europe may be said to have furnished the elements of the science, but those of America have filled up with the details. The date of the disappearance of the age was here much later than there, and yet the tokens of the two continents have constituted a series which is most interesting in its nature. We propose to take up the history of the stone age as it appeared, and from this history show how important are the monuments of America.

I. Let us first examine that history with a view of ascertaining more about the distinction of the three ages. It is a remarkable fact that this arose from the study of the monuments, though it was soon confirmed by the study of the relics, and latterly the relics have proved to be the most important factors. Various attempts to overthrow the distinction into ages have been made, but so far have been unsuccessful. The history of archæology is interesting on this account. Nearly every leading principle which has once been recognized has remained and become permanent. The foundations of the science are not varying and uncertain, but are well established.

It was as early as 1756 that a remarkable work appeared in Paris, written by Goguet, on the origin of law. In the preface the author says: "When I met with an almost total absence of facts in historical monuments, for the first ages, I consulted what authors tell us of the customs of savage nations. I thought that the habits of those people would furnish sure and correct information concerning the state of the first tribes." He then goes on to speak of the weapons, instruments and ornaments of copper met in certain old graves, chiefly in the north, and comes to the conclusion that copper had been used instead of

iron. Later M. De Caumont perceived that stone implements had been in the earliest use, but that copper and bronze had been introduced before iron. He introduced the expression "chronological horizons" to indicate the periods in the history of art remarkable for their revolutions, or for notable changes in the forms and character of the monuments. He pointed out the following order of succession in the mode of burial: "In the most ancient graves the body of the deceased was doubled up so as to bring the knees in contact with the chin. Later, during the bronze age, the dead were usually burned; during the iron age the body was often laid in the grave stretched at full length."

These thoughts came from the study of Roman remains, and were given in lectures on monumental antiquities. It was reserved to the Scandinavians to open the proper track. Denmark and Sweden teem with antiquities. The ground is strewn with ancient barrows, which are raised like hillocks above the surrounding level. Roman civilization had not penetrated so far. It was an event of note when Mr. Thompson, a simple merchant who was engaged in collecting china, in 1832 published a paper on the antiquities of stone, showing that these objects had been tools and weapons of a people very like the modern savages. He shows that certain sepulchral chambers formed of huge boulders, in which the dead were deposited without being burned, contained stone implements without any traces of metal. This furnished him with his first period, which he calls the stone age. He then goes on to show that implements and weapons of bronze are found in certain graves which differ from those of the preceding period, both by their structure and by their dead having been burned. Hence he deduces a second period, which he calls a bronze age. Next comes the iron age, distinguished by a new system of burial, by the first appearance of silver, by the traces of alphabetic inscriptions, and by a peculiar style of ornament.

Professor W. F. Nilsson, of the University of Lund, was then engaged in studying the fauna of Scandinavia, but he introduced the study of man and his origin. He applies the method, compares the flint implements of the north with those of savages, points out the striking analogy between the most ancient graves in Sweden and the modern huts of the Greenlanders, with a view to prove that the abodes of the dead were imitated from the dwellings of the living. This introduced the topic, "The Successive Periods of Development," during the prehistoric ages. He, however, reaches the conclusion that each of the periods was marked by the invasion of a new race, by a fresh wave of population, inasmuch as there was an essential change in the mode of burial and a profound change in the religious system. The development was not altogether natural and unaided, but was the result of migrations. Thus the primary divisions of the prehistoric period became established.

The order of progress and the law of social development were recognized by the comparison of the structures and relics which were left by prehistoric races with those of the ruder uncivilized races known to history, a comparison which might be drawn in America much more easily than in Scandinavia or in any portion of Europe.

Thus it was from the study of the monuments that the division of the prehistoric period into three ages occurred. This division was first made by the Scandinavians, but was confirmed by English archæologists and has been adopted by all. It is a division which is recognized in all countries, even in America. Here the iron age is, to be sure, very distinct from the two preceding ages, as it was introduced by the white settlers after the time of the discovery. But there is an advantage in this, for the presence of iron is always a sure indication that the tokens belong to the historic rather than the prehistoric period. The real division in America is into the bronze age, the polished stone age and the rude stone age, leaving out all consideration of iron. The monuments, however, belong mainly to the stone age as such—that is, the polished stone age.

There may have been an age when there were no monuments in America, when the grade of civilization was so low that no structures were erected, or if there were any they were of such a character that they soon perished and passed away. There may have been habitations, but they were more like the huts of the Esquimoes or like the lodges which have left their rings in the kitchen middens of the seacoast. They were mere ice huts, or structures made of whalebones and the bones of the walrus, placed in layers on a foundation of stones and covered with dirt. This was during the paleolithic period, a period when man may have been without the use of fire, and so exceedingly rude as to be unable to erect any structure which would be worthy the name of monument. We are safe in saying that there were no structures in that age which became monuments. It is, then, to the neolithic age that the majority of the monuments in America belong. These may, indeed, have been left by an uncivilized race, and probably were erected subsequent to the glacial period, but they are scattered over the continent in every part of it. Geographically considered, we may assign them to the temperate zone, placing them between the monuments of the bronze age in the torrid zone and those which resemble the works of the paleolithic age in the arctic zone, and yet the geographical is not the division which is so distinctive as is the chronological and the geological, the paleolithic age having belonged to a horizon lower down and farther back than the neolithic. The bronze age has, however, furnished many important monuments. This age appeared among the civilized races of the Southwest, in Central America and Peru, but it was by no means spread

over the continent, as it was over Europe. The bronze age appeared in America very much as it appeared in Chaldea and the regions of the East. It was in connection with an architecture of a somewhat advanced type that it appeared, an architecture in which the corbelled arch, the staged tower (the zikkurat), the pyramid with its terraces, the palace with its seraglio (that is, the salon for official receptions), the khan or the dependencies of the palace, the kitchens and slave lodgings, were the chief elements; a style of architecture which was far in advance of anything which was found in Europe during the prehistoric times. It might have naturally been expected that bronze would have appeared among the Mound-builders or the Pueblos, for these occupy about the same position in the scale of progress that the lake-dwellers in Europe do. But there was lacking here the aid of a civilization which was near and which could by migration, or by transmitted influence, effect the art and architecture of the people. Copper was used by the Mound-builders, but bronze was unknown.

The isolation of the continent prevented the bronze age from being introduced among the Mound-builders. It was evidently introduced among the lake-dwellers of Europe by migration. The migrations in America worked an opposite effect. Instead of bringing a wave of civilization and progress, it brought in a wave of savagery and produced a decline. The earliest monuments were the most elaborate and show the highest stage of civilization. This is the case in all parts of the continent. The mound-builders of the early period were more advanced than the Indian tribes who followed them. The Pueblos and cliff-dwellers were a semi-civilized people, but the tribes which drove them away were savages, hunters who had come in from the regions of the North. The civilized races made progress, but those who followed them, of the natives, are now surprisingly degraded.

The absence of the bronze from the cliff-dwellings was owing to their distance from civilized and historic countries, for bronze even in Europe was a product of civilization and really belongs to the historic period, though it was introduced, like domestic animals, among the uncivilized races, and prevailed in great quantities in prehistoric times.

This subject of migration is an interesting one. Worsæ says of the stone age in the North: "What people it was that showed the road to the more highly developed races is just as unknown as the time of their arrival." Of the later stone age he says: "The period was long, the new culture alien, and its dissemination gradual. That the stone age culture was able to reach such a pitch in the North can not be explained solely by its longer duration, or by the richness and excellence of material for flint work. In reference to the rise and spread of the bronze age, the facts point more and more toward the ancient cultur

lands in Asia, and to India in particular, with its rich veins of copper and tin, as the most probable starting place for the bronze culture." Prof. Worsaae recognized a North Asiatic age of bronze, but thinks that this can not be regarded as the starting point for the bronze culture which appeared in Scandinavia and the rest of Europe. The bronze age in the south-east of Europe was originally introduced by immigration, but it flowed into Europe by two main routes. The southern followed the coast lands, Greece and Italy, Africa, Spain, France and the British Isles; the other followed the basin of the Danube into the heart of Europe, taking Hungary, Switzerland and Germany in its course, and from Germany to Scandinavia. The age of stone preceded the bronze, as whole skeletons with stone age objects are buried at the basement of the graves, while in the sides and summit are burnt bodies with objects of bronze.

As to the migration of the American races we have no real information. That it came mainly by way of Behring Strait is only an inference, it has not been proved. In fact, in later years, the drift of opinion has been in favor of another route, or, perhaps, several routes, Behring Straits being one, Labrador, Greenland and Iceland another, the coast of Florida and West Indies another, Mexico and the Polynesian Islands still another. There are some who take the ground that there was no immigration; the races were all autochthonous. Hellwald says: "The procession of migratory races was in the long axis of the continent, from north to south. The migrating tribes always tended towards southerly regions. That America was already inhabited before this great migration, and in many parts was possessed of an ancient civilization, admits of no doubt. It we compare it with that of the present Indians of America, the original culture was much more advanced." The question might arise whether tribes in a state of civilization were the first immigrants, or were the existing races in a lower grade because they had declined from a former civilized condition. The theory of a civilizing migration seems to be opposed by most writers; at least it is denied that civilization was introduced simultaneously with migration, though it is acknowledged by many that the germs of civilization may have been carried with the migratory tribes. The populations of the copper age of America, which had already dawned in the region of the lakes, may have followed the valleys of the Ohio and Mississippi, and directed their steps to the present States of Louisiana and Texas. Still this wide region of the Mississippi Valley, the proper home of the Mound-builders, preserved no trace of immigration or emigration. The shifting of place among the tribes is manifest, but no long line of migration. The Asiatic hordes moved slowly during the early periods of history. It may be that the stream, set in motion, may have ultimately reached this conti-

ment, and poured itself from the north over the region which had been previously occupied by another race. This would account for the decline, and for the super-position of the skeletons and the strata of relics being in the reverse order.

II. The distinction between the paleolithic and neolithic age arose from the study of the monuments. Let us then take up these monuments as the especial object of our study. The paleolithic age found man at the outset a mere homeless, houseless savage, scarcely above the condition of the beast. He dwelt in caves, protected himself with a rude booth or found shelter near a rock or tree, and possibly dug a hole in the ground, and burrowed there. But nothing that was worthy the name of structure or monument was erected by him. He did not even lift up a stone which would serve as a monument, nor did he place a mound upon the surface, so that there are no monuments of him. Later in the paleolithic age he resorted to caves, and there left the traces of his presence in relics of various kinds. He seems to have been acquainted with fire, and had some skill in drawing pictures upon bone and rock. The latest stage was that in which he erected a hut by the sea coast, and threw out the bones and shells which accumulated around the hut, leaving rings in the heap to show the place of his habitation; this is the nearest approach to architecture which the paleolithic man reached. The neolithic age introduced a new epoch. There was a great change, both in the condition of man and in his surroundings. It would seem almost as if the change was one of climate and of natural environments. Certainly, so far as the animals are concerned, there was a great contrast. The bones of the extinct animals, such as the mastodon, the cave bear, the rhinoceros and the elephant, are never found associated with the neolithic relics. On the other hand, the neolithic structures, such as dolmens, menhirs, stone graves, hut rings, lodge circles, must have been built by a race very different from the paleolithic man. He was undoubtedly a wild hunter, who was clad in skins, with the hair side out, and who was shaggy in his appearance; he may have contended with the mastodon and the cave bear, and he had only the rude spearhead, which belongs to the paleolithic type, for his weapon. When, however, these animals disappeared, he either disappeared himself, or else changed his habits in almost every particular. It would seem as if a new race had been constructed, for the whole horizon has changed. There are now habitations which are placed upon the surface of the earth, and within those habitations are tools, utensils and weapons, which are as different as the surroundings. This change was probably brought on by a variety of causes. Everything is correlated in the prehistoric world. Man may have been either a hunter or fisherman; he may have dwelt upon the sea coast or in the interior; he may have inhabited either of the continents; yet he, when he moved from the

cave to the constructed house, came into a new social condition. The date is not known, but the change is easily recognized. There is a new change of social life, and everything partook of it. The skill of man was exercised not only upon his architecture, but in the department of art, the habitation and the tools changing about the same time. We cannot say which was first, though judging from the ease with which savages take up the use of new weapons and tools which have been introduced by the more civilized race, we should say that the change from the paleolithic to the neolithic relics must have been anterior to that of the change from the cave to the constructed hut. The gradual progress might have produced an improvement in axes and adzes before they were used in cutting down trees or gouging out canoes. But we imagine that necessity was in this case the mother of invention. Domestic utensils probably came into use about the same time that cooking over the fire was practiced, and so we infer that pottery was introduced about the same time the hut began to be built. The garments also changed when the change in habitations and tools had occurred. The discovery of bone needles and awls and stone drills and knives, as well as the presence of perforated tablets and other ornaments of dress, would indicate this. The change from the cave to the hut involved a new method of defense. We accordingly find weapons of a different kind, spearheads, arrows, dirks, knives, showing that the warrior was well equipped. We do not know as there was any fortification erected at this time, for there are savages in America who found their safety in flight, and who rarely undertook to build a fortification. Still we regard it as characteristic of the neolithic age that man was then able to provide means of defense for himself; there was also a change in the religious condition of the people. It is said that during the paleolithic age there was much skill in depicting the animals, as in imitating their shapes, but the symbolic figures which would make animal totems are very rare. In the neolithic age there is a great abundance of totems. Nearly all of the animal figures which are found depicted, inscribed upon bone or carved or moulded, are totemic in their character and may be regarded as symbols of the primitive faith. These are the characteristics of the neolithic age. They are characteristics which are given by the relics, ornaments, garments, art products, as well as the structures of the age. We are, however, only to describe the structures. We therefore proceed with the description of these

III. This brings us to the subdivision of the stone age in America.

The division of the antiquities of America has been made on the basis of the material of the relics. It can be, however, made on another basis, namely, on the material of the monuments. We have already elsewhere shown that the monuments

of America are to be classified according to the geographical location, those of the north being mainly of perishable material, wood, ice, bone, bark. As a result we find very few prehistoric structures here. Those of the Mississippi valley were constructed mainly of earth, though occasionally a few rude stone walls and mounds were found among them. Those of the interior, in the great plateau of the west, were of stone, unwrought, laid up in walls, and of adobe, but with no wrought stone and no lime mortar among them. Those of the south were mainly of wrought stone, laid in cement, with many carved ornaments and sculptured pillars. Thus it appears that the material of the structures, as well as the location, furnishes an index to us of the grade of culture which prevailed, so that we do not need to rely upon the material of the relics. These might be regarded as the subdivisions of the stone age, though they would lengthen out the stone age, and make it overlap the bronze in one direction and the paleolithic or rude stone in the other. This is the main point which we make.

1. We take up first the structures which are presented by the kitchen middens and shell heaps. These are supposed to have been the earliest and most primitive, the rudest of all. It has been, to be sure, a matter of discussion whether the shell heaps antedated the burial mounds and sepulchral constructions, but on this point most of the archaeologists are now agreed. Prof. Worsaae and Prof. Steenstrup were appointed to examine the shell heaps on the coast of Denmark. They made their report. One of them claimed that the shell heaps marked a period which preceded that of the dolmens, cromlechs and other stone monuments. The other maintained that they were contemporaneous. The same discussion might be carried on at the present time in reference to the shell heaps on the coasts of North America. It would not be a question whether they belonged to the stone age, but whether they do not mark an early part of this age. In reference to some of them there would be no dispute, but in reference to others there would be a variety of opinion. Sir John Lubbock examined the shell heaps on the coast of Denmark. He speaks with the highest praise of both gentlemen, but reaches the conclusion that shell heaps or kitchen middens represent a definite period in the history of the country and are probably referable to the early part of the neolithic stone age. He says none of the large polished axes have been found in the kitchen middens. The absence of metal indicates that they had not yet any weapons except those made of wood, stone, horn and bone. Prof. Steenstrup admits that the stone implements from shell mounds are ruder than those from the tumuli, but the frequent remains of the seal and wild ox, and the cuts which are so common in the bones, indicate the use of polished implements, and so he regards the shell heaps as marking the camping place for fishermen, but belonging to the same



age as the tumuli. The kitchen middens were not mere summer quarters. The ancient fishermen resided on these spots at least two thirds of the year. The same is true of the shell heaps in this country. There are shell heaps in Florida which cover immense tracts, and which reach great heights. They are situated along the coast, showing that they were not merely the result of the accumulation of debris, but were often built in ranges, so as to give protection to the inhabitants from high tides and at the same time furnish an airy and sightly place for residence.

The examination of the shell heaps of Florida was first made by Prof. Wyman, of the Peabody Museum. They have been frequently visited since that time. Dr. D. G. Brinton has described those at New Smyrna. He says the turtle mound is thirty feet high, and is composed altogether of separate oyster shells. A remarkable mound on Crystal River is in the shape of a truncated cone, forty feet in height, the summit thirty feet in diameter, the sides nearly perpendicular. The great size of some of these accumulations may furnish some conception of the length of time required for their gradual accretion. The one at the mouth of the Altamaha River covers ten acres of ground, and contains about 80,000 cubic yards. Mr. S. T. Walker has described those on Tampa Bay; he says they extend along the shore for several hundred feet, and are from fifteen to twenty feet in height. Here the archæologist may read the history of the people, as the geologist reads the history of the earth in the sections presented. The peculiarity of these shell heaps is that human bones are found in them, while very few bones are found in the kitchen middens of Denmark.

Canals have been found in these shell heaps, giving an indication that the people who built them navigated the sea coast, and then crossed the narrow neck of land which separated the coast from the river. It is supposed, also, that there were landing places for canoes, and that the shell heaps were raised above the surface, both for the sake of safety and comfort. We give cuts of some of these shell mounds. One of them has a roadway running from the level to the summit. See Fig. 1. The dimensions of this mound are as follows: It was about five feet high; entire length one hundred and fifty feet; breadth seventy-five feet; the roadway is twenty feet wide; there is a ditch or excavation at one end which enters the mound. A roadway was traced from the mound into a hummock several hundred yards. Another mound, twelve hundred feet long and twenty feet high, has a beautiful inclined road up its west side. The turtle-shaped mound is the most remarkable. It is about five feet high, and is surrounded by ditches; lengthwise of the ditches are walls left at the natural level of the land, which correspond to the flippers of the turtle. The head and tail are projections from the mound itself. The entire length of the

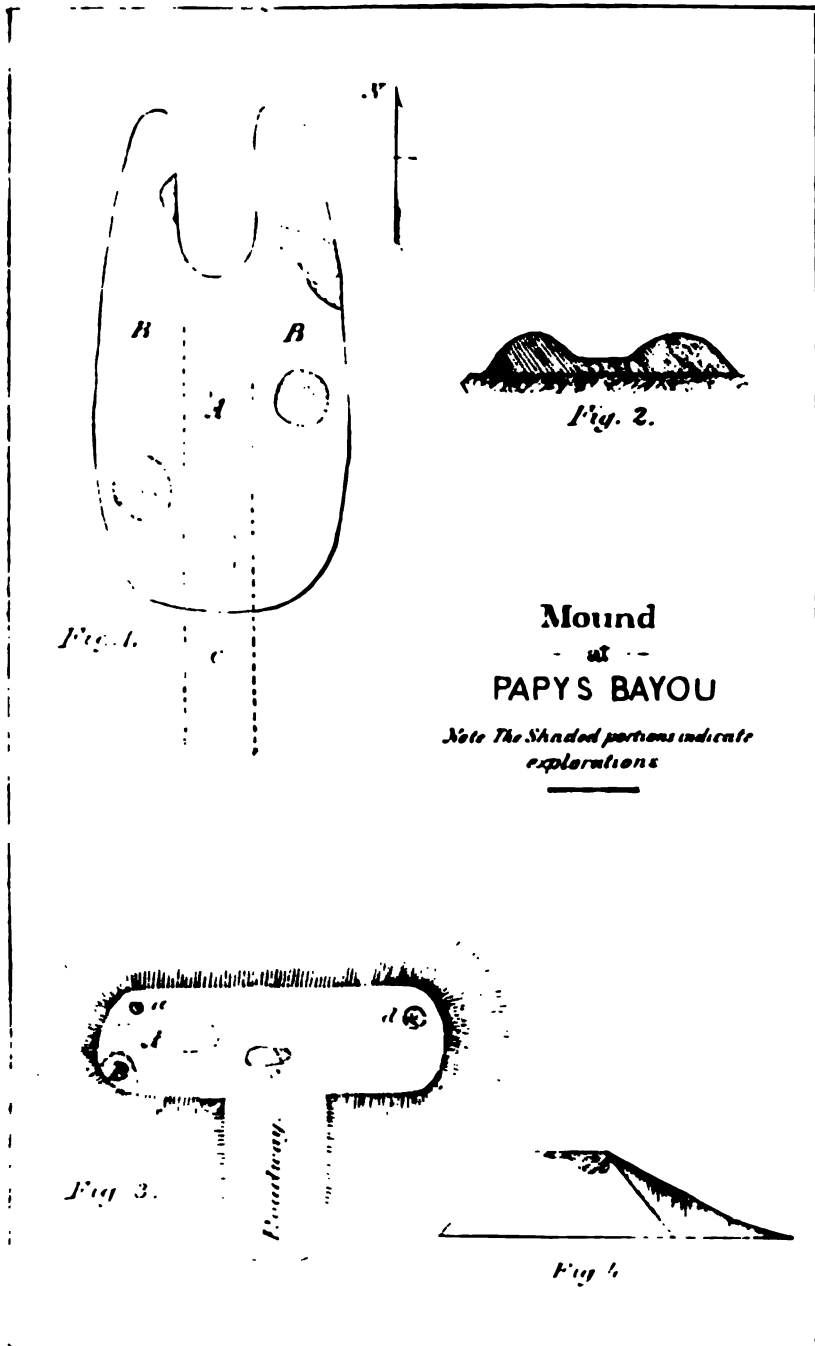
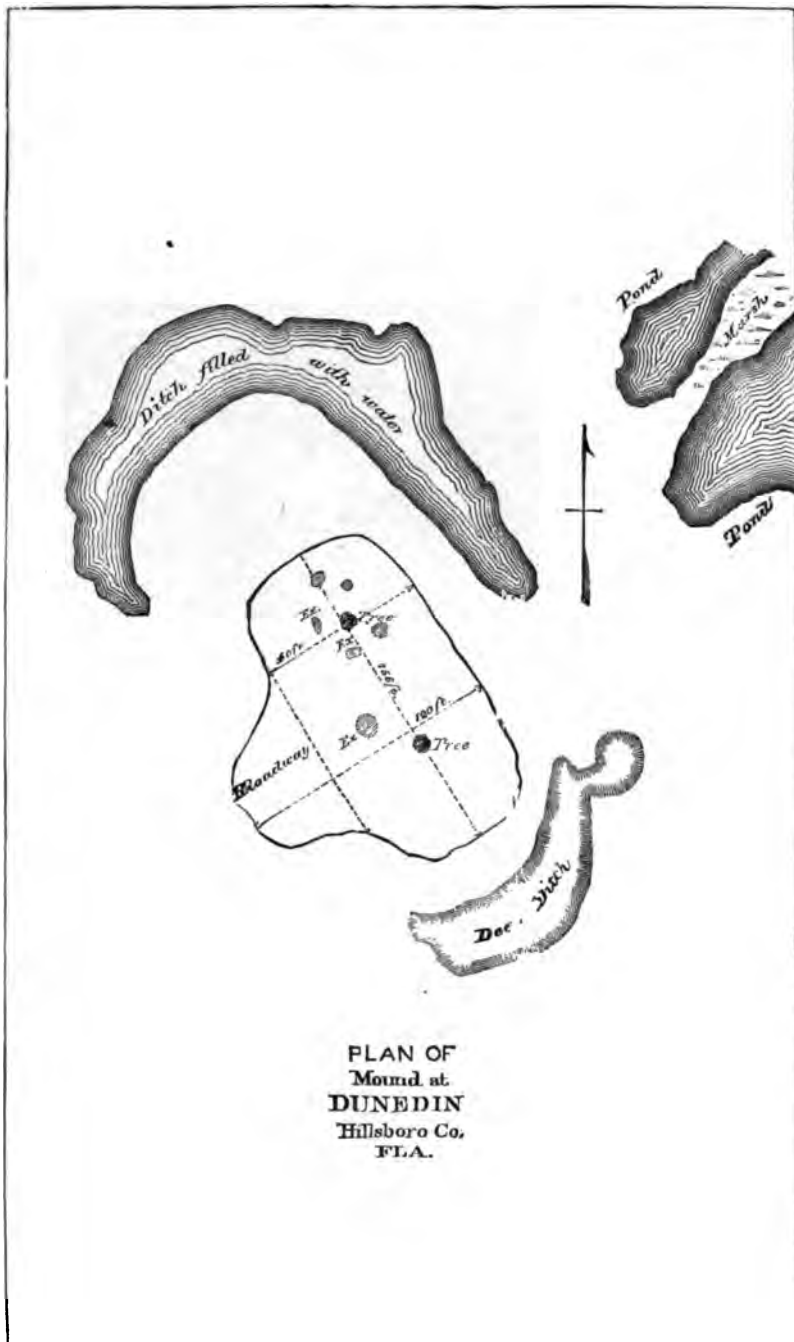


FIG. 1.



PLAN OF  
Mound at  
DUNEDIN  
Hillsboro Co.  
FLA.

FIG. 2.

body is one hundred and eight feet, the width sixty-six feet. It is remarkable that carved relics resembling this mound in shape have been found in the shell heaps of Florida.\*

These observations confirm what we have said about the characteristics of the neolithic age. They show that totemism or symbolism prevailed extensively. The shell heaps of the California coast differ from these. These contain extensive graves. It is supposed that they were temporary residences, as layers of sand recur at short intervals, as if they were visited at stated seasons. Still, there are traces of aboriginal settlements, since the graves are numerous and many skeletons have been exhumed. Many relics, also, have been taken out—beautiful serpentine pipes, spear-heads of obsidian, a bronze cup filled with red paint, mortars of various kinds, shell ornaments, mica pots, ear ornaments, beads, lance-heads, etc. The shell heaps of the northwest coast were much ruder than these. These, however, contained some remarkable relics, showing that they were of modern origin. Prof. E. L. Morse says: "That these deposits are not all of the same age is certain. It can be safely assumed that they were made long before the advent of the European, for the natives were then living in the shell age, and were forming depositories of shell in the same way. These depositories have been described as occurring in England, Scotland, Ireland, France, east and west coast of the United States, Australia, Tasmania and the Malay archipelago, showing that the stone age prevailed extensively over the globe. The hut rings which are found in the mounds of Florida, and the artificial shapes of the mounds themselves, bring them under the department of architecture; but the rude relics and animal remains found in the shell heaps of Scandinavia, Japan, as well as of the northwest coast, show that some of them are to be treated under the most primitive department of archæology."

Kitchen middens are sometimes classed with the paleolithic and sometimes with the neolithic age. This illustrates a point. There was a time when the fishermen were so extremely rude and low in their social condition that they were incapable of erecting a structure which required any mechanical skill. They either dwelt in caves and resorted to the sea coast during the summer months, or they made for themselves shelters of the rudest kind. We can hardly regard them as equal

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\*Shell heaps with bone implements and rude pottery are common in Florida. Wyman, Peabody report, Vol. II. Shell heaps with steatite mortars have been discovered in California. One in Contra Costa County was more than a mile long. Bancroft, Vol. IV, p. 709. Peabody report, 1878. Shellheaps in Oregon. A steatite stone quarry with 2000 stone implements and hammers was found in Pennsylvania. The steatite pits in the shell heaps of California and Oregon may have been taken from the quarry in Santa Catalina Islands, see Peabody report for 1878. Shell heaps with wooden hammers have been found in Vancouver's Island, Bancroft Vol. IV p. 737. on the coast of Brazil are shell heaps which present evidence of cannibalism.—Nadallier, p. 53. Fresh water shell heaps are common in the valley of the Mississippi. Report of A. A. A. M. 1873. These are to be distinguished from the ash pits found by Prof. Putnam in Ohio, and yet they contain the debris of camps, as do the shell heaps elsewhere.

to the house-builders in their condition, for the house-builders belonged to the neolithic age.\* To have had neolithic weapons and tools, and build houses would imply an advanced stage of art and architecture. The Eskimos build ice huts which are arched, resembling the conical stone huts which are found in Ireland, and which belong to the stone age. They also make long passages to their huts, which remind us of the passageways to the dolmens of France, which are also neolithic structures.



Fig. 4.

In winter the Eskimos build huts from whale bones and walrus bones, laid in tiers, the same as the ice, and placed upon a foundation of stone. This shows that the Eskimos had very considerable skill in the art of constructing houses, a skill which probably represents that which was exercised by the early neolithic people of Europe and of America. Our conclusion is that the structures which were erected in the midst of the shell heaps were similar to these, and that they belonged to the neolithic age, but were perhaps the earliest structures of that age.

2. We now turn to the barrows and mounds which are found on this continent, with the design of instituting a comparison between them and the so-called barrows of Europe. We place them together, for they constitute a second class of monumental structures, and illustrate a second division of the new stone age. It is remarkable that in the barrows there are so many stone chambers which were evidently designed for funereal purposes. These chambers are rude specimens of funereal architecture, but they show how sacred and important this kind of architecture was in the stone age. The mounds of America do not often contain chambers like these, but, on the other hand, are solid throughout, either stratified, with layers of sand, earth and stone, or built as simple heaps of earth, without stratification, and sometimes without relics or remains. The barrows of Europe are supposed to contain the oldest or earliest of all funereal structures, and are on this account worthy of especial study. The architecture of the prehistoric seems in this respect to have resembled that of the historic age. The most ancient in each are tombs. This is an interesting fact. Tombs are found in the pyramids of Egypt, the earliest of historic monuments. They are also contained in the barrows of Europe, the



FIG. 5.

\*The Californians connect a tradition with a shell heap near San Francisco of the Hohngales, seven mythical strangers, who were the first to build houses. These strangers were changed to stars, but the shell heaps are left as signs of their former residence.—Bancroft, Vol. III, p. 177.

earliest of the prehistoric monuments. There may indeed have been structures which were occupied by the living at a time preceding these, but as these were built of perishable material they soon disappeared. The significance of the megalithic tombs is, however, the greater on this account. They are supposed to have been built after the pattern of the houses which have perished, and so show what kind of houses were built during that age.



Fig. 4.

Lubbock says: "No one can compare the plan of a Scandinavian passage grave to any drawing of an Eskimo snow house without being struck with the great similarity existing between them." Prof. Nilsson says that the winter dwellings of the Kamskatkans are very similar; that these are a copy of the dwelling house. The ancient inhabitants of Scandinavia, unable to

imagine a future separate from the present, buried the house with its owner, and the grave was literally the dwelling of the dead. When a great man died he was placed in his favorite seat, food and drink were arranged before him, his weapons were placed by his side, his house was closed and the door covered up, sometimes, however, to be opened again when his wife or children joined him in the land of spirits. The entrances or doors to dolmens are usually made by omitting one of the upright supports, but is closed by inserting a moveable stone. There are dolmens with a different entrance. A hole is cut through the door, or closing stone, sometimes round and sometimes oval. Sometimes the hole for entrance is cut out of the bottom of the closing stone. Figs. 4 and 5. Some dolmens have an entrance cut one half out of each stone, making an appearance like the guillotine, and so giving the name of guillotine to the tomb. See Fig. 6. There are a few dolmens which have doors with side posts or piers and lintels, and with the superincumbent stone sloping like the roof of a modern house. See Fig. 7.



Fig. 7.

Thomas Wilson says it is usual, if not universal, to find a vestibule corridor or covered way leading from the entrance of the principal chamber to the circumference of the tumulus. Some of these corridors are forty to fifty feet in length. He says many of the dolmens are covered with earth. All may have been once so covered. The following cuts will illustrate the manner in which these dolmens are built. Figs. 8 and 9.

These dolmens were found in France. The village in sight is that of Lochmariaquer; beyond is the gulf of Mordihan. The road from hence to Carnac is lined with monuments of prehistoric times resembling these. There are no such dolmens in America. The nearest approach to them is found in the chambered mounds of Missouri, but these lack the passage-ways or corridors.

A distinction was formerly drawn between the long barrows and short barrows, as if they indicated different races and periods of time, but this has been done away. The passage graves and stone chambers within the mounds may, however, be distinguished from the stratified mounds and burials without stone cists, a distinction which will apply to the mounds of America as well as of Europe. The reason assigned for the



Fig. 10—Mound and Earth Circle near Portsmouth, Ohio.

construction of passage graves is that there might be a succession of burials without a destruction of the tomb. The opening to the mouth of the passage would be so near the outside of the mound that the stone could be removed and new bodies placed within the tomb.

There is one point which comes up in connection with the mounds of America and the barrows of Great Britain. Some of these were associated with earth circles (Figs. 10 and 11), showing that the people who erected the barrows were a military or war-like people, and that they erected these as a means of defense. In this respect they are supposed to have been one degree in advance of the people who dwelt among the kitchen middens, who were probably fishermen. The same thought is conveyed by the mounds found in the United States. Many of these mounds were evidently used as signal stations, showing that the people were both hunters and warriors, as the same mound would serve for observatories to watch the approach of

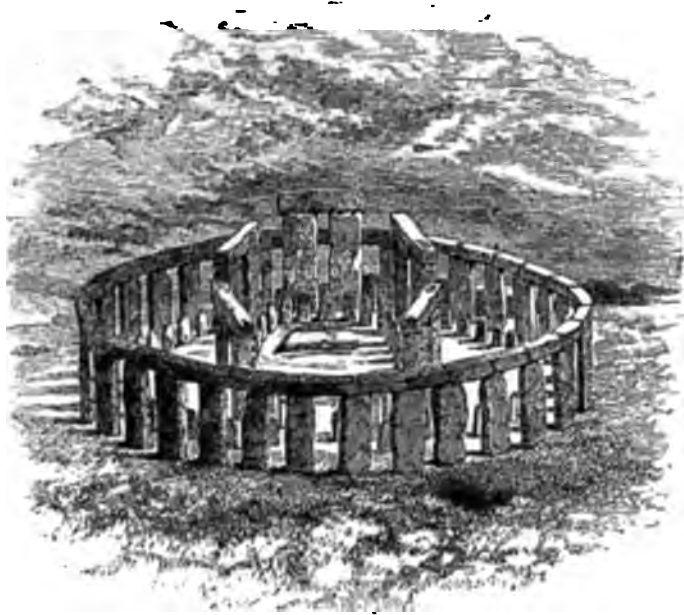


*Fig. 5. Dolmen at Grand Island, France.*

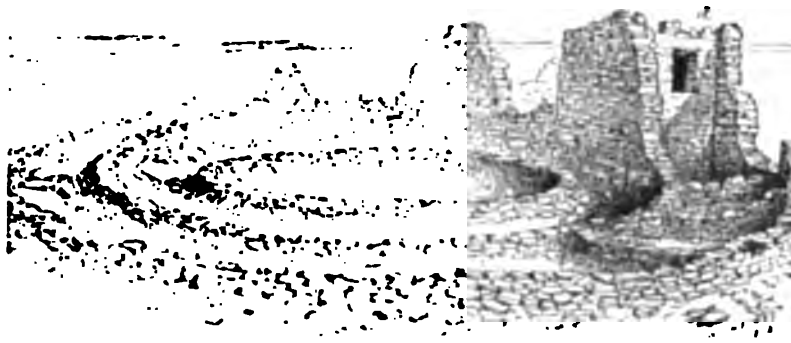


*Fig. 6. Dolmen, L'Abbaye, France.*





*Fig. 1. Circular Stone Well.*



*Fig. 2. Circular Stone Well.*

game, and to notice the presence of the enemy. The earth circles in England are attended with standing stones. In this country there are no standing stones. The ditch, however, is inside the circle as in Europe. It is supposed that the circles in both countries were designed for fortifications, though some had evidently a religious use. The religious significance of these structures is perhaps more important than the military use. It is possible that there was a symbolism concealed in the very space of a circle, the circle being the symbol of the sun. It is possible, also, that the standing stones found in Europe symbolize serpent worship exactly as certain earth walls and mounds symbolize it in this country. Altar mounds are numerous in the United States. These show that the religious sentiment was a powerful factor in the erection of mounds. There are no altar mounds in Europe, but there are many who suppose that the dolmens were both altars and burial places, the table-stone above the chamber serving for an altar and the chamber serving as the burial place for the dead.



Fig. 11.—Mound and Earth Circle in Great Britain.

There is another thought which arises here. We have noticed that the kitchen middens of Europe are much ruder than the chambered barrows, and have spoken of the caves as partially filling the gap. In America, however, the gap is not so wide and is partially filled by the stratified mounds, these mounds being of a lower grade of architecture than the chambered barrows but of a higher grade than the shell heaps. It was during the mound-building period that the so-called copper age appeared. This age has not been assigned any definite position, and in fact some even deny that there was any such age in America. It remains then for those who are studying the science in America to say what that age was. The comparison between the European and the American mounds helps us to do this. The Mound-builders represent the copper age. The Mound-builders were both hunters and agriculturists. They erected mounds for burial, but they also built earth walls for defense. They evidently lived in villages, while they cultivated the land surrounding them. They were also house-builders, and at times built council-houses and temples in the midst of their villages. They were sun-worshippers, and at times built altars and presented offerings

to the sun divinity. The use of copper may indeed have been only incidental to their life, the abundance of copper being a reason why they used it rather than stone, and it also better served their purposes. Still we use the term as significant of a cult, and place the copper age in the midst of the stone age, making the Mound-builders to represent its rank in the column.

We give a series of cuts to show the resemblance between the mounds of America and the barrows of Europe. It will be noticed that some of the mounds are surrounded by earth circles with a ditch inside of the circle. Some have thought these to have been symbolic structures—symbols of the sun; others consider them mere burial places. There are many such mounds in the United States. Some of them contain altars, and all have a sacred or religious character. We call attention to the resemblance between these circular enclosures. Was it because sun-worship existed that these rings or circles were built, or was there some actual contact between the two in the two continents. The standing stones of Great Britain are wanting in America; but so far as the form of the earth circles and the passage-ways to the circles can be said to resemble one another in one country, they may also be said to resemble one another in both countries. The altar mounds are, to be sure, wanting in Europe, and yet if we take the stone tables to have been altars, we find the same use for the barrows as for the mounds. They covered up and preserved the altars as well as the burying places. We here call attention to the circles, at Avebury, in England, and the earth circle in Portsmouth, Ohio. We do not say that these works were symbolic, and yet the religious use is acknowledged by all and the resemblances are also striking.

3. This brings us to the stone structures in Europe and America. We must treat these briefly. The rude stone monuments have been described as if they constituted a very important factor in the prehistoric architecture of Europe. The rude stone structures are, however, very numerous in America. These are more properly ruins than monuments, and yet they belong to the same age and represent a similar stage of progress with the so-called monuments. We mention the cliff-dwellings and pueblos of the west, as we do the standing stones of France and the cromlechs of England, placing them side by side, since they all represent the last subdivision of the so-called stone age. Descriptions of these works are found in works on archæology, and yet the resemblances are worthy of our study. The standing stones at Carnac, called alignments, have, to be sure, no representatives in America, and the Pueblos have none in Europe. Yet it may be noticed that the same skill which wrought one class was also exhibited in the other, so that a department may be erected for both. The uses of the pueblos, with their many storied rooms, and with their sacred estufas or sweat houses and

their plazas or courts are indeed better known than are the uses of the standing stones. The uses of the cliff dwellings with their retreats in the sides of the rocks, and their lookout towers on the tops of the same, are also perhaps better known than are the uses of the stone circles of Avebury or Stone Henge.

Yet with all the mystery which hangs about the European monuments, we do not hesitate to class them together. The mode of life of the two people was, to be sure, in great contrast, since the means of subsistence in one case was gained by irrigation, and in the other by agriculture of the ordinary kind, defense being secured in very different ways in the two countries, yet so far as skill in architecture or general culture and the prevalence of a certain religious cult are concerned we should place them all on the same level. It is possible, too, that original design of the European monuments may yet be learned from the study of these American structures, and so we call attention to the two as worthy of close attention. We call attention to the cuts as illustrating this point.

We call attention to the cuts, Figs. 12 and 13. These represent the circular structures of the two continents; the one, the standing stones of Great Britain, the other the ruined towers of Colorado and New Mexico. The standing stones were never buildings, and yet they may have been places of worship or of religious assembly. The towers, however, were once buildings, but buildings of a singular kind. They may have been lookout towers, but more likely were sweat houses or sacred places of assembly where sacred rites were observed. These towers are sometimes found on the mesas above the so-called cliff-dwellings and sometimes on the bottom land beneath the cliff-dwellings, and sometimes isolated and separate from all other structures. The significance of the circle in both cases is that sun-worship prevailed in both continents.

Some of the towers have three concentric walls, as in the cut; others, however, have only two, but with partitions between the walls, dividing the tower into one large central apartment, with several cells surrounding this. The standing stones at Stone Henge were also surrounded by a circle of earth, with a ditch inside of it. They seem to have had a sacred assembly place in the center, in the midst of which was the so-called altar. This was the penetralia of the place. The analogies of the two are, then, very striking, especially when we consider the distance which separated them and the difference in the surroundings of the two. The subject is certainly worthy of serious study, as they may be expressive of a wide spread cult.

## Correspondence.

### MOUNDS IN CALIFORNIA.

*Editor American Antiquarian:*

I have read with much interest the many articles on mounds and mound-builders that have appeared in your publication, which is doing valuable work in collecting information concerning these works of the aborigines of this continent. On the Pacific Slope mounds are not so numerous as in the Mississippi Valley, yet there are numbers of them to be found in some localities. Some of these have already been mentioned in *THE ANTIQUARIAN*, but I wish to call attention to those in a region that has been neglected by archaeologists, viz., the Tulare Valley of California.

The Tulare Valley is the southern end of the greater San Joaquin Valley. Before the farmer had begun to furrow the surface of the great plain evidences of Indian occupation were frequently met with. Stone implements of various kinds were scattered upon the ground in the vicinity of water-courses, and in the same localities were noticeable small saucer-like depressions, six to ten feet in diameter. The latter, in or about which ashes were always visible, were the sites of former *tepees* or wigwams; and occasionally a larger and deeper depression marked the location of what was once a sweat-house. In such places a number of mounds have been discovered, although few of the early settlers believed them to be of Indian origin. Many of the smaller mounds have been destroyed by the farmer's plow; and in the northern portion of the valley nearly all were small. The largest seen here by the writer are about fifty feet in diameter and about four feet high. A few have been opened and all found to contain skeletons and stone implements. In the extreme southern end of the valley the mounds are much larger and more numerous. Nearly all are circular or elliptical in form, and the larger ones are more than two hundred feet in diameter and six to eight feet high in the center. They were probably higher and narrower when made.

I saw these first about twelve years ago, and then thought them to be of Indian origin, but it was not until a few months ago, when the writer directed Mr. C. P. Wilcomb where to find them,

that any were opened. He opened one mound partly and found a skeleton in a sitting posture, bent forward, the head touching the knees, and facing the north. It was surrounded by flint chippings, stone implements and shell ornaments. An investigation of other mounds discovered fragments of shells, human bones and stone spear and arrow-heads on the surface that had been brought out by the digging of badgers and coyotes.

The location where these burial mounds are most numerous and of greatest size is near Kern and Buena Vista Lakes, and along Buena Vista Slough, which connects, or formerly connected, them with Tulare Lake. None have been examined closely to ascertain if they be effigy-mounds. As I remember them they were as already described; but they will be observed more closely hereafter.

GEORGE W. STEWART.

Visalia, Cal.



## CLIFF-DWELLERS' RELICS.

*Editor American Antiquarian:*

I have lately added to my collection of relics some from the famous cliff-dweller ruins of the Mancos canyon, Southwestern Colorado. These relics were brought me by my nephew, who was one of a party of ladies and gentlemen who explored the ruins last month. A portion of the ruins explored by this party were never before visited by ladies. The trip is made with no little danger and great inconvenience. The mesas are covered with a thick—almost impassable—growth of scrub pinon timber, and broken by deep, rugged, impassable canons. Water is very scarce and strongly alkaline. One of the party was an amateur photographer, and secured a set of views. I have three views, two being of the Cliff Palace, the largest ruin in the Mancos canon, and the one from which most of my relics came. This ruin, like the others, is built of blocks of well-dressed sand-stone, two to four inches thick, by six to ten inches long, laid up in natural mortar of a light cream color, and extends along the face of a natural recess in the overhanging cliff of the canon a distance of about fifteen hundred feet; is two hundred feet in depth, and forty to fifty feet high. The front walls are mostly down; those back farther in the recess are in all conditions from nearly perfect to a mass of mortar and stones. There is one large circular tower, the stones of which are dressed to a perfect circle, nicely fitted, and covered inside with mortar, which was apparently applied with bare hands. There are two other rooms having their corners rounded off inside, making them nearly round. In one room the walls are frescoed in odd decorative designs. There are many rooms of different sizes and conditions, some

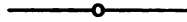
showing their use as kitchens, store-rooms, etc. The walls are pierced with numerous windows, some having stone and others wooden lintels. In the small, low rooms farthest back, next to the rock, they buried their dead, placing pottery and utensils at the head, and covering all with ashes and earth. Some of the cliff-houses are perched so high up the steep cliffs that they have never been reached by explorers, ladders not being long enough and being inaccessible with relics from above.

The relics consist of: A broken basket, woven water-tight, of yucca fiber; is round, about nine inches in diameter and six inches high. On one side has a handle of braided coarse, black hair. The other handle, with portion of basket, is gone. A piece of diagonally woven matting, six by sixteen inches, being an outer segment of a circular mat, probably three or four feet in diameter. A portion of a well-worn sandal, woven diagonally, of yucca fiber. A piece, being a corner, of feather cloth, the feathers being nearly destroyed. It is made of tightly twisted two-strand cords, of about three-sixteenths of an inch in thickness, for the woof, and being woven or held together by double warp about an inch apart. The woof appears to have been wound with narrow strips of skin of some fine fur-bearing animal. There are the remains of a few feathers in some of the thicker, closer woven parts, but how they were fastened or their extent, it is impossible to tell from this specimen. A round ring, about one and a quarter inches thick and seven inches in diameter, used to hold their large round-bottomed jars in an upright position; made of yucca fiber, wound with string. A small piece of well-tanned leather, probably deer-skin. A fragment of roofing of split cedar. Their houses were roofed (when they were not built up to the overhanging rock) by placing two strong poles across from wall to wall, upon which the split cedar strips, quarter to half an inch thick, were placed. These were covered with small brush, the whole being thickly covered with mud. A piece of bedding (?), being small willow sticks about four feet long, pierced every five or six inches, and closely strung on cords, making a rude mat. A few corn cobs and pieces of squash vines. The cobs are small, showing eight and ten rows. There are wagon-loads of these cobs found in the ruins. Two well-shaped bone awls. A round stick, five eighths of an inch in diameter and thirteen inches long; use unknown; drum stick? A bone turkey-call. Three arrow-heads of good workmanship. One stone axe, of a very hard, fine-grained, chocolate-colored stone, four and a half inches long by two and a half inches wide, unpolished head, deep groove, well polished, sharp bit. A stone corn pulverizer, 6x4x1 inches; flat on upper and oval on lower sides; used to grind corn, which was placed in a long groove cut in the rock. A handle of a pot, which, if of a true circle, must have been fourteen inches in diameter. A rude urn shaped jar,

three inches high. A corrugated jar, four inches high, slightly flattened, bottom two inches across, bulge three and a half inches in diameter, neck half an inch less. A round-bottomed bowl, holding about two quarts, glazed inside, and decorated with black stripes and odd figures. A spoon, the bowl nearly round, two inches across by one inch deep, with a tapering handle two inches long.

These, with the two whole pieces of pottery and numerous fragments that I received last fall from the same locality, make a unique collection of relics of these most interesting people.

W. H. S.



## AN ANCIENT AMPHITHEATER IN CENTRAL FRANCE

*Editor American Antiquarian :*

It is well-nigh four centuries since the French began the search for antiques within their borders. One would suppose that a dozen generations of research would have brought to light all monuments of ancient architecture, especially all those of massiveness and magnitude. The truth seems to be that grand discoveries have recently been made, and such as to encourage future exploration. Among recent finds one of this class was described, last August, in a letter to the Parisian *Intermédiaire*—a French periodical corresponding to the London *Notes and Queries*—which has now for forty years been invaluable as a medium of inter-communication for literary men, general readers, etc., the world over.

An amphitheater has long been known to exist at Bourges, the chief town of the department Cher, and one street of that city is still called the street of the Arena. Of late years a theater, or amphitheater, is reported as detected in the canton of Vierzon, about twenty miles north of Bourges, and a little over a hundred south of Paris. Excavations have not yet gone far enough to show the true nature of the structure.

But a greater treasure-trove has turned up at Drevant, in the canton Saint Amand, a little south of Bruges. Here a vast amphitheater has been developed. Its diameter is eighty meters, and a meter is one twelfth more than a yard. Three fourths of its encircling ring remains unbroken. The platforms rising above each other, as bases for seats, are of brick and stone, and supported on arches raised on piers, which form four stories of porticos round the monument. The internal passages are five feet wide. Among the relics which have been here picked up are pins, clasps, a bronze collar, a mask of terra-cotta, bottles, a glass cup, fragments of red pottery and of inscriptions.



This wind-fall is chronicled in a region of dense population—more than a hundred on every square mile. But the stupendous Roman remain lay hid till just now. In view of this fact, what may not be buried in our older states, to say nothing of the new ones, eluding observation hitherto, but sure to greet future explorers with glad surprises, paying and over-paying for their pains?

PROF. J. D. BUTLER.

Madison, Wis.



### PREHISTORIC INDIAN EVIDENCES IN LOUISIANA.

*Editor American Antiquarian:*

In obedience to your kind invitation of some time ago, requesting me to send a letter on the prehistoric Indian evidences in this locality, for publication in THE AMERICAN ANTIQUARIAN, I respectfully submit the following account of those extinct American ancestors, the Mound-builders. That the reader may more accurately comprehend the subject, and situation as well, I will first say that the evidences I propose to write about are found on each side of Bevuff River, in Morehouse and West Carroll Parishes, Louisiana, and it can be seen by referring to the map that these Parishes lie adjoining the State of Arkansas, directly south of Ashley and Chicot Counties, respectively. Bevuff River is the dividing line between the two Parishes referred to above, on either side of which, for six or eight miles east and west, is one of the most beautiful forest swamps that has ever been designed by the Infinite Creator, though it is at the present unavailable for practical purposes, by reason of the periodical inundations. Amid this bold contrast of forest woods that hangs heavily in spring-time with a beauteous diversity of verdant foliage, dotted here and there, are to be found numerous ridges and mounds, on which are found many relics of prehistoric origin.

These ridges, which were doubtless the residences of the aborigines, for the most part lie in chains from three to five miles long; but sometimes they are found, too, by the side of each other, indicating that in their construction a union of effort must have been adopted throughout their kingdom. These chains have a course of direction parallel to that of the river, lying a little east of north, with a corresponding vibration west of south, giving them the peculiar course of a northeasterly-southwesterly direction. Another striking feature noticeable in some of these chains is that as the traveler wends his way to the southward, starting from the northern extremity of one of

these chains, he will perceive as he more particularly considers them, that each succeeding ridge is little smaller than its predecessor, till they finally terminate with one perhaps not more than three or four feet above the surrounding country, and one or two hundred yards long and one third as wide; but some of the more stupendous of these colossal ridge-structures are one half mile in length, two and three hundred yards over in the broadest places, overlook and command a vertical height of fifteen to twenty-five feet above the adjacent landlevel. But of the dream-pictured scenes of the most enthusiastic botanist, I do not think anything in the vegetable kingdom could be brought to bear that would present a more charming aspect of Nature's work than do the ridges in the spring and early summer, when the lands all around them are submerged with back water. They naturally have a fertile, friable loam that will produce a luxuriant crop of anything peculiar to a tropical latitude. To row a boat out of the massive forest up to one when it is wreathed in flourishing waves of a diversified crop, bowing in humble submission to each successive breeze, is pleasing in the fullest signification of the word.

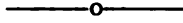
I contend that these ridges were built by the Mound-builders\* for their own personal protection in high-water times, and adduce a few words below to more clearly verify this conjectural argument: Upon the same principle that the Mississippi river overflowed the lowlands contiguous to its channel to-day, it is reasonable to suppose that it has overflowed from the earliest dawn of creation. I think perhaps that when the water first began to disturb their quietude, that the idea of building these ridges to enable them to maintain their possessions was suggested to their minds, and accordingly adopted all over the overflowed district. This is the most primitive idea. Being powerful in physical stature, as the pieces of bones here found indicate, the building of a small ridge, which could have gradually been increased with the increase of the water, would not have been a very great undertaking, when we consider that all their fortune was at stake, and the propriety of such a policy can be better anticipated by one who, like myself, has lived on one of these ridges all his life, and been an eye-witness to the ravages of overflow, its advantages and disadvantages. It is probable that the different sized ridges are the result of their tribal form of government, indicating that each tribe or family had to build their own ridge, and built it to suit the convenience

\*The Editor inserts this letter for the sake of the description of the natural scenery and to show how easy it is for persons, who are otherwise excellent practical observers, to mistake natural features for artificial works. The information which may come to us from this author in reference to the mounds found on these ridges is our warrant for prefacing it by a description of the scenery—scenery which in some respects, resemble that of the great cypress swamps situated farther north, where so important finds have been made. We welcome information from all parts of the country, but take the liberty to pass our own comments on it. -Ed.

and size of the family. The chains indicate a union of efforts for defensive purposes, while the mounds were probably sentinel posts or monuments reared in commemoration of remarkable events.

R. A. WALLACE.

Tipton, La.



## THE HUIDA-KWUL-RA, OR NATIVE TOBACCO OF THE QUEEN CHARLOTTE HAIDAS.

*Editor American Antiquarian:*

A great deal has been written of late concerning ancient tobacco pipes. Pictures of pipes of all sorts of shapes and sizes have been placed before the public. In this letter I shall make a departure, and lay before them something new, the *huida-kwul-ra*, or ancient tobacco of the Haidas. While writing this article, I have been obliged to Prof. Dawson, of the Canadian Geological Survey, for a few thoughts on the subject, in his report of 1878-9. Likewise to my friend, Mr. Hall, the Hudson Bay Co.'s chief officer at Fort Simpson, who has also made inquiries amongst the Haidas on the subject, as well as to my own research, extending over a number of years. The subject, if it does not interest your readers, will at least shed a ray of light on the ancient history of this coast.

Down from the distant ages of the past, long before they ever heard of tobacco, the Haidas used a narcotic plant, which was cultivated by them, not only for their own use but to serve as an article of trade with neighboring tribes. Speaking of it, Prof. Dawson says: "To prepare the plant for use, it was dried over the fire on a little frame-work, finely bruised in a stone mortar, and then pressed into cocks. It does not appear that they smoked it, but being mixed up with a little lime prepared by burning clam snells, was either chewed or held in the cheek." This plant, once extensively cultivated by all the Haidah tribes, has been, so far as I am aware, abandoned for many years. The last person to grow it seems to have been an old woman at Gumshed's village, on an inlet of that name, towards the southern end of these islands. She grew it up to about 1878, when it seems to have given place to the imported article.

Descriptions given me of this plant by various persons, place its identity as a species of poppy beyond a doubt. It is described as a plant with tall stems. On the extremity of each were a number of balls full of seeds. In ancient times, when the climate was warmer (I quote tradition), it used to grow very large; so large that in order to get a supply of seeds, it was necessary to shoot them off with bow and arrow. Owing to changed condi-

tions, for many ages it has only grown a low annual plant. While full of juice it was cut and prepared in the manner before given. That this plant was in reality a poppy, I shall try to prove. The description, in the first place, makes it resemble poppies. When used, its effects resembled those of opium also. Old people amongst the Haidas, when shown a picture of the poppy bush, readily recognize it as the plant from which they used to make huida-kwul-ra.

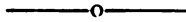
I shall next consider where they got this plant, or an idea of its narcotic qualities. This plant, according to tradition, was at first caused to grow in the interior of the Stickeen country, Alaska, by the Deity Ne-kilst-luss (Choocoth of the Haidas, Yale or Yethel of the Stickeens) who, after giving them the plant, next taught them how to use it. The Haidas, or least part of them, came originally from the Stickeen country, where they used the plant. Being desirous to emigrate, and wishing to have their wonted supply of kwul-ra, a party was sent before leaving to get a quantity of seed to plant on their island home. Taking his bow, with a few trusty arrows, he went out and shot off a few heads, which were taken to Queen Charlotte's islands and there sown, and by the descendants of these emigrants cultivated through many generations, until the imported article, which could be had with less trouble, finally took its place. Such is the tradition of the origin of huida-kwul-ra, Haida tobacco.

The tradition quoted above says that originally the Haidah tribes came from Stickeen, southern Alaska. That there was at one time an emigration from Alaska to these islands I have little doubt, yet they were not the first to settle. From my first acquaintance with the Haidas, in 1853, up to 1870, I noticed, as a people, they were a blending of two races, one short in stature, with black hair and eyes, and rather dark complexion; the other fairer and generally taller, while some had even fair hair. Most of the chiefs and well-to-do people belonged to the latter class, also those of the latter class not only claimed that their forefathers came from Alaska, but that they themselves were connected with the chiefs of southern Alaska. These old distinctions have been gradually disappearing for a number of years. From the present system of marriages, there will before long be evolved the handsomest race of Indians on this coast. But I must go back to my starting point, the emigration story, which is as follows:

Long ago, they say, their fathers came from Tongas and Stickeen. Crossing over, they landed on a long, flat, sandy point called Noi-Coon (long-nose), where they built a village. Here they lived many years safely in their stronghold, from which at last they were driven by the driving sands. Moving a few miles farther they built a village at the mouth of Hi-ellin River. Here they remained many years, until the sea, encroaching,

washed them out. After leaving this place they seem to have mixed with the other, because afterwards their individuality was nearly lost. In all their migrations they took the seeds of the poppy along with them. I have never heard of them being at any other place before Alaska, where they as a people lived through unknown ages. Although they say the Raven God gave their fathers the *huida-kwul-ra*, at a very remote period, they might have got it from Asia, where the poppy has long been cultivated. With these few remarks, I leave this article for the consideration of your readers. Meanwhile I shall try and get all the information to be had concerning it while amongst these people.

JAMES DEANS.



### PALEOLITHIC IMPLEMENTS FROM THE HILLS NEAR DUNSTABLE.

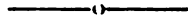
*Editor American Antiquarian:*

During the past twelve months I have found a small number of paleolithic implements at great elevations in North Hertfordshire and South Bedfordshire, unconnected with existing river valleys. Four of the implements—1386, 1387, 1393 and 1398 in my collection—are from Caddington; height above ordnance datum, 595 feet, 9 inches. The dry valley close by, to the west, is 470 feet, and the ground gradually falls southwards to 409 feet at the source of the Ver, near Markyate Street, at a distance of a mile and three quarters. The sections of Caddington exhibit red "clay with flints," brick earth (or clay), and tenacious brown clay or loam, surmounted by blackish earth, containing broken white-coated flints, a few ochreous flints, and numerous blackish tertiary pebbles. The whole deposit rests on chalk, and varies in depth from two feet to fifty feet. Aware of the importance of finding the worked flints in the undisturbed material, I have, after long searching, found a single implement and one or two flakes *in situ* at the stony bottom of the upper deposit of tenacious brown clay at a depth of three and four feet from the surface. A single small paleolithic implement I have found on the surface, height above ordnance datum, 759 feet 8 inches. The bottom of the valley, a mile and a quarter to the west, at the source of the Ouzel, is 414 feet. Half an ovate paleolithic implement, obviously derived from the hill-tops, I have found in a field at the bottom of a chalky valley near Houghton Regis. The Caddington implements are pointed (or tongue-shaped), slightly abraded, small in size, and cinnamon-brown in color. The interest attached to these finds rests not only on the great heights mentioned and the positions away from existing river valleys,

but in the nature, age and mode of deposit of the upper tenacious brown clay in which the implements are imbedded. The implements themselves agree in make and appearance with the well-known brown or ochreous implements often found in non-ochreous sand, etc., in existing river valleys. I have at present seen no traces of fossil bones or fresh-water shells in the deposits mentioned.

WORTHINGTON G. SMITH.

Dunstable.



### THE LAST DESCENDANT OF UNCAS.

*Editor American Antiquarian:*

Uncas, sachem of the Mohegans, was one of the most celebrated Indian rulers that ever lived in New England. While he was undoubtedly a man of ability, he also appears to have possessed a tyrannical and cruel disposition. His death occurred something over two centuries ago. Samuel Brushel, who is said to have been the last descendant of Uncas, died in Connecticut during the year 1882. At the time of his death the following interesting item appeared in the *New York World*:

"NORWICH, Conn., November 29.—Leading citizens of Norwich turned out in the snow-storm to-day to attend the burial in Yantic cemetery of the last descendant of Uncas, the great Mohegan sachem. The coffin-plate bore the inscription, 'Samuel Brushel, aged 37.' Brushel was a poor, shiftless man, and was fatally injured some weeks ago by a fall from a tree. He was proud of his Indian blood, and claimed that the remnant of the Mohegan tribe here were half-breeds. Not one of his tribe attended the funeral. Uncas, for political reasons, befriended the early settlers here, and much interest has always been taken in his descendants."

MCDONALD FURMAN.

Ramsey, S. C

## Editorial.

### HISTORIC AND PREHISTORIC RELICS.

#### HOW THEY ARE TO BE DISTINGUISHED.

One of the most interesting objects of study for the archaeologists of America is the one indicated in the title. The line which separates the historic and the prehistoric ages is, to be sure, illy defined, and there are difficulties in ascertaining exactly where it should be drawn. Much confusion has therefore come to the minds of many in reference to certain relics. This confusion arises from three different causes. 1. It is maintained by some that everything which has an historic semblance, even though it should be in a prehistoric horizon, must necessarily be ascribed to historic or post-Columbian sources, while by others it is claimed that there are certain symbols and art forms which are purely prehistoric, and yet have great resemblance to the art forms of the historic Asiatic countries, and that the discovery of these only proves a pre-Columbian contact. 2. Confusion arises from the fact that many of the prehistoric tokens have been transmitted into historic times, and have been used since the advent of the white man without any modification. 3. The most perplexing thing is that there is a border line between the historic and prehistoric times, in which the relics have become very much mixed, historic relics being found in mounds and prehistoric relics being found upon the surface, the post-Columbian Indians having continued to build mounds, and the pre-Columbian Indians having left many of their relics upon the surface, where they are now found. This last peculiarity obtains more fully in the older States, such as New York State, where the Iroquois dwelt, and the north part of the gulf States, where the Cherokees dwelt, and the Atlantic States. It also is met in Mexico and Central America, where there is a wonderful mingling of Spanish fabrications with the native specimens of art.

These three sources of confusion have, however, been increased by the various archaeologists who have had theories to carry out and who have used the relics as proofs of theories, some of them not being over careful in examining the position of these relics, and perhaps unconsciously wresting the testimony afforded by them so as to make them favor their own conclusions.

The idea is advanced that the Indians and the Mound-builders were the same people, and that the relics and works can not be distinguished. It is also advocated that the Cliff-dwellers and Pueblos were comparatively modern, and that there is no perceptible difference between works built after the time of the Spanish conquest and those before. It is maintained that the works and relics of the civilized races are also comparatively modern, and that everything which has a resemblance to historic customs or conventional art forms must necessarily belong to the historic period introduced by the Spanish. These conclusions, of course, cut off all debate, as if the ultimatum had been reached. We, therefore, take the liberty to say that none of these points are at present accepted by archaeologists as established principles; that while the drift of popular opinion is at present setting in that direction, there is much to be said upon the opposite side. There is a satisfaction in believing that many archaeologists are studying the relics and the prehistoric works of the continent without any theory to establish, and that they do not allow preconceived opinions to bias them. Yet when the drift of thought is so strong and it is becoming a fashion to hold certain tenets, it seems the more important to be cautious, lest we make our generalization too soon and adopt conclusions which have been based on uncertain premises. There is no consensus of archaeologists on any of these points, for the very reason that the relics which have been cited as witnesses are so contradictory in their testimony. It seems wise in the majority to hold their opinion in suspense until tests can be applied and the prehistoric relics are distinguished from those which are historic, and the doubtful ones eliminated and put into limbo to await classification afterward. The data has been increased, and in reference to some the archaeologists seem to be agreed; but there are so many new specimens constantly coming to light and so many new points brought before us, that it still remains a question as to whether the whole field does not need to be gone over again. Certainly if defining and analyzing are of any use to science, they are of great importance to archaeology, and yet it would seem as if there was in some a great lack of discrimination—a lack which is not likely to be remedied except by the most patient and cautious process on the part of the leaders themselves.

The test by which we can determine the place of relics or of remains are not easy to give, and yet we would be glad to present some hints on the subject. Three classes of relics are before us for study.

I. Let us take those tokens which are of undoubted historic or post-Columbian origin. 1. It has long been acknowledged that iron relics, especially if they are cast or wrought, are to be classed with post-Columbian. They belong to the so-called iron



age. There may, indeed, be many relics which are formed of magnetic iron or of brown hematite or of bog iron and sometimes of iron nuggets, which resemble wrought or cast iron, but the smelting of iron was not an accomplishment of the prehistoric races, as every one knows.\*

2. The presence of tin foil or brass wire, of regular gold and silver plating, in the midst of prehistoric relics has generally been a sufficient test to assign all of such finds to post-Columbian times.

3. The discovery of glass beads of any kind is supposed to indicate a recent date. There may, indeed, be certain beads, such as the aggrey beads of the ancients, which would be regarded as doubtful. But glass is historic and should be recognized as such.

4. The discovery of alphabetic characters on a tablet ought to be sufficient for any one to know that the relic is modern. We are aware that some have been deceived in this, but it is sufficient to condemn any relic to find alphabetic letters upon it.



Fig. 1. Modern Inscriptions.

5. The discovery of pipes and carved relics with modern figures on them, such as horses' heads, the faces of men with beards and European features, or with paneled square sides, is generally regarded as belonging to recent times. See Fig. 2.

6. Rock inscriptions with muskets, wagon-wheels, horses' heads and bodies, or with crosses and Catholic priests in long robes, do not need to be looked at a second time, though there may be in the same vicinity the figures of serpents and of the mythical creatures which deserve close attention before they are dismissed.

II. Prehistoric relics found in America which have a resemblance to those found in Europe, Asia and oriental countries.

\*The chief find which really proves to be an original burial in a genuine mound, is one described in the AMERICAN ANTIQUARIAN for 1902, page 253, in this a chief or medicine man was found in a sitting posture, with an iron bit, brass wire, tin ornaments, cloth shirts, and other relics close to the bones. An iron axe from a mound in Ohio is described in the AMERICAN ANTIQUARIAN for 1902, page 181, but no other relics and no bones are mentioned. It was maintained by Atwater that iron and silver objects were found in the mound at Circleville. Prof. Putnam in 1861 refuted this, showing that the so-called sword scabbard was a native relic with hammered sheets of native silver. The iron from the altar on the Little Miami, was nothing but meteoric iron hammered into plates. See proceedings of American Antiquarian Society, VOL. II, page 100. Dr. Cyrus Thomas claims that iron, brass and other historic objects are found in mounds. Every case so far, however, when sifted proves to be either a case of surface digging near historic spots or of intruded burial in an old mound, e. g. the hawk bells at Prairie du Chien, iron sword in the T. F. Nelson tri-angule burying ground, and in the so-called "insignificant mound" in Caldwell County, N. C. See Fifth Annual Report of Ethnological Bureau, page 62.

In the opinion of some, all such relics should be ascribed to post-Columbian times, for with them the idea of contact with either Asiatic or European countries is excluded. Some of these relics, especially those which contain certain symbols, such as those of the cross, are accepted as genuinely prehistoric, because they might have originated on this continent independently; but all others, especially if they point to Buddhistic, Chinese or other Asiatic sources, are at once laid down as belonging to post-Columbian times. The same is true of everything which looks like Scandinavian, Anglo-Saxon, Spanish or Italian fabrication, not excepting such things as possibly may have been left by Norsemen, or even such as may imply the visit of Phœnician, Carthaginian or African navigators. It is taken for granted that everything which has a modern look, and even everything that



*Fig. 2.—Modern Pipes.*

can be traced to historic countries, must be ascribed to post-Columbian times. The very point which some are studying, and would regard as an open question, is denied; and the privilege of discovering historic tokens is refused. The habit of cutting off debate, when there are so many mooted points, is not conducive to progress, nor in harmony with the scientific spirit. A better way would be to keep our minds open to further information on all of these points, and follow the evidence wherever it may lead, whether back to Asiatic countries or forward to post-Columbian times, but at the same time sift the evidence to see if there is not a difference between the prehistoric and historic relics in those very things. We take the objects which are pronounced as pre-Columbian.

1. The Symbol of the Cross.—This by some would be pronounced historic, but by the majority it is acknowledged to be prehistoric. It is a common symbol throughout the United States and in Central America; so common as to preclude the idea of its modern origin. The cross varies in shape. It is

sometimes a mere cross-bar, sometimes a cross-bar with the ends turned back or bent, making it resemble the Hindoo Suastika, or fire generator; sometimes the arms are curved, making four crescents. These so-called crosses are found on the shell gorgets, on the carved stone pillars of Mexico, and on the stucco tablets in Central America. They are weather-vanes or signs of the seasons, or symbols of nature powers.

2. The portrait pipes, or portrait statues or idols, some of which are found in the mounds, some in pottery vases in New Mexico and Central America, some near the palaces in Yucatan. Resemblances to Egyptians, to Negroes, to Anglo-Saxons, have been traced in these. The large majority of them, however, are



Fig. 3. Head with Nimbua.

purely aboriginal and are pre-Columbian in their character. In a few instances faces have been discovered which were evidently post-Columbian, and an imitation of some Spanish priest or general or civilian. It is easy to see this in Fig 3. There are, however, other faces on the sides of the pyramids which have a very striking resemblance to white men, as they have the Caucasian features and the Anglo-Saxon eye. We place these among the doubtful specimens. On the other hand, the faces in the sculptured stone columns, and on the staircase at Palenque, are evidently aboriginal and prehistoric. There are also pipes which are prehistoric. Good illustrations of one was given in our last number in the article furnished by Mr. A. E. Douglass. This pipe was found in an old mine in San Salvador, one of the six mines noted as developed by the Indians prior to the Spanish advent. We give here, by way of contrast, the cut of two other pipes (see frontispiece). The pipe from Zapotecas, Mexico,

is probably prehistoric. The other two pipes are doubtful. One of them was unearched in Palenque, but it has a very modern look. We certainly should not take it in evidence in any doubtful case.

3. **Bronze Axes, Knives and other Relics.**—We place these among the prehistoric, although we notice that Maj. Powel, in his article on "Prehistoric Times," in *The Forum* for January, 1890, takes the ground that there was no such thing as a bronze age in America. We, however, take the myths of the Mexicans and in their light study the shape of the bronze relics, especially the bronze knives, and quote these upon the other side. Pictures of bronze knives, resembling saddlers' knives, are numerous in the

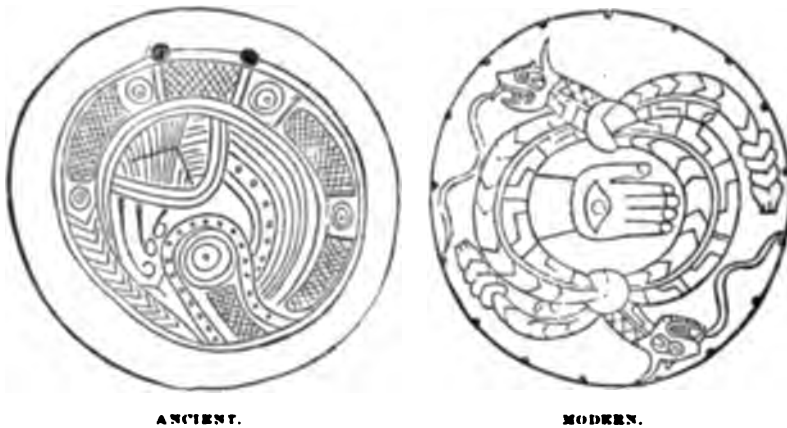


Fig. 4.—Shell Gorgets, Ancient and Modern.

old codices. Such knives were used as coins in ancient times. We would ask the proofs from Major Powell before we accept this position.

4. Specimens of Jade, with faces, figures and symbols resembling those found among the Buddhists. Such a specimen was exhibited by Mr. G. F. Kunz, to the members of the association in New York, in 1887. It showed contact with the Asiatic countries and is probably pre-Columbian. This point, however, we leave for the present.

III. We come to the doubtful specimens. These are so numerous and of such varied character that it is difficult to describe them. We only present a list and leave it for others to discuss.

1. Pipes.—We present the cut of a pipe which was found in New York State. Fig. 5. It may have been pre-Columbian; there are aboriginal marks upon it, but the decorations with the flag and the wooden stem show that it was historic. We have learned of many other pipes made from pottery which were found in New York State, which were evidently modern.

2. Wampum.—Much of this is evidently modern. There are specimens of wampum which are ancient. It sometimes requires close discrimination to tell the difference. Beads and bugles made of red pipestone are numerous. The most of these are modern. The beads made of bone and of sea-shells and bears' teeth are probably aboriginal, and yet one can hardly tell whether ancient or modern.

3. Much of the pottery found among the ruins of the pueblos is modern, though some of it is ancient, and it requires a trained eye to determine which.

4. Petroglyphs, or Rock Inscriptions.—There are no tokens which have been discussed more than these. The Dighton rock



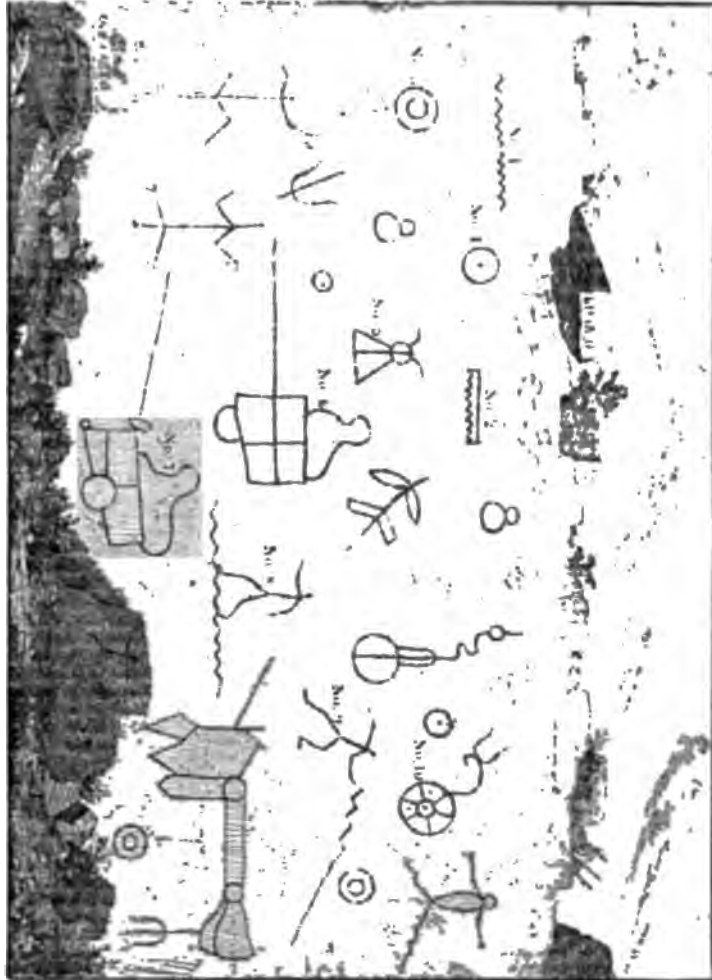
Fig. 5.—Horn Pipe.

is an illustration we have given in the cut (Fig. 6), specimens of petroglyphs found by Mr. J. G. Bruff not far from Mount Shasta, near the Green River, Cal. The singular thing about these is that they are all purely aboriginal, and yet there are wheels and sphinxes, or figures that look like sphinxes, as well as the various nature symbols, such as the sun and the lightning. Near this same spot an inscription was found, in which muskets and a horse are conspicuous. These were evidently modern, and yet the other figures, those given

in the cut, were evidently ancient. It may be said, however, of all petroglyphs that ancient and modern figures are so mingled together that it is almost impossible to separate them, and it requires great care and skill to detect the difference.

5. The shells which have modern ornamentation, especially those which have the figure of hands (see Fig. 4), and all such modern conventionalities, of course, will be understood, and yet there are many specimens of pottery and many inscribed shells which still puzzle the archaeologist and make him doubtful as to his own ability to draw the line between their historic or their prehistoric origin. Shells have been found in mounds which contain human figures with wings resembling angels' wings coming out of their shoulders. Some of these, however, have Mexican costumes and other aboriginal devices about them,

...puzzling that one is really in a quandary.' He wants to consign them to the list of frauds, and yet he wants to know whether the winged creatures of the Mound-builders did not em



ANCIENT HIEROGLYPHICAL RECORDS, covering the familiar walls of a dwelling of many miles in extent, averaging  
 1-1/2 ft. in height, on the eastern slope of the SERRA NEVADA MOUNTAINS  
 Discovered by J. G. BURF. (1881-1882. Section on a large scale.)  
 FIG. 8.

brace human bodies, and then he wants to know, if recent deposits, how they came to have "angel's wings".

6. We should also place with the doubtful class those specimens of art which have been found among the auriferous gravels

of copper ornaments, representing human figures with wings on their shoulders, but with various Mexican paraphernalia were found in the Etowa mound in Georgia. These were ascribed to the Shawnees. They do not look like native fabrications at all, but they are more likely to have been ancient than modern, for no modern Indian would have thought of drawing such figures. It is possible that contact with the Mexicans on the part of the mound builders will yet be proven. No other relics which could be ascribed to historic times were found with these on jar plates, though the mound contained stone casts. See Fifth Annual Report, Ethnologist, Bureau, page 100.

of California. These consist of steatite pots, mortars and ollas, some of which are quite finely wrought. They have been quoted by many as furnishing evidence of the extreme antiquity of man. Their position in the gravel is sometimes as much as fifty feet below the surface; a fact which is supposed to prove them to be very ancient. Major Powell, however, in his article in *The Forum*, takes the ground that they are of doubtful antiquity; they resemble the utensils which are used among the California Indians for the purpose of grinding acorns. "None of them were found by scientific men as trained geologists or trained archæologists, but by miners unskilled in these researches." "The relics themselves belong to the highest culture known in the United States."

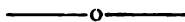
The most remarkable specimen of all is the celebrated image or idol which was recently found in the boring of an artesian well in Idaho Territory, some three hundred feet below the surface. This image has been described by Prof. G. F. Wright, both in *The New York Independent* and in *Scribner's Magazine* (February, 1890). All we can say is that it is out of place. It is too good a specimen of art to be called a paleolithic relic, and yet it was found in the place or at a depth where only paleolithic relics belong. Its position is said to have been in the old soil underneath lava beds, quicksands, clay, and clay balls mixed with sand, just above the sandstone. The bearing of this discovery, as Prof. Wright says is of the highest importance. The strata in which it is reported to have been found are older by far than any others in which human remains have been found, unless we except the Calaveras skull, concerning which there has been so much discussion. The idol, though a very diminutive one—only one and a half inches long—seems destined to produce a great revolution in the theories and opinions of scientists generally. It proves one of two things, either the lava beds and auriferous gravels have been placed by geologists too far back in the scale of time, or the order of progress and the succession of ages which the archæologists have been adopting must be entirely revised. Our opinion in reference to this relic is that at present it must be placed among the doubtful class, and we must await further developments before we can adopt any conclusion as to its age or to its position in the archæological line.

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#### DEALERS IN BOGUS RELICS

We have in the last few numbers of *THE ANTIQUARIAN* been hunting to our readers that various dealers in relics, some of whom have advertised in this magazine, have been suspected of dealing in bogus relics. We now learn that some of these parties are continuing their traffic. We repeat the caution which was

published in the last number: Do not trust any dealers in relics, you are sure from your own unless knowledge that the relics are genuine and are authenticated as coming from the places of which they bear the label. Some of the tricks which we have learned are as follows: A dealer in Illinois, a saloon-keeper, sends to a dealer in California a lot of stone axes, knowing that those axes will be sold as California relics; a dealer in New York offers to exchange good relics for THE ANTIQUARIAN; he sends a lot of worthless stones, the poorest lot imaginable, and calls them valuable; a dealer in Ohio, whose correspondence is always pugnacious, a few years ago had a controversy with a dealer in Massachusetts; both of these dealers go shy of THE ANTIQUARIAN for some reason; a dealer in Michigan has a lot of sawed relics for sale; he insists that he is innocent, yet persists in selling. We have already sounded our warning. We do not know when our confidence is misplaced, but would put our readers on their guard. J



"THE PATH OF SOULS."\*

HARRIET NEWELL SWANWICK.

When death to the patriot cometh,  
 His spirit soars to the sun;  
 Virachoca, the great all-father,  
 Will welcome him with "well done!"

In spilling their blood for their country,  
 They gain a home in the sky;  
 But while they may become immortal,  
 All others, like brutes, must die.

If a mother in child-birth perish,  
 Her place 'mong the stars is made;  
 A pass-port to life is awarded,  
 To all who this price have paid.

Even thus doth the child of nature  
 Reach out toward the great unseen;  
 For a part in the dim Hereafter  
 His hunger is deep and keen.

Dare we smile at the half-true story,  
 Or boast of our culture broad?  
 Nay; *the soul that would struggle upward,*  
*Through sacrifice comes to God.*

\*Founded upon a myth held by certain tribes of Mexican Indians.



## LITERARY NOTES.

**BUBASTIS.**—Miss Amelia B. Edwards has prepared a very elaborate article on the discoveries of Bubastis, which is published in *The Century* for January. She says: "The finding of the great temple of Bubastis is one of the romances of archaeology." This temple was known to history, as it is described by Herodotus. Its site had been dug over, but not thoroughly. M. Naville begun anew in March, 1887. A wonderful find was the result—columns, statues, inscriptions, paintings, the ruins of the hypostyle hall, legs and throne of a certain Hyksos King, head of Rameses II, statue of Amenhotep, door-jamb with cartouches, head of another Hyksos King, fragments of lotus bud capitals, colossal group of Rameses II, threshold stone and bronze pivot, colossal Hathor head, now in Boston, broken colossus of Rameses VI, bas relief from festival hall, portrait statues, etc., etc. were exhumed to the surprise of the explorer and to the great delight of archaeologists. All of these objects are portrayed by the engravers, and the article describes them at length, the writer adding a running comment on the historical periods which they represent. The history begins with Cheops, spelled by Miss Edwards, Khufu. It continues through the time of the early dynasties—the dynasties that built the pyramid; it includes the time of the Hyksos kings, many memorials of which are found; it takes in the time of Moses and the exodus, the portraits of the king, called in the Bible Pharaoh, being found in the statues. It continues on to the time of the Ptolemies, B. C. 265. The ruins are full of memorials, which cover a period of perhaps 3,000 years, a marvelous length of time for the records which were found in one spot, a spot which was but a few hundred feet wide and a few feet in depth, if we take depth below the surface as the rule. The ruins themselves, to be sure, were much deeper, since one of the trenches was 150 feet above the lower one, which was but a few feet from the surface, and still another trench above this, which disclosed the hypostyle hall, was laid open. This makes the depth of the so-called mound about 300 feet, though we do not understand that there were layers in the mound by which the age of any building or relic could be determined, these points being decided by the character of the art itself, rather than by the position of the fragment. It is interesting to notice that in Egypt the style of art varied so greatly that skilled archaeologists can always tell the age and dynasty to which an object belongs, a fact which is in strong contrast to most of the pre-historic relics, especially those found in America. History, and especially Bible history, has received great confirmation from these recent finds. The discovery of the mummies of the Pharaohs produced a great sensation a few years ago. The discovery of the statues of Pharaohs and of other Egyptian kings, especially of the Hyksos kings is a still greater surprise. The contrast between the Hyksos kings and those of the regular line, is brought out by the statues. That Bubastis was a Hyksos settlement, was an utterly unexpected revelation. The characteristics are

unquestionably Turanian—high cheek bones, prominent jaw, eyes inclining slightly upward, open nostrils, full lips, hard lines about the mouth, angular forehead, Saturnine, melancholy, Mongolian type, totally distinct from native Egyptian type. Such is the portrait of the Hyksos king, as exhibited by the statue. A question which we would like to ask, is: Was the crown of the Hyksos kings anything like the crowns of Rameses, or other Egyptian kings? Miss Edwards is lecturing to crowded houses in this country. Her visit is likely to increase interest in the Egypt exploration fund which she represents, being president of the society. It is well that Bible students and the public generally have an opportunity to hear this remarkably gifted woman, and it is still better that *The Century Company* has given to the public such a fine specimen of her style and exhibition of her scholarship.

IRON AGE RELICS.—Among the antiquities recently acquired by the Christianiana Museum are some from the middle iron age, found in two barrows at Larvik. They consist of fragments of a lance, a shield with iron handle, a pair of shears or scissors, and a buckle of silver, besides a number of vessels, amongst which the most remarkable is a glass beaker, ornamented with threads of glass fused on to the exterior, a wooden bucket caulked with tar, and many urns. Among the latter is a large handsome one with a long neck. The graves in the barrows were made of stones. On a farm in the parish of Tjolling; also on the west coast of the Christiana fjord, a barrow, which had been formerly disturbed, has been excavated. Around it is a ring of raised stones. It dates from the early iron age. On the eastern and western side a *Baulsten*, or memorial stone, is raised. The funeral chamber is built of stone. Only three buckles of bronze, with silver ornaments, a plain ring made from an alloy of gold and silver, and the jaw-bone of a man with teeth remaining, were found. The body had not been burned. A yard further to the east a grave with calcined human remains was also found.—W. G. S.

SKULLS FROM MOUNDS.—The editor of this journal was engaged for several years in exploring effigy mounds in Wisconsin. During that time a large number of skulls were brought to his notice. Since then photographs of similar skulls have been received. During the past two years explorations have been conducted in Central Illinois, along the Mississippi River. A large number of skeletons and skulls have been exhumed. These skulls differ essentially from those in the Wisconsin mounds, taken as a class. The modes of burial also differ. The question of tribes comes up in this connection. The Winnebago—a branch of the Dakotas—and the Illinois, including the Sacs and Foxes, were the original inhabitants of Wisconsin. The Shawnees were residents of Illinois. The skulls exhumed in this State indicate different tribes, but all different from those in Wisconsin. It has been the effort of the editor to secure an appropriation from some source so that these skulls could be gathered into a common museum.

PIPES AND POTTERY.—A mound in Georgia, excavated by Mr. Reynolds, of the Bureau of Ethnology, has yielded some very interesting relics. Among them is a pottery bottle or vase called the Triune vase. It has three human heads forming its base, but its neck unites them into one. Another vase has two symbolical rattle-snakes, with horns surmounting the head, and

teeth or fangs plainly carved. In one place a face looks out from the folds of the snakes. Some textile fabrics and various copper relics were found in the same mound, also eleven pipes carved into various shapes. The relics were placed in circles on two different levels, with a firebed above each layer, showing that religious rites were celebrated.

**THE ARIZONA FIND.**—While speaking of doubtful finds we must not lose sight of the fact that new discoveries are being made which seem to favor the ancient abode of man in America, the very latest being that of an obsidian relic in the shape of an implement from pleistocene deposits in Arizona. Mr. W. J. McGee has, to be sure, doubted the normal character of the find, as it may have been a mere adventitious introduction of a neolithic relic in a paleolithic location. For the present we are forced to put all such finds into the list of doubtful age, and leave the subject for further developments.—*Popular Science Monthly*, November, 1888.

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#### BOOK REVIEWS.

*Old Heroes: The Hittites of the Bible.* By Rev. J. N. Fradenburgh, D.D., Ph.D.  
New York. Hunt & Eaton.

The Hittites have engaged the attention of archaeologists and Bible students for several years. They now assume a very important place in the history of Bible lands. Abraham is known to have bought a burying place from the sons of Heth. Sayce says that the Hittites formed part of the Hyksos forces who took Egypt during the time of Joseph. Subsequently Hamath became the great capital, the ruins of which were discovered by George Smith. The "white Syrians" were probably the Hittites. It is supposed by some that the Hæcclids were also Hittites. It is said that Ephesus, Smyrna and several other cities of Asia Minor were formed by them. Kadesh was an old capital. Here Rameses, in 1361 B. C., fought a great battle with him, and afterwards recorded his victory on the walls of the Ramesseum at Thebes and of the temple of Karnak. Judging from these inscriptions, we might conclude that the Hittites were highly civilized, possessing magnificent chariots, armor resplendent with jewels, capable of building bridges and fortified places, having domestic animals and raising wheat, barley, and different fruits—possessing also an alphabet, and establishing libraries and public records. This, to be sure, gives a view of the lands of the north which we are hardly prepared to receive, and yet the descriptions of Homer imply that there were roads and bridges and highways in his day. The race affinity of the Hittites is unknown. Some have said that they were neither Semitic or Aryan yet certain uniform inscriptions are acknowledged to be Hittite.

Dr. Fradenburgh has given in his second chapter a history of the wars of these people, and in the third gives a description of their decline and final destruction. It is strange that this people could rise to eminence and then disappear and so little note of it be taken by history, but it is interesting that the monuments confirm the Scripture records, and prove that the Old

Testament is really more accurate as history than many of the critical skeptics have been inclined to believe. This little book is one of those side lights which bring out the unnoticed confirmation of Scripture, and is therefore worthy of study.

*Three Dramas of Euripides.* By William Cranston Lawton. Boston and New York: Houghton, Mifflin & Co. 1889.

This volume is intended as a contribution to literature, and to classical philology. The classical reviewer should read it with this point in view. It is not a translation, but rather a review, fragments of the dramas translated, with notes on the translations interspersed. The book begins with a brief history of the rise of the Greek drama, and a description of its foundations. The notes bring out the various points of interest, referring at times to the archaeological, at times to the geographical scenery, and at times to the poetical imagery. They are both scholarly and critical. The publishers have put the volume into the best shape possible.

*Wyndham Towers.* By Thomas Bailey Aldrich. Boston and New York: Houghton, Mifflin & Co. 1890.

This is a beautiful book, attractive in binding, neat in its letter-press, and tasty throughout. The poem itself has received many commendations from the critics, and seems to have produced quite a sensation in the world of belle lettres. The style may be compared to that of Browning, and yet it is original and peculiar. The story is unique.

*The History of Ancient Civilization.* A Hand-book based upon M. Gustave Ducoudray's "Historie Sommaire de la Civilisation." Edited by Rev. J. Verschoyle, M. A. New York: D. Appleton & Co. 1889.

This book begins with the prehistoric times and ends with the Roman empire at the time of Severus. The author speaks of the monuments of Egypt, of Babylonia and Assyria, of the religion of the Jews, the commerce of the Phoenicians, the literature and art of the Greeks, the society and government of the Romans, taking in all a space of 295 pages. The book may be regarded as a compendium of the latest information on all these subjects. This may be said to the credit of the author, as he is neither carried away by some novel theory, which might be regarded as a fashion, nor is he biassed by an unfair or bitter prejudice against commonly accepted views, but is fair minded and just, and at the same time scholarly and correct in habits and tastes. There is no dash and brilliant scintillations such as the iconoclast of modern days delights in, but there is nevertheless much reliable information in the book.

*Indian Place Names in East Hampton, their Probable Signification.* By William Wallace Tooker.

East Hampton was once the home of the Montauks—a name taken from the dwelling-place, Meuntaut-Highland—a confederacy governed by four brothers, chiefs of four tribes, Manhansette, Mantoukette, Shinecooks and Corchaugs. Amaganset signifies fishing place. We have not space to give the Indian names and their localities. The most of them, however, seem to be taken from natural scenery—swamp where the rushes grow, lodge covering place, fishing place. The author has not given the etymology of the

words, but only mentions the traditional or conjectural significance. A knowledge of the Indian language is necessary to follow up these place names. Still, identifying the names with the natural features is important, and the scholars in linguistics will be better able to understand the name after a study of this little pamphlet. Mr. Tooker has long been a subscriber to THE ANTIQUARIAN. We are glad to receive anything from his pen.

*Boy Travelers in Mexico.* By Thomas W. Knox. Illustrated. New York: Harper & Bros. 1890.

There is a great deal of information contained in this book, and for boys who are fond of reading travels it is a splendid work. The illustrations are all of them very attractive, and there are a good many of them. The historic and prehistoric are somewhat mixed, but the book is more interesting on that account. There are descriptions of the Mexican war, and of the Mexican amusements, a view of Popocatepetl, a description of the Spanish conquests, also temples of Yucatan, account of ancient Indian pottery—which is not so ancient as some suppose,—account of the silver mines, and many other interesting things. It is superbly bound, and is attractive in every way.



#### BOOKS RECEIVED.

*Aims and Traits of a World Language.* By Daniel G. Brinton. Delivered before the XIXth Century Club of New York.

*Indian Place Names in East Hampton, with their Probable Signification.* By William Wallace Tooker. Sag Harbor: J. H. Hunt. 1888.

*List of "Pansiyapanas Jalaka," the Five Hundred and Fifty Births. Stories of Guatama Buddha.* Compiled by N. D. M. de Silva Wickremasinha.

*Owan-laya Tales.* By W. M. Beauchamp.





**SUGAR LOAF ROCK AT MACKINAW**

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THE RELIGION OF THE INDIANS OF PUGET SOUND.

BY REV. M. FELLIS.

The practical part of their religion is a compound of shamanism and spiritism, called in the Chinook jargon, ta-mah-no-us, and the word expresses the idea so completely that it has been somewhat adopted into English, for it expresses a combination of ideas for which we have no exact English equivalent. It is derived from a word in the original Chinook language, it-a-mah-na-was, and has a wide signification, and in general means anything supernatural—except the Supreme Being and Satan—either among good or bad spirits: anything between man and the Supreme Being on the one hand, and man and the devil on the other, and hence both a good and a bad tamahnous are spoken of. The word is used as a noun, an adjective and a verb. As a noun a tamahnous is the spirit or supernatural being in the other world, and also the act of invoking the aid of the good ones, and of driving away the bad ones, so that a great tamahnous is spoken of, meaning a great gathering of people who are performing their incantations. As an adjective, it qualifies and defines certain persons and things, so that a tamahnous man is a person who, by his incantations, can influence the spirits—a medicine man, a tamahnous stick, stone, or painting is one in which the spirit dwells, or is sometimes used in performing the incantations. As a verb, it signifies to conjure or influence the spirits.

OBJECTS OF REVERENCE.

These consist of the Supreme Being, angelic spirits, Satan and demons, tamahnous sticks, idols and the sun.

*The Supreme Being.*—It has puzzled me a little to perfectly satisfy myself that these Indians had an idea of a Great Spirit previous to the coming of the whites: some such Being as the Indians on the Atlantic coast are generally believed to have had an idea of, yet I am tolerably well satisfied that they had an idea



of some such being, though it was a dim one and not very practical to them. In the next section will be given an account of what might properly be called an Incarnation, a great being called Dokibatl, who came to the earth a long time after the original creation of the world. Some say that the world was created by a Supreme Being other than Dokibatl, while others think that it was that personage himself before he became incarnate. If the ideas of the first class were held before the coming of the whites, then they had a dim idea of a Great Spirit. I am also told that they have an idea of a Great Being who created the sun, long before they knew of Dokibatl, but that they never speak his name. Judge Swan, in his "Indians of Cape Flattery," says that the Makah Indians have an idea of such a being, but likewise never speak his name.

*Dokibatl.*—Whether or not the Indians received their ideas of a Great Spirit from the whites may be a little uncertain; but one thing is certain, and that is that they did not get their ideas of this personage from that source. They are as full of their traditions about him as they are of the practice of their tamahnous—two things which stand out plainly in their religion. He is called Do-ki-latl, or Do-ki-batl, by the Skokomish Indians, Do-kwi-butl by the Nisquallies and Skagits, and Nu-ki-matl by the Clallams; the difference by the latter tribe being accounted for by the fact that their language is much more nasal than that of the other tribes; the same difference being seen in other words common to the several tribes. The Clallams say it was a woman, and not a man, as some others say.

The origin of the personage seems somewhat confused. One of the Clallams, a tribe which worshipped the sun and believed it to be the Supreme Ruler of the universe, says that this Being was the Sun incarnate; while the Skokomish Indians say that he was the original creator of the sun, moon, man, woman, birds, beasts and all things. I have never been able to learn that the latter tribe worshipped the sun. He seems to have held the same rank with the I-ka-nam of the Chinooks, A-mo-te-ken of the Flatheads, and Ti-me-hu of the Spokans.

According to one Indian, he made the moon and sun, the moon first and in the night, intending it to be the sun. In the morning it rose, but it shone too hot, and caused the water to boil and so killed the fish. It also killed many animals on the land, and did much damage generally. Hence he made the sun, as it is now, to rule the day, and condemned the moon to shine at night.

One Indian told me that after he had created all the animals, that then he made a man out of the ground, and a woman out of his rib, and gave them a good land, telling them they might eat of all the fruit, except one kind of berries. But the woman, tempted by Skwai-il, the king of evil, ate of those berries. When

Dokibatl came, he said, "Have you been eating of those berries?" She said, "No." He replied, "Yes, I know you have." On account of this they think that her children became Indians, ignorant, foolish and dark-skinned. But the man did not eat of the berries, and to his children were given letters, the knowledge of books, and a white skin. A part of this story is so nearly like that of the Bible as to make me question whether it is purely native, or whether it is not at least partially derived from the teachings of the whites. My informant, a Twana, said, however, that he knew the Bible history, and that theirs was somewhat similar, and he told it to me in connection with a number of purely native stories. However, he is not the most truthful Indian on this reservation. The Clallams also have a tradition that the first man was made from the earth.

But, while their ideas of his first work are somewhat confused, their belief of his second coming is quite clear, and nearly all of these tribes agree as to what he did. He changed things very decidedly; hence his name, which means "Changer". At that time some of the Indians hardly knew where he came from, but they think he came from the south or southwest, where the sky comes down to meet the world, and he was last heard of to the north, in British Columbia.

A long time after the creation, say the Indians, the world became bad and the people became bad and foolish, whereupon Dokibatl determined to come here and rectify affairs—to punish the world and to change the foolish into something else. According to some he first made the animals as men, but they were foolish. If a person stubbed his toe and fell down, he died; if he was very hungry, he died; the humming-bird tried to fight the rain; none had any houses. At one time they all had a potlatch. The skate was an old man, and stood in the door, whereupon the rest knocked him down and trod upon him, until his fat spread out all around, when they, foolish beings, ate it, and greased themselves with it, until nothing remained. On account of this and similar acts, Dokibatl changed a large number of these persons into animals, as ducks, fish, sharks, skate-fish and other animals. Five persons were changed into the north wind. He also taught those who were left a number of useful arts, as the making of houses, the catching of fish, and the like.

According to the Skokomish Indians, one man, knowing that he was coming, sat down with his bone knife and began to whet it, saying, "I will kill him when he shall come." Soon he came, but was so much like common men that the man did not know him. Dokibatl said, "What are you doing?" "Nothing special," was the reply. Again the same question was asked, with the same reply. Then Dokibatl said: "I know what you have said; you want to kill me. Let me take your knife." It was given to him, and he thrust it into the man's ankle, behind, which

made the man jump, and he continued to jump, was changed into another form, jumping on all fours, and this is the origin of the deer. As he plunged the knife in the ankle to the handle he left it there, where it still remains, having become the fetlock. Another man was acting similarly with his knife when Dokibatl took it and thrust it into him, and he became a beaver, the knife becoming its tail. Another man was pounding against a cedar tree with his head, trying to break it down, so foolish was he. Dokibatl asked him what he was doing; he told him, whereupon the Changer told him that he had better go away. He did so, and as he ran, wings, a strong head and long bill came to him, so that he could bore holes in trees, and this is the origin of the woodpecker. He found another man out in the rain, not knowing enough to get under shelter, and trying to keep off the rain by swinging his arms and hands around. He was changed into the humming bird, and the arms are still swinging. Another man was performing his incantations or tamahnous, with his hair tied up in a knot on his head. He was changed into a bluejay, the knot still remaining. A boy knew that Dokibatl was coming, and was afraid that he might be changed, though he did not wish to be; so he ran away, carrying with him a water box or Indian pail with water in it. As he was running, some wings came to him to help him get away fast; he began to fly and became a turtle-dove. The shaking of the water made a noise something like that when pu-pu-pu is said very fast, and this became the noise of the bird as it begins to fly. When it first found itself changing it began to cry "hum-o, hum-o," a noise which was changed into its present mourning sound. This word is the name of the bird in the Skokomish language. Other men had painted themselves in various ways, and when they were changed, their colors partially remained, and this was the origin of the colors of the birds.

Near the mouth of the Skokomish River he found some men fighting, and he changed them into stones, which now lie there on the beach, a very large one having been an officer in the battle. As he walked across the land near the mouth of the Skokomish River he slipped, whereupon he cursed it, and it became the marsh now there. As he walked down Hood's Canal, on the west side, he found two canoes turned over, their owners being away fishing. These he changed into two long stones, now lying there. In crossing a small stream he again slipped, and hence cursed it, on account of which no fish go up that stream. A short distance south of the mouth of the Lillewaup River are two places in the rock, about two feet long, which look somewhat like large foot-tracks deeply made in the stone. These the Indians believe to be the foot-tracks of Dokibatl. They are between high and low tide, and were evidently washed out by the water. Two rocks lie on the beach south of Lillewaup

which were the canoes of some persons who were out fishing. When Dokibat! came along, for some reason, he changed them into the two stones. On the opposite, or east, side of the Canal, two or three miles north of Dewttee, are two rocks which are about a hundred yards apart. These were a man and wife who had been quarreling and had separated, and were that far apart when Dokibat! came, whereupon he changed them into these stones. On the opposite side of the Canal, about three miles below the mouth of the Dewttee, is a large stone of very hard conglomerate, about thirteen feet high and five or six in diameter, tolerably regular in its rounded shape. This was a woman previous to the coming of the Changer. Its Indian name is A-tak-teim, and it is a part of a landslide from the adjoining bank. At Squaxon he found one man crying. He was changed into a stone; the tears on his face being lines, which are said to be still visible on it.

He found some Indians in the water trying to catch fish in a very rude way. He asked them what they wished. They replied that they wished to catch fish. Then he taught them how to make a fish-trap or weir across the river, such as they now use. He asked them what kind of fish they wanted, and, when a silver salmon came, asked if that was the kind. An affirmative answer having been given, he said, "Do not kill it, but wait until it has deposited its eggs, so that there may be a large number of them." They did so. Then a salmon trout came, and a similar conversation took place about it.

About five miles below Skokomish, on the east side of the Canal, is a bank of red earth, which the Indians used for red paint before the coming of the whites. This was formerly the Klikitat Indians, while the bank on the opposite side of the Canal was the Skokomish Indians. They engaged in a great game of gambling, in which the Klikitats won. Dokibat! changed them into land, and after that the present race of Skokomish Indians obtained their paint there for painting themselves red when they gamble, so that they also may win. Between Seabeck and Port Gamble are three spits. These were formerly three brothers named Tsay-o-witl, but Dokibat! changed them into their present condition. He found the Indians gambling with their disks, and told them it was not good. He took their disks of wood and threw them into the water, but they came back to the Indians; he next threw them into the fire, but they came out; he threw them away as far as he could, but again they came back. Thus he threw them away five times, and every time they returned; and so at last he allowed them to keep these for sport, as they had conquered him—the only thing which did. Some of these, however, were changed into a shell-fish, which is circular, is a little larger than the disks, and has a star on its back.

Protection Island, below Port Townsend, was, some time previous to his coming, a part of the mainland. It was a woman and the wife of the rest of the mainland, which was a man. For some reason he became vexed at her and kicked her away, and when Dokibatl came he changed them both into land. The mountain back of Freshwater bay, nine miles west of Port Angelos, was a woman, the large rock at the west end of the bay was her daughter, and Mount Baker was her husband. The woman was bad and abused her husband shamefully. He bore it for a long time, but at last took all of his things into a canoe and went across to British Columbia. When Dokibatl came he changed them into what they now are. The Nootka Indians have a tradition of a similar being who came from Puget Sound.

Thus he went to all lands, gave to each tribe their language, and to some tribes special kinds of food—to some fish, to some crows, and to one tribe beyond the Klikitats, snakes. So say the Skokomish Indians, and that distant tribe is so far away that it can not be disproven. Whether this is a dim tradition of the coming of Christ or not I have never been able to satisfy myself. I only record it as I have learned it from the Indians. But it is certain that when they first learned of the coming of our Savior they connected the two together. For a long time I never heard his true name, but was told that it was the Son of God, and ever since I have learned it they often call him Jesus. One Skokomish Indian says of Dokibatl that he came first to create, second to change or make the world new, and that, when it shall become old, he will come a third time to make it over again. It is very plain that the tradition about his second coming as a Changer was not received from the whites; but about his third coming, and perhaps about his first, I have not been so positive. Still my informant said about that, "We know your teaching, but this which I tell you is different; we received it from our ancestors."

The following is a tradition in regard to the same Being, here called the Great Spirit:

A great many years ago—so many that man can not enumerate them—the tribes became so numerous that they ate up all the game and fish, and then they turned cannibals; after a time they became worse than wild animals, so much so that the Great Spirit sent a great rain which flooded the whole country, and all living things were drowned, excepting one squaw and a dog, who both happened to be on the headwaters of the Nisqually River, and they, seeing the waters rising rapidly, fled to Mount Tacoma and remained upon its summit until the waters subsided. From the squaw and the dog sprang the present Nisqually Indians. With the destruction of all things on the earth was lost the use of all arms, tools and fire. The progeny of the

squaw and dog walked upon all fours, and dug camas, fern and other roots with their hands. They lived in holes in the earth. They knew nothing about clothing and they suffered much from exposure in their naked condition. They nearly all became diseased or deformed, and, to make matters worse, a large bear of enormous proportions came up from the south, and when he cast his eye upon an Indian, that Indian lost all power of locomotion and became an easy prey to the ravenous appetite of the beast. As the Indians had no arms and knew nothing about tamahnous they were entirely defenseless, and the bear was about to depopulate the country. The Great Spirit, seeing their deplorable condition and taking pity upon them, sent over the mountains from the east a great tamahnous man, or savior, whose countenance was as the sun and his voice as the thunder, and he was armed with bow, arrows and a spear. His first act was to assemble the people together and ask them why they annoyed their Great Father with so much weeping, and they answered that it was on account of the beast from which none could escape. He then taught them of the existence of two great spirits—one of good and one of evil. He taught them to make white and black tamahnous, and likewise how to walk erect. He then returned to the mountains for one moon, to talk to the Great Father. On his return he again called the people together and held a big potlatch, giving the Indians what appeared to them at that time great curiosities. To the young men he gave bows and arrows, likewise spears, and taught them how to make and use them. To the old men he gave canoes, with the proper instructions for their manufacture, likewise how to make fish-hooks and how to use them. To the old women he gave camas sticks, baskets made of cedar bark and seaweed, and showed them how to make them, and explained their use and purpose; likewise how to make fire and its use, taught them how to cook, and how to carry burdens by the use of a strap across the head; in fact, taught them all kinds of work that were calculated to make woman useful to her lord and master—man. The young women he taught to sing and to adorn their persons with paint and to wear a girdle, made of the inner bark of cedar, reaching from the waist to the knee. He taught them that woman should have but one man, and that it was her duty and interest to encourage her man to purchase all the wives his circumstances would permit.

The tamahnous man, having instructed the people in everything that was useful and tending to their comfort, became full of strong tamahnous. His next task was the destruction of the great beast. He took seven arrows from his quiver, and being assisted by the men of the tribe, made for one whole sun tamahnous over the sacred arrows and they became fully charged. He took one of the arrows and pushed it into the ground in the

center of the Nisqually plains. He then walked half a day toward the haunts of the bear, where he again placed another arrow. So he proceeded to do for each half day's travel nearer the beast, until he had placed, erect and in a straight line, six arrows. Then, with his seventh arrow in his hand, the tamahnous man approached the bear, who cast upon him the evil eye, but his tamahnous was so strong that it had no effect. He then shot the remaining arrow into the beast, and turning swiftly ran for the arrow last placed in the ground. The beast followed. When the tamahnous man came to the arrow, he seized it and shot it into the animal. So he did with each of the other arrows, until he arrived at the last arrow, which he, with his greatest strength, shot through the heart of the beast, and thus killed it. The tamahnous man, by his cunning, had thus led the beast to the center of the Nisqually plains to die. Its death caused great rejoicing, and then there was a gathering of the whole tribe. After the skin was taken off the beast's carcass, it was divided equally between the different branches of the tribe. And so large was the beast that the skin of one ear, which had been given to the Tumwater branch of the tribe, was taken to Mound prairie to dry, and it covered the whole plain.

The next thing done by the great tamahnous man was to erect a large and strong building, with but one opening or door in the same. He then gathered all the disease, deformity and crime, and placed it in the house and secured the door. Then he appointed a certain family to take charge of the house, and said family and its descendants were ever to remain in charge of it. He gave strict orders that the doors were never to be opened under any circumstances whatever. What the house contained was only revealed to the head of the family, and thus it became to the remainder of the tribe a great mystery. In time this particular family became reduced in numbers, leaving but one old man with his wife and daughter. One day the old man, forgetting his duty and dignity, went from the house to assist his wife to perform some labor, thus leaving the daughter alone. Her curiosity had long been aroused as to the contents of the closed room, and this was an opportunity not to be neglected to satisfy that curiosity. She undid the fastenings to the door and pushed it back but a short distance. But that was sufficient. The inmates got the advantage and all rushed out, and so the world was filled with disease, deformity, crime and woe. Thus is made manifest what woman's curiosity has brought upon mankind. So offended became the Great Father at the crime of this woman that he created the Sea'co or Mountain Indian, who sleeps by day, and whose homes are in the holes in the rocks in the distant mountains. They have wings, and in the night are constantly flying about so as to seize or secure any woman who may be found out of her home at night or away from her home with

strange men. And when the Seasco discovers a couple of this kind, he eats the man and carries the woman to the mountains, and makes her either a wife or slave.

*Guardian Spirits.*—These they believe to be constantly around. Every man, and nearly every woman, was thought to have one, which was called his or her tamahnous. Such a spirit was supposed to guard the man or woman, who often communed with it in the dark, or when alone in the woods, and by various incantations invoked its aid in time of need. These spirits were the most useful deities which they had, and the practice of invoking their aid was the most practical part of their religion.

One Indian, to whom I was once speaking on the sinfulness of worshipping more than one Deity, as they did with their multitude of spirits, replied that they did not worship their tamahnous spirits instead of God, but only asked them to intercede before the Deity for the people. This idea may be original with them, but it is not improbable that it was derived from the Roman Catholic faith in guardian angels, taught them by the priests who visited them many years ago.

*The Evil Spirit and Demons.*—They firmly believe in the presence and power of malignant spirits, and much of their tamahnous is to conjure them, and sometimes to gain their favor and aid. Their main idea of sickness is founded on this belief, that it is caused by these evil spirits, and so the practice of their medicine men is to counteract them. The chief of these demons, according to the Twanas, is Skwai-il, who resides somewhere below, but in another place from where the disembodied spirits dwell. Often a parent tells his child, "You must not steal or do wrong, if you do Skwai-il will see you, and take you to his dwelling-place."

*The Sun.*—An old Clallam man has informed me that before the coming of the whites they knew nothing about God, but worshipped the sun as their Deity, and that they prayed to it daily, saying, "Sun, take care of me," and offered it food at noon. Another Clallam said that formerly they knew nothing of God, but believed the sky and sun to be supreme, and that it was a common saying of the old ones to say to their children, "You must not do wrong, or the sky will see you." Such ideas come to the surface very little in their intercourse with the whites, yet I think that my informants spoke the truth, as according to Swan's Makah Indians of Cape Flattery, who join the Clallams on the west, they talked every morning to the Great Chief, or his representative, the sun, whose name is Kle-se-a-kark-tl; while Dr. Gibbs adds that while among the Selish or Flathead tribes of the sound he has not been able to detect any direct worship of the sun, yet that he forms one of their mythological characters, and is represented as one of the younger brothers of the



moon. According to Father Mengarini he is the principal object of worship among the Flatheads of the Rocky Mountains, or Selish proper, as well as by the Blackfeet. Among both tribes he was supposed to be the creation of a Superior Being.\*

*Other Inanimate Objects.*—The Indians also believe that these spirits, both good and bad, may dwell at times in certain sticks, stones, pictures and the like; hence these articles become objects of reverence or fear. Generally great regard is had for these articles at all times, for although the spirit is supposed to dwell in them only a small portion of the time, yet after it has been dedicated to the spirit, and once occupied by it, that spirit is supposed always to watch over it, and to be angry with any one who treats it disrespectfully. Some of them are posts which support the sides of the houses in which people dwell, though usually, when such is the case, these houses have been used as potlatch houses. Generally these are of cedar, from four to six inches thick, from one and a half to two and a half feet wide, and from eight to ten feet long. Others are used to support the center of the house, reaching from the ground to the ridge-pole. I once saw two of these in the ruins of an old potlatch house at Port Angelos. They were from twenty-one to twenty-four inches wide and about eighteen feet long. The side posts which then remained were similar in size to those at Sequim, but were not painted; they were simply carved, without much artistic effect. Another side post was said to have had the figure of a man carved on it the full length of the post, but it had been cut down, and when I was there only a part of the feet remained. Others are sometimes placed on the cross beams, and reach from it to the ridge pole, which they support. The last potlatch house on the Skokomish reservation had a number of these, each belonging to different individuals, some of which had no paint on them, some were painted a little, but very plainly, and some were painted quite artistically with figures of a bear, a man, and a man's face and heart. The unveiling of one of these was attended with quite a ceremony, after the potlatch had been in session for several days. But unfortunately I was not present to see it done. The rest were not veiled.

While the people were quite superstitious about allowing any one to desecrate these, yet they were quite careless about protecting them. Several years after they were made and placed in position, a heavy snow crushed the house, and these posts were mingled promiscuously in the ruins, but while some of their owners removed theirs to their dwellings, others did not take care of theirs, but allowed them to be knocked around until some of them were knocked into the waters of the sound and floated away. They acted seemingly on the principle that while

\*See also the chapter on legends of the Sun.

it was wrong for a person to abuse them, yet the spirits must take care of them or they would not be cared for. After some years, however, the Indians lost their superstitious fear of them, and I was allowed to get a few of the poorer ones which remained, though by that time the paint had all been washed off.

The cross-beams on which they rest are also supposed to be sacred, and if any one knocks one of them down, so that it falls upon the ground, it is said to make the spirit which dwells therein so angry that he may send sickness upon the whole tribe.

I once obtained a side post in the following manner: Wishing to secure something of the kind, after I had been here a short time, I asked one Indian, who was quite intelligent and nearly free from superstition, if I would be likely to find anything of interest at the old potlatch house, which is a short distance from the Skokomish reservation. He said that perhaps I might. Hence, I went there and found that all the boards had been removed, as well as some of the posts and cross-beams, and therefore I supposed that all that was valuable had been removed, and that the Indians did not care for what was left. Some of the posts were slightly painted, but in no interesting way. There was, however, one post which had the figure of a large heart carved on it, and this post I cut down and brought home. Stopping on the way to see a young Indian, I told him what I had done, for I began to fear that perhaps the post might belong to some one who valued it; but he did not seem to think that I had done anything amiss. But soon after, on rowing up to a logging camp, an old man, seeing the post in my boat, first addressed me with the words, "The devil has got you now." He told me the name of the owner, who was then some thirty miles away. (I had heard that this man owned a tamahnous post in that house, but was incorrectly informed that he had removed it.) I explained all the circumstances under which I had obtained the post, and assured him that I did not intend to do anything wrong, of which he seemed to be satisfied. I offered to leave it with this man until the return of the owner, to whom he was related, but he would not receive it, as he was afraid to have it about his house, for fear that the tamahnous of the stick would be angry with him for harboring the stolen property. I was told before I reached home that when the large cross-beam which rested on it fell to the ground, that the tamahnous was angry. I brought it home, where I have kept it for the past ten years.

When the owner came home I talked with him about the post, and offered to return it, but he said "no;" I offered to pay him for it or for the damage done, but in good nature he refused to take anything, saying that if I had gone to him before getting it, and he had sold it to me, the Indians would have thought him very bad, but as it was now cut off above the ground it could not be

put together again, and as the deed was done, it could not be remedied. I, however, gave him a fifty pound sack of flour and some sugar, and he has been very friendly to me ever since. About two years afterwards, there was considerable sickness among the Indians, and some deaths among the children, and one Indian hinted to me that I had caused the sickness, by making that spirit angry. I still keep it. Occasionally the Indians speak about it, but their ideas on this subject have changed greatly within the last four years, and they have, apparently, long since ceased to have any anxiety about it. A year or two ago, as I was moving it, an Indian came along and offered to help me. I asked him if he was not afraid of it. He said no and picked up one end and carried it to where I wished to place it.

A rather curious tamahnous representation I saw at a potlatch at Squakson in 1880. It was made from a board, carved into the shape of a heart, about twenty-four inches wide by fifty-six long; a part of it was painted blue, a part red and the rest white. It had a handle of glass—from some pitcher—fastened to it. It was nailed to one of the side posts of the house, and was the only tamahnous figure of any kind at the potlatch. It was said by the Indians to really be what gave all the money and other things.

Occasionally these tamahnous representations are on the door of the owner's house; sometimes at the head of his bed, and sometimes on his powder charge or other articles. The idea seems to be that the tamahnous will guard his house, protect him while asleep, and help him while hunting.

*Water*.—Formerly it was believed that the Clallams of Elikwa possessed a mysterious power over all other Indians; that if they wished to call a person who was a long distance away—twenty, thirty or fifty miles—they simply, talking low, called him and he came; that if they talked thus about a person his heart was in a complete whirl; and that if they talked ill, and wished to do evil to any one thus distant, his eyes were made to whirl, and the evil came to pass. The cause assigned for this was that far up in the mountains, at the head of the Elikwa River, are basins in the rocks, that one of these is full of a black water, and that it is always full, whether the sea on be wet or dry, and that the Elikwa Indians went up at times and washed their hands and arms in the water, which is thought to be tamahnous, and it gave them this power.

*Idols*.—The sticks, posts and the like just described are made by the Indians, and consecrated to their tamahnous, hence contain the principle of idolatry; but still the sticks were of such a shape that they could not properly be called idols. I had been here four years before I saw what could be called by this name, and have never seen but this one. As I visited them at one of their religious gatherings, in 1878, I saw it. It was about four feet

long, roughly carved, with the face and body of a man, but with no legs or feet, the lower part being set into the ground, and around this they performed their incantations. The eyes were silver quarter dollars nailed to it, and at the time it had no clothes on, except a neck-tie of red cloth, white cloth and beaten cedar bark. It is said to have been made by the father of a very old man, and is kept secreted in the woods when not wanted. I saw it several times after they were done with their performance, and the Indians willingly allowed me to make a drawing of it. It has since been carried off to the woods again.

The Indians say that, although it was made by the father of this old man, yet, that it is hundreds of years old: such imperfect ideas have they of chronology; and that the reason it does not decay is that the tamahnous preserves (it is of cedar and consequently would not decay). They report that at one time it was left near a tree, but that when they went to it again it was removed a little distance away, and they profess to believe that it had walked there, because of the power which its tamahnous gave it. Its forehead at its base is in relief three-fourths of an inch, its nose, five-eighths, and its chin, three-fourths.\*

The Indians also say that long ago they had another image similar to the above, which the owner kept hid in the woods, but that a great freshet came and flooded the ground where it was. The owner's tamahnous, they say, told him about this, and also told him that the idol had climbed a tree to get away from the water. He accordingly sent a man to get it, and told him not to look on the ground where the idol had been left, but to look up in a certain tree for it. When he reached the place, sure enough, it was hanging in the tree, and singing with a great buzzing noise, and by means of this noise the person hunting for it found exactly where it was.

I have been told that the Twanas and the Clallams of Port Discovery have large idols, ten or twelve feet long, hid in the woods, which were worshipped long ago, but are now nearly decayed. A schoolboy drew for me pictures of two other such images, which had the face and body of a man, one having arms and the other without them, but neither of them having feet or legs. The boy added: "All kinds of images are made when they are tamahnousing. The man is not to serve the tamahnous, but the tamahnous the man, as I am told." Mr. M. Huntoon, formerly of Elkwa, has informed me that on his farm he once found a small wooden idol, but that not valuing it, he lost it. It may have been an idol, and yet it may have been a carved work of art. I have seen such among the Clallams, which were imported from the Makahs as playthings. Mr. J. Y. Collins, of Whatcom, near the Lummi reservation, writes me that he has a stone image

\*For a description of the ceremony in connection with it, see Chapter on Tamahnous for Lost Souls.

about five and a half inches long, which has a human face, a bird's body, and a small mortar in its back that will hold about two thirds as much as an egg.

The Indians have the following tradition: A long time ago a man made an image of a man, into which his guardian spirit entered, and over which it had considerable power; even to make it dance. Two young men, however, did not believe this, and made sport of it. At one time, when many people were assembled in the house where it was, these young men were told that if they did not believe it could dance they might take hold of it and hold it still. But when they did so it began to dance, and soon, instead of their holding it still, it made them dance with it, one holding to an arm on each side of it. Nor could they stop it, or even let go, but after dancing a time in the house, it took them outside and started towards the salt water. The people, afraid that something would happen, followed, trying to stop it, but could not do so. It danced to the water and into it, and made a plunge head foremost, when all three were changed into the fish called the Skate, which still lives in the water.

#### IMPLEMENTS OF WORSHIP.

These consist of hand-sticks, head-bands, drums, rattles and masks.

*Hand-sticks*.—In the tamahnous around the idol, which has just been described, hand-sticks were used. They were about four feet long, and from two thirds of an inch to an inch and a half in diameter, the wider ones, however, being somewhat flattened. Some of them were painted red; one had, in addition, a little blue paint, and some were not painted. A band of cedar bark was wound around each one not far from a foot from the upper end, in a place cut for it. They were sharpened at the lower end, and when not in actual use, were stuck in the ground around the image. One of them was carved in such a way that it seemed as if the first part, a foot long, entered, wedge-like, into the rest, and this was said to represent a shark's tongue. These, unlike the idol, had been recently made, on purpose for the occasion, and each one was owned by a different individual, though I thought that the same one was used sometimes by others than the owner. When in use, they were held in the hand, being grasped about the middle; when not in use, their head-bands were hung on them. I once saw a similar one, broken, on the grave of a Callam chief at Elkwa, but they are not often seen, as I think I did not see one until I had been here at least four years, nor have I seen any for the past few years. They keep them concealed, I believe in the woods. When I asked an old Indian, who was quite an adept at making various articles, and had gladly made many for me, to make one of these he declined, for, he said, if he should the Indians would

be angry with him. They were not intended for profane hands, though they readily granted me the privilege of making drawings of them. A carved stick of wood was found on the Skokomish reservation, which has been the subject of much discussion among the Indians. It is  $8\frac{1}{2}$  inches long, and from  $1\frac{1}{4}$  to two inches in diameter. It seems to have the carving of the head and tail of a fish. It is supposed by some to have been held in the hand while tamahnousing, while others think it was a part of the handle of a hand adze, the remainder having been split off. It is of yew wood, and was found while making a logging road, about eight feet from the face and the same distance from the top of the bank.

*Head-bands.*—During the same ceremony, and also sometimes in other modes of tamahnous, a head-band of beaten cedar-bark, not far from an inch in diameter, with one or more feathers in it, is placed on the head. Eagle feathers are preferred for this purpose, but those of the hawk and of some other large birds are sometimes used. A somewhat similar band was made for me, which had the head and bill of a red-headed woodpecker in front, the wing-feathers of the same bird on the sides, and the tail behind. In various kinds of tamahnous these bands are used. In the black tamahnous they are colored black, and the ends of the feathers are tipped with black, but in other kinds of tamahnous they remain the natural color of the bark.

*Drums.*—These, with the Twanas, have a square or rectangular head, the sides of which are from a foot to two feet or more in length. They are made of deer-skin, stretched over a wooden frame. Each drum has only one head, and on the reverse side two leather thongs or straps are crossed at right angles for a handle. By this they are held with one hand, while the drum-stick is held in the other. They are only from three to six inches deep, and vary in tone, according to their size, as much as our snare and base drums. The Clallams use the same kind of drum, and also have another form, which is similar in all respects except that the head is round instead of rectangular. The heads, however, are very seldom painted.

*Rattles.*—These are of several different kinds. One variety is made of deer hoofs, strung and tied, often in quite large bunches. These are held in the hand, and also fastened to the waist, while dancing. I do not know that they are ever used in the tamahnous for the sick or in the black tamahnous. I have also seen the copper shells of rifle cartridges mixed with the hoofs. The Indians believe that a spirit or tamahnous is connected with these. One woman, who became a Christian, said she did not know what to do with hers. She wanted to get rid of them, but did not know how to do so without making the tamahnous angry, for while she gave up the old religion, she still believed that the tamahnous had power, only that they were all evil spirits, with

whom the less she had to do the better. She said that she had kept them in her trunk, but the tamahnous often kept her head in a whirl and gave her bad dreams. If she should give them to her friends, who still believed in them, she was afraid that it would be an injury to them; if she should throw them away, she was afraid the tamahnous would be angry and injure her; and so she was in a quandary. She wanted me to take them, thinking I could manage them, and I did so.

The Clallams also use rattles made of the scallop shells, which are found in their waters, but I have never seen them used by the Indians of the upper sound, although they could easily obtain them of the Clallams. A hole is made near the hinge of each shell, and a number of them are strung on a stick about the size of a lead pencil, which is bent in a circular form, and serves as a handle. These are shaken edgewise, so that the edge cuts through the air; if they should be shaken sidewise they are liable to be broken, as they would strike with more force against each other. And if they are broken, the person holding them will die soon thereafter, according to their belief.

The black tamahnous rattle is hollow, somewhat in the shape of a bird, from nine inches to a foot or more long; is painted black, and is used in the black tamahnous ceremonies. In making one, two pieces of wood are carved or hollowed out nearly the shape of the bird's body; a head and neck are carved on one piece; a handle is made in the place of the tail; shot or small stones are placed inside, and they are fastened together with strings, which pass through holes in the sides, and with bark wrapped around the handle. They are shaken in the hand with a circular movement. I have not seen one which was owned by a Twana, though formerly they had a few, but never had as many as the Clallams, according to their statement. Others of the same shape were also made, but painted with a different color. I have one with two heads, painted green, and one which is not painted. These were not used in the black tamahnous and are not considered as sacred as the black ones. Others constructed on the same principle—that is, hollow and with stones inside, but of very different shape—are occasionally imported from the Haudas and Clyoquot Indians of British Columbia, who are expert carvers. These are painted in various colors, and though not black are used in the black tamahnous ceremonies. One such which I have seen was mainly the shape of a bird, but had on its back the carving of a bear eating a man's hand. Another was somewhat quadrilateral in shape, with a fan tail, and a handle on the side opposite the tail. It was painted on both sides quite elaborately, with the eyes and face of a thunder bird, and other figures. It has an orifice with teeth in it, which opens and shuts, so that the tail may be taken out at will. The Clallam name is *il-ska*, which means tail.

## THE CLIFF-DWELLERS AND THEIR WORKS.

BY STEPHEN D. PEET.

In a former number of this journal we have spoken of the Mound-builders and their works, and have called them the monuments of the Mississippi Valley. We are now to describe the Cliff-dwellers and their works, and shall call them the monuments of the Great Plateau. They are not monuments so much as they are structures, and yet the one may be included in the other, and so we call them monuments. Before we begin the description let us notice the contrast between the two classes of monuments. It seems very singular that races or peoples should have lived on the same continent, and within a few hundred miles of one another, who were so different in all respects, yet there were the Mound-builders and the Cliff-dwellers, with their works in the greatest contrast. Both people, to be sure, had the same wants, as they all needed subsistence, shelter and protection, and yet their manner of providing for these seem to have been very different, the differences being, perhaps, owing to the differences of situation. Here were the Mound-builders' works, in which the material is almost exclusively of earth, very few stones being found in their earth structures; while with the Cliff-dwellers stone is the material used exclusively; very few earth mounds are found in the whole region. Among the mounds we find very few structures as such, the structures, such as they were, having been built of wood, which has perished and left only the earth-works and walls, the foundations which formerly supported the structures. In the cliffs the monuments are all structures, and structures without any artificial foundations, their only foundations being the hard rock which was on the summit of the mesas, or the flat rock which was furnished by the ledges. Among the mounds the objects of greatest interest are always buried beneath the surface, the relics and bones having always been covered with earth, and even the religious offerings were placed upon altars or fire-beds and a heap of earth raised above them. Among the cliff-dwellings, the relics and objects of art are generally found in the houses, and very rarely in the earth. There were chambers which were used for storage. In these are occasionally the remains of food and other useful articles, but the



burial places are few and destitute of especial interest. Chambers are sometimes found among the mounds. They are chambers in which the dead were deposited. Among the Cliff-dwellers and Pueblos there are also underground chambers, but they were chambers which were occupied by the living, the people having dwelt in them or having used them for purposes of religious assembly. The situation of the two classes of structures is in contrast. There are, to be sure, a few of the earth-works which were situated on the summits of the hills, protected by steep precipices, but the majority are in the valleys or on the hills which overlook the valleys, where they can be easily approached and always seen. The cliff-dwellings are, however, built into the steep and inaccessible cliffs, some of them hidden away with all the secrecy that was possible. Many of the pueblos were also placed upon the summits of the mesas, where they could be reached only with the greatest difficulty. Convenience seems to have been subordinate to protection. The houses are places of refuge and defense and were used as places of resort by people who were subject to great danger. Among the Mound-builders villages are common, but they are villages which furnished access to land and water, agriculture having apparently been pursued by them and canoe navigation also practiced. Among the Cliff-dwellers and Pueblos there are numerous villages, but they are villages which were built for protection, forts never being found separate from the villages. There are, to be sure, a few isolated buildings or towers which might be called forts, but they are so small that they partake more of the nature of castles than of forts.

The contrast is seen in the surroundings as well as in the monuments. The Mound-builders had their habitat in the valley of the Mississippi and its tributaries, a region which is distinguished for its fertility. It is a region which has a great variety of produce and of scenery, and was capable of supporting a dense population. The Cliff-dwellers had their habitat on the great plateau, which is called the arid region of the continent, as it is extremely barren and desolate. The scenery is grand, but is somewhat unfavorable for subsistence, the mountains being almost forbidding in their grandeur, and many of the deep valleys or canons being nearly as desolate as the mountains. Such are the contrasts between the two classes. Let us then turn to the Cliff-dwellers and their works.

I. Let us first consider their habitat. We have said it is in the midst of a great plateau. This plateau constitutes a continent by itself, an arid continent. One definition of a continent is that it contains two ranges of mountains with a great valley between. This continent has the Rocky Mountains upon one side, Sierra Nevada upon the other, and the bed of the great lake, which has long since been extinct, called Lake Lahontan, between them;

but it is a continent which has a limitless sea of air surrounding it, and is a great distance from any large body of water. It is called the arid region because the climate is very dry and the soil very barren, the rarity of the air producing more evaporation than the streams can counteract. In these respects the plateau differs greatly from the Mississippi Valley, or in fact from any other part of the continent.

It is worthy of notice, however, that each grand division of the globe has an air continent similar to this. But in none of them has there been a development of human life such as appeared here. It is said that Thibet was the original home of the human race, yet very few prehistoric works have been discovered in Thibet. Central Africa contains peculiar peoples, but the works which are found in that region are comparatively modern. The great plain of Iran is supposed to have been the original home of the civilized races—from this isolated center the Aryan or Indo-European race migrated. Some have supposed that this plateau of the great west was the original home of the civilized races of America, though of this there is much uncertainty. The architecture of the region is certainly unique. There is nothing like it on the face of the earth. The structures which are found here are not only numerous, but there seems to have been a great similarity between them, and so we ascribe a unity to the people who built them.

It certainly seems singular that a region like this should have been so thickly populated and be now filled with so interesting a class of ruins, though once so desolate. All authorities say that the ruins are situated in places where there must have been extensive springs and perhaps perennial streams of water; but the springs are now entirely dry, and the valleys present no streams except as mountain floods occasionally pass through the deep canons. The most interesting part of this region, archæologically considered, is that which lies to the west of the great mountain divide, a region in which the streams all flow toward the Pacific Ocean. These streams have become well known from the presence of many ruins upon their banks, as well as from the strange scenery which is represented.

There is a great contrast between the eastern and western part of the mountains. On the eastern slope are found those many peaks which have become celebrated for their grandeur of scenery—Pike's Peak, Mountain of the Holy Cross, Elk Mountains, Cathedral Rocks, etc. On the western side we come to the wonderful regions of the so-called parks, basins, mesas, table lands, deep canons, and great lake beds—a region which was both volcanic and sedimentary in its geological system, its drainage having passed through several changes before it reached the present condition. The deep canons are supposed to be the beds of streams which are as old as the hills, the first drainage having

antedated the carboniferous period, but a second drainage passing on to the tertiary period. Here is found the valley of the Colorado River, a river which flows from the very summit of the Rocky Mountains, but which traverses three great States in its course toward the southwest, and finally flows into the Gulf of California. Here also is the Great Salt Lake, a lake which receives the drainage of three other States, but which has no outlet and is dependent upon evaporation for its present level. Here also is the series of great lakes—Pyramid Lake, Lake Tahoe—which have their outlet in the Humboldt River, and which form an interesting feature in the scenery of Nevada. The same region is drained to the north and west by the Snake River, a branch of the Columbia, and by the Yellowstone, one branch of which rises in the famous Yellowstone Park. The region of the Pueblos and Cliff-dwellers is altogether south of Yellowstone Park, but it extends from the mountains of Colorado on over New Mexico, Arizona, part of Utah, and ends on the borders of Mexico and California. This is a remarkable fact. The Colorado River has a branch which enters it near its mouth—the Gila. On this river there are ruins which resemble the famous pueblos of the Animas and the San Juan in Northern Mexico. Not very far from this same river a race of Cliff-dwellers has recently been discovered which resembles the famous Cliff-dwellers of the same rivers. Throughout Arizona there are ancient canals and ancient ruins which remind us of the irrigating contrivances and ancient villages found on the Pecos and in other parts of New Mexico. Taken together, we should say that the discoveries, early and late, had fixed the habitat of this mysterious people in a very singular and mysterious region.

Whether this fact will lead us to connect the history of the people with the ancient race which left their relics in the auriferous gravels of Table Mountain, or with the more modern and more civilized Mexican race, remains to be seen. Still the proximity of the habitat to both localities may prove that here is a connecting link. The very ancient people of California were certainly more advanced than the modern savage Arapahoes, Navajoes, etc., which roam over the same region. Yet is unknown what the descent of the ancient people was.

As to the extent of the population the united testimony proves that it was very great. Maj. Powell, who has long been familiar with it and has often traversed the region, expresses his surprise at seeing nothing for whole days but cliffs everywhere riddled with human habitations, which resembled the cells of a honeycomb more than anything else. Mr. W. H. Holmes, in speaking of the Hovenweep (deserted valley), says: "There is not a living stream throughout this whole region. During the summer months the water occurs in but few places; the rainy season is a winter, the water being then found in the many basins scat-

tered over the mesas. There is scarcely a square mile in the six thousand examined that does not furnish evidence of being the previous habitation of a race totally distinct from the nomadic savages who hold it now, and in many ways superior to them. It seems strange that a country so dry and apparently barren could have supported even a moderate population. It is consequently argued that the climate has become less moist since the ancient population." He says, however, that "there are grass covered meadows and broad belts of alluvial bottom along the water courses, affording a considerable area of rich tillable land. The rainfall varies in different parts. In Colorado it is said to be less than a foot and a half. It has been conjectured that the destruction of the forests by the Cliff-dwellers themselves may account for the diminution of the rainfall and for the aridity of the region." The scenery here is grand, but nevertheless very desolate. Its resources are deeply hidden, the distances are great and the region difficult to traverse. Here, separate from all others, and lonely in the isolation, there grew up a peculiar population which reached a high grade of civilization. It is the home of the semi-civilized race, while the Mississippi Valley was the home of the uncivilized.

The great plateau presents an interesting class of prehistoric structures, as interesting as any found on the face of the globe. The age of these structures is unknown. The probability is that they were not all of the same age. That some of them are modern no one will deny, but that some of them were ancient we think is shown by the facts. One argument for their great antiquity is drawn from the change which has come over the climate. Otherwise there is a mystery about the sustenance of so numerous a population. Mr. Holmes says one may travel for miles in the parched bed of a stream and not find a drop of water anywhere. In the greater part of the region there is so little moisture that the vegetation is very sparse, yet there is bountiful evidence that at one time it supported a numerous population. Labyrinthine canons ramify the plateaux in every direction with an interminable series of deep and desolate gorges and wide barren valleys.

II. We turn to the description of the different classes of structures which were found in the great plateau. Here we draw from an article which has recently been published in *The Forum* from the pen of Maj. J. W. Powell: "The greatest table land of the arid region is the Colorado plateau, lying to the south of the most stupendous gorge known on the face of the globe, the Grand canon. The summit of this plateau is crowned with many extinct volcanoes, and black and angry looking cinder cones are scattered in groups or stand in lines throughout the region. The general surface is from seven thousand to eight thousand feet above the level of the sea, and is covered with pine forests, but

nestling in the sombre woods sunny valleys are found, and above the valleys rise the black cones of lava."

1. Here we find one class of ruins. Sometimes the amphitheatre of a dead volcano is the site of an ancient pueblo. In the ragged cliffs ugly irregular caves are found, and these have been walled with fragments of cinder, so that above the cliffs are clustered curious chambers made by fires long extinct. In these ruins no strange arts are found, nor do they bear evidence of great antiquity. We know that a tribe now living in Cataract canon claims to have formerly occupied one of the crater villages. There is a cone, but an hour's ride from the foot of San Francisco mountain, which is composed of fine volcanic dust, scoria and large blocks of ejected matter. On this the ruins of a curious little pueblo were discovered. On the top there is a small plaza walled with cinder; about this plaza chambers have been built. Shafts were sunk from eight to ten feet in depth, two and a half feet to three and a half feet to cross section. The chambers are below the surface. The ground is undermined, and an irregular room from eight to ten feet in diameter, and five or six feet in height is found. Around this central room two or three smaller rooms are dug out of the ashy rock. About one hundred such under ground dwellings have been discovered, in various conditions of ruin. They have all been carefully examined, and the stone knives, hammers, mortars, tools of bone and horn, fragments of baskets, pieces of coarse cloth, all prove that these people had arts quite like those of the Pueblos and Cliff dwellers. Their pottery was the same; they raised corn, ensnared rabbits, hunted antelopes, deer and eiks in the forests and plains, and all show that they had the well-known culture of the general region.

2. West of Santa Fe, in New Mexico, and beyond the Rio Grande there is an irregular group of mountains and high plateaux known as the Tewan Mountains. Here in some ancient times a succession of volcanoes burst out. Sometimes they poured forth molten lava, but oftener threw high into the air enormous quantities of cinder and ashes. These fell and buried the sheets of lava, and were themselves covered with molten rock. The rivers that head on these mountains and run down into the Rio Grande, have cut down through the alternating layers of lava and tufa many deep and winding picturesque canons, and here we have another class of dwellings. The tufa is sufficiently hard to stand in vertical cliffs, and yet so soft that it can be worked with great ease by the use of stone tools. There are many miles of these tufa cliffs, and into them thousands of chambers have been hollowed. Such a chamber is entered by a narrow doorway three or four feet high. Within a chamber is found ten or twelve feet square, four to six feet in height, and more less irregular in form. About this two or more smaller chambers are found, the

whole forming a suite of apartments. A few feet further along on the face of the cliffs another such suite may be found, sometimes two or more suites connected by interior passages. The chambers are often irregularly situated, one above another, and the face of a cliff presents many such openings. Here and there are rude stairways hewn in the soft rock, by which the dwellings are reached with more or less difficulty. These are the "cavate" dwellings of the Tewan mountains. Though at first supposed to be very ancient, research proves that many of them are quite modern, having been occupied since the Spanish settlement by a people owing sheep, goats, asses and horses. The more ancient give evidence of having been occupied by people having arts identical with other pueblo tribes.

3. On the long narrow plateaux that stand between the deep canons running down into the Rio Grande there are many pueblos in ruins, which were made of blocks of the same tufa, which is easily worked with stone tools. The blocks vary from ten to twelve inches in length, are usually eight inches in breadth, and from four to six inches in thickness. They were laid in clay mortar. Each communal dwelling or pueblo was a cluster of small irregular rooms covered with poles, brush and earth. Various Tewan tribes claim these as their original homes.

4. In the southwest portions of the United States, conditions of aridity prevailed. The forests are few and found only on great altitudes, on mountains and plateaux where deep snow appears, and frosts often blasts the vegetation in summer. Such forest-clad lands were not attractive homes, and the tribes lived in the plains and valleys below, while the highlands were the hunting grounds. The arid lands below were often naked of vegetation, but in the ledges and cliffs that stand athwart the lands and in the canon walls that enclose the streams were everywhere quarries of loose rock, lying in blocks ready for the builder's hand. Hence, these people learned to build their dwellings of stone. They had large communal houses, even larger than the structures of wood made by the Mound-builders. Many of these stone pueblos are still occupied.

5. There are ruins scattered over a region embracing a little of California and Nevada, and far southward. These ruins are thousands and tens of thousands in number. Many of these were built thousands of years ago, but they were built by the ancestors of existing tribes, or their congeners. A careful study of these ruins for the last twenty years demonstrates that the pueblo culture began with rude structure of stone and brush, until at the time of the exploration of the country by the Spaniards, in 1540, it had reached its highest phase. The Zuni has been built since and it is the largest and best village ever established within the territory of the United States without the aid of ideas derived from civilized men. Not all the valleys of the

arid region are supplied with the loose stone, and so a few tribes of the region learned to construct their homes of other material. They built them of grout adobe in this manner: For the construction of a wall they drove stakes into the ground in two parallel lines, two or three feet apart. They then wove willows, or twigs, or boughs through the stakes of each line, so as to make a wicker work box, and between the sides of this box, or between the walls, they place a stiff mixture of clay and gravel. In this way they built many houses, sometimes great assembly houses, similar in purpose to those used by the Mound-builders. The Casa Grande of Arizona is one of these. The people were agriculturists. They cultivated the soil by the aid of irrigation, and constructed some interesting hydraulic works. The most important of these are found in the valley of the Gila. These remarks by Major Powell are very interesting. They are confirmed by other explorers. We here give cuts which are taken from articles furnished by Mr. F. W. Cushing and others.

III. We now turn to a description of the cliff-dwellings, sometimes called cave-dwellings and sometimes cliff-dwellings.

1. Let us consider the caves as such. It is noticeable that while there are habitations resembling the cave-dwellings scattered all over the continent, yet the cliff-dwellings themselves are confined to one particular or, at most, to two definite localities, the majority of them being found in the valley of one particular stream or river, namely, the Colorado and its tributaries—the Rio Doloroso, the San Juan, the Rio Mancos, and the LaPlata. This is a region which is celebrated for its deep canons and its precipitous cliffs and its desolate scenery. It is just such a region as we could expect to find abounding with caves—the model home of the Cave-dwellers. There are cave-dwellings in America as there are in Europe, but these generally belong to the later part of the paleolithic age, or to the earlier part of the neolithic age. There is, however, a great difference between them and the cliff-dwellings about which we are speaking. In fact, all the difference that would exist between the earlier part of the stone age and the later part. There is a whole age between the two. In Europe we have the caves which contain the bones of extinct animals—the mastodon, the cave bear and the rhinoceros. After them came the reindeer period. This was followed by the kitchen middens; after the kitchen middens came the barrows, after the barrows came the Lake-dwellers, and after the Lake-dwellers came the rude stone monuments.

Originally the cave-dwellings belonged to a period which antedated the kitchen middens, and so would be classed with the paleolithic age; but there are so many caves in this country which were manifestly neolithic that we must place them in that age, but assign them to different periods in that age.

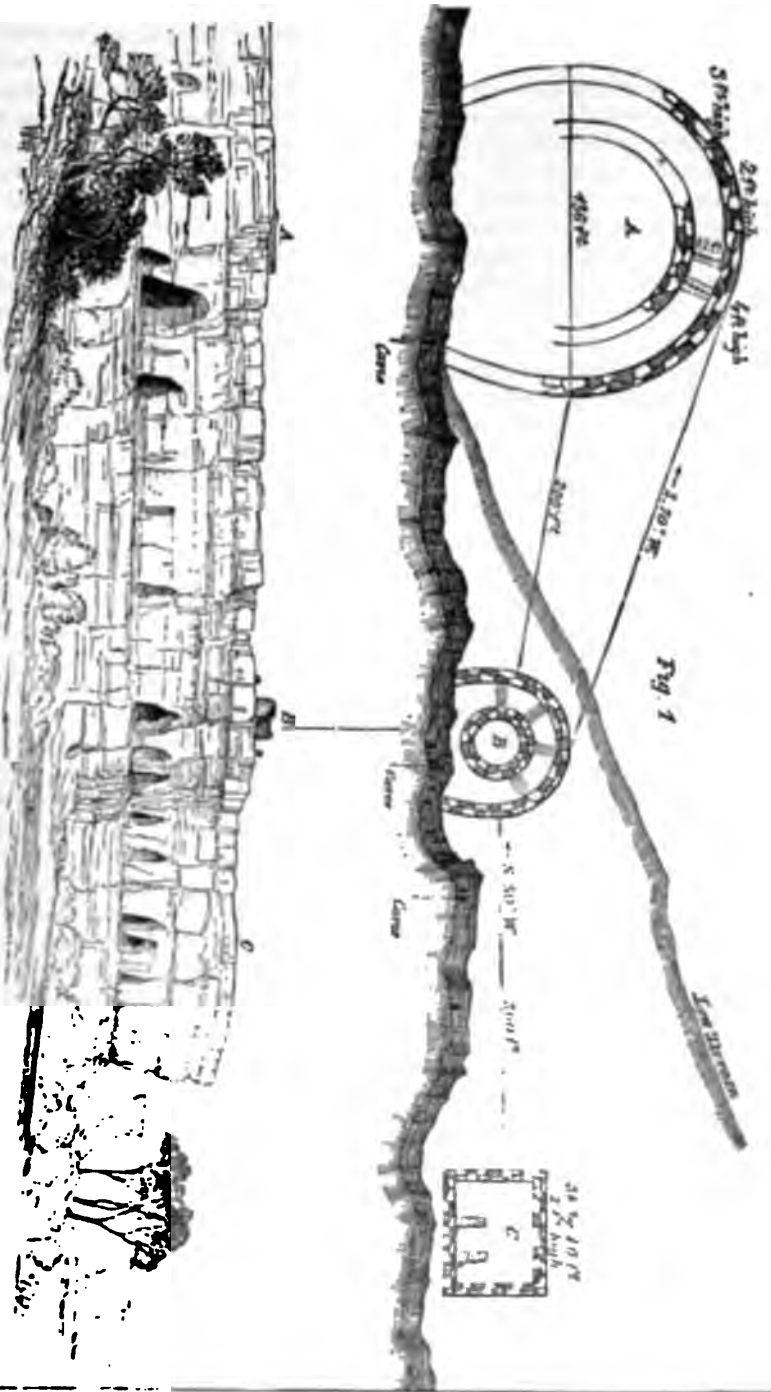


Fig. 2.

PLATE III.—Cave Dwellings in the Rio San Juan.





There are cave-dwellings in many parts of America, some being found as far north as Alaska, where they are associated with shell heaps; others in the Mississippi valley, where they are closely connected with the mounds; others in the midst of the canons of Colorado and Arizona, where they are associated with structures resembling the pueblos; others in the central regions on the coasts of Lake Managua, in Nicaragua, and still others in the valley of the Amazon in South America. These last have, however, been classed with the paleolithic age, as it is claimed that animal bones and other remains of the quaternary period are found in them. The caves are also scattered over various parts of Europe, some of them being classed with the paleolithic and some with the neolithic age. In a general way we should say that caves were the abodes of man during the latter part of the paleolithic and the early part of the neolithic age, though it is evident that some of them were occupied through the whole prehistoric period and even far down into the historic period.

Caves are not to be classed with monuments, yet as they have been associated with various kinds of monuments and have produced all kinds of relics, we have to give to them a broad space in the horizon, classing some of them with the old stone age, others with the new stone age, and even placing some in the bronze and the iron age. It is worthy of notice that the division of the paleolithic age is based altogether on the contents of the caves and that the names are derived from the caves, the Chelleen, the Mousterien, the Solutrien, and the Madalenien caves all having yielded relics which have been divided in this way and which have given rise to the subdivisions of the paleolithic age. As to the place which we are to assign the cave-dwellers of America in the order of succession, this for the present is uncertain, as each author is influenced by his own discoveries, and no general system has been adopted. We give here the names of a few of the archæologists who have treated of the cave-dwellers: First, we would mention Mr. William H. Dall.\* He has described the caves of Alaska; he says that there were here three periods, first, that of the so-called littoral people, a people which is to be classed with the paleolithic age; second, that of the cave-dwellers, a people who were in the neolithic state, and, third, that of the hut-makers, a people who might have left monuments. Next to him is Prof. F. W. Putnam, who has described the caves in Tennessee. These contained the tokens of a neolithic character, though it is uncertain whether they preceded the mounds or were contemporaneous with them.

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\*Wm. H. Dall, "Remains of Later Prehistoric Man from the Caves of the Catherine Archipelago, Alaska Territory," *Smith. con.*, 1878. Prof. M. C. Read on Rock Shelter in Ohio, *Amer. Antiquarian*, March, 1880. Hald man, Rock Retreat near Chickies, Penn. Whitney on Rock Shelter at Elyria, Ohio. Putnam on Salt Cave and Abbott's Cave in Tennessee.

Dr. Earl Flint is another author who has written upon the caves. He claims that there are caves in Nicaragua which were very ancient, how ancient he hardly undertakes to tell. Dr. Flint's discoveries have not been confirmed. It does not seem likely that inscriptions of the kind described by him could have been wrought by a people preceding the neolithic age, and therefore we should be inclined to place this cave in that age. This leaves then only one single locality for the paleolithic cave-dweller, namely, that spoken of by Prof. Lund as found in Brazil, a locality which M. Nadaillac has described at some length.

We give cuts which will illustrate the point. In one figure we have a cave of the paleolithic age. It was discovered by Dr. Goldfusse in Isio. It proved that man occupied caves when bears, hyenas and other extinct animals were common in Europe. The next cut shows a cave of the neolithic type. It is the cave in Alaska described by Mr. William H. Dall.

2. Next to these are the cliff-dwellings of Arizona and Colorado. The most of these are known to be so much more advanced than ordinary caves as to be classed with the monuments of a higher grade. Mr. W. H. Holmes speaks of caves in Colorado which, he thinks, were very ancient, so ancient, in fact, that the rock which formed their openings has worn entirely away, leaving them now as mere shelters or nooks in the cliff. The cliff-dwellers, of course, are to be placed with the neolithic age, and at an advanced part of that age, probably the same part which was occupied by the Pueblos of the same region.

These have been described by Mr. Holmes. The watch towers above show that they were occupied by a people of an advanced class. See Plate III. He thinks that some of these caves were very ancient, as the mouths or openings have worn away since they were occupied, leaving the former habitations without walls to protect them.

This is an important point, and yet the presence of the estufas or towers above the cliffs give the impression that they were not so very ancient. It is possible that the people dwelt in these enclosures on the summit, using the tower both for an outlook and an estufa, but that in times of danger they fled from their houses and went down the cliffs into the caves, enduring exposure for the time for the sake of protection. This is an interesting locality. It is situated on the San Juan River. The cliffs here are only thirty-five to forty feet in height. The ruins are three in number, one rectangular and two circular. Each one of them is placed over a different group of cave-dwellings, close to the edge of the mesa. About one hundred and fifty yards to the southwest of this ruin are the remains of another similar structure. It is built, however, on a much grander scale; the walls

are twenty-six inches thick, and indicate a diameter of about one hundred and forty feet. The first impression was that it was designed for a corral, and used for the protection of herds of domestic animals. This would prove that it was a modern work



Fig. 3.

and not an ancient one. Mr. Holmes says that they both belong to the community of Cave-dwellers and served as their fortresses, council chambers and places of worship. These would seem to be reasonable and natural inferences. Being on the border of a low mesa country that rises toward the north, strong outside walls were found necessary to prevent incursions from that quarter, while the little community, by means of ladders, would pass from dwelling to temple and fortress without danger of molestation. See Plate IV. Mr. Holmes describes another cave-dwelling situated on the Rio

Mancos canon. An outstanding promontory was honeycombed by this earth-burrowing race. Window-pierced crags were visible, which contained towers upon the very summits. Other openings were walled, leaving windows or doors into the side of the precipice, the apertures being scarcely large enough to allow a person of large stature to pass. He

says that one is led to suspect that these nests were not the dwellings proper of these people, but occasional resorts for women and children. The somewhat extensive ruins in the valley below were their ordinary dwelling places. He speaks of the round towers, and says they are very numerous in the valley of the Mancos. He visited and measured seven in fifteen miles along the course of this stream. In dimensions, they range from ten to sixteen feet in diameter and two feet in thickness. They are, in almost every case, connected with other structures, mostly rectangular in form. In this respect they resemble the square and circle which are found in the Mound-builders' works in the Ohio valley. The Rio Mancos canon is 30 miles in length, and ranges from 1,000 to 2,000 feet in depth. It seems to have been a favorite resort of the cliff-building people,



Fig. 4.

industry may be found everywhere along the bottoms, on the cliffs and on the high dry table lands above. He refers to walling up the cave front, and gives several illustrations. A sketch of one on the Rio Mancos is given in the cut, Fig. 3. The group occurred in the cliff, about thirty feet from the base. The



Fig. 5.—Cliff House.

three doorways opened into as many small apartments, but these were connected with each other by very small passage-ways. He speaks also of a cozy little dwelling which was hidden away in a weather-worn cavity in a massive crag. See Fig. 5. This was situated not far from a great tower which he discovered on an isolated spot in the midst of the valley and near the trail. A rude little fire place was observed in connection with the cliff house on the opposite side of the canon. See Fig. 6. It is the only example discovered. There seem to be no traces whatever of fire-

places, ovens, furnaces, or chimneys about any of the ruins except this. The walled-up caves on the Rio Mancos canon may be compared to the cave-dwellings and towers on the Rio San Juan. In this case the towers are below the cliff—in the valley instead of on the summit. We give two other specimens of these cliff-houses. These were also found on the Rio Mancos. They have been described by Mr. W. H. Jackson. See Figs. 4 and 7.

The round towers are worthy of notice. Some of these are isolated, but some of them are connected with rectangular buildings. We give two cuts to illustrate these. Fig. 9 gives a plan



Fig. 6.

of the double tower near the mouth of the Mancos; Fig. 10 occurs about eight miles above the foot of the canon; it is nine feet in diameter on the inside and about sixteen feet high. There are three rectangular apartments attached. This cut illustrates one method of defense and shows the uses which were made of some of the towers. There were no windows or openings within reach of the ground, but being built in connection with dwellings they could be reached from within these, and be secure from

without. A large circular tower is described by Mr. Holmes. It was situated in the canon of the Mancos on a narrow strip of alluvial bottom. The diameter of the outer wall is forty-three feet, that of the inner twenty-five feet. The outside courses have been dressed to the curve, and the implements used must have been of stone. The space between the walls was divided into cells. The main walls are twenty-one inches in thickness, but the partition walls are somewhat lighter. The walls were twelve feet high when discovered. The circle seems to have been divided into ten cells. There were no indications of windows or



Fig. 7.

doors in the outer walls. Entrance was made by means of ladders through high windows or by way of the roof. There were openings between the central enclosure and the cells, but



Fig. 8.

these were high up. The one that remains entire is six feet from the ground, and measures two feet in width by three in height. The lintel is a single slab of sandstone. That this ruin is quite ancient is attested by the advanced stage of decay. There were no buildings in connection with the ruin, but on the point of a

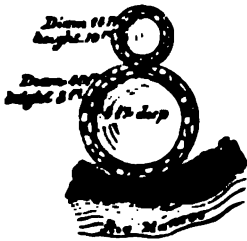


Fig. 9.

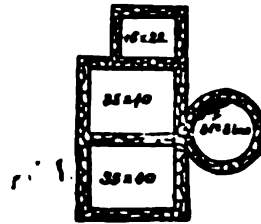


Fig. 10.

low rock or promontory that extends down from the mesa to within a few rods of the circular ruin, are some masses of decaying wall and a large circular depression. This tower was probably the estufa for the houses which were situated in the sides of the cliff to be described.

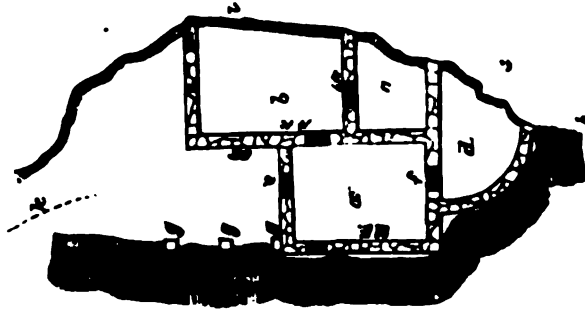
The position of this ruin is one of almost unparalleled secur-

ity. The almost vertical cliff descends abruptly from the front wall, and the immense arched roof of solid stone projects forward fifteen or twenty feet beyond the house. Running water was found within a few yards of the groups of houses just described. There were evidences of fire, the walls and ceilings of one of the rooms being blackened with smoke. The small rooms were used for storage, and a quantity of beans was taken from one and grains of corn from another.



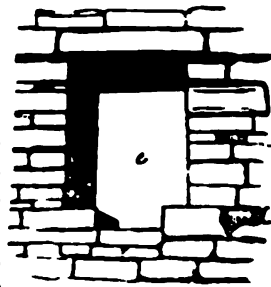
*Fig. 11.—Two-Story Cliff House.*

Another group of cliff-dwellings was situated about a mile farther up the canon. It was exceedingly difficult of access, being situated in the cliffs about seven hundred feet above the river. Fig. 14. It is a two-story building. The one



*Fig. 12.—Ground Plan.*

remarkable feature of the house is the consummate skill with which the foundations are laid and cemented to the sloping and overhanging faces of the ledge. Mr. Holmes says that although the building seems complete, and had windows and doors conveniently and carefully arranged, the plastering of the interior is almost untouched, and there is scarcely any trace of the presence of man. The plaster may have been applied only shortly before the final desertion. Mr. Jackson says: Among all dwellers in mud-plastered houses it is the practice to freshen up their habitations by repeated applications of clay, moistened to the proper consistency, and spread with the hands. Every such application makes a building



*Fig. 13.—Doorway.*

appear perfectly new, and many of the best sheltered cave-houses have this appearance, as though they were but just vacated. Fig. 12 gives the ground plan, and shows the position of the house in relation to the floor of the niche. There are four small rooms only; the front one (A) being 10 feet long by 6 wide. Of the back rooms, one is 9x10 feet, the other six feet by six, while the apartment with the curved wall is much smaller. The walls are about twelve feet high and reach within two or three feet of the overhanging roof. They are built in the ordinary manner, of stone and adobe mortar, and, what is rather remarkable, are plastered both inside and out. The plaster does not differ greatly from common mortar. It is lightly spread over the walls, probably with the hands, and in color imitates very closely the hues of the surrounding cliffs, a pleasing variety of red and yellow grays. Whether this was intended to add to the beauty of the dwelling or to its security by increasing its resemblance to the surrounding cliffs, I shall not attempt to determine." A sketch of one of the doorways is given in Fig. 13. The shape is rather unusual, as the doorways are, as a rule, narrower at the top, the same as they are in Peru, though with not so marked an incline. There are two or three exterior doorways, one entering into each story of the front room. A sketch of the interior of this room is given, Fig. 11. It was a small rectangular window, 22x30 inches, in the front wall, from which a fine view could be had of the deep valley below. The extraordinary situation of these houses is shown in Fig. 14.



Fig. 14.—Showing Location of Houses.



Viewed from the heights above the effect is almost startling; one can not but feel that no ordinary circumstances could have driven people to such places of resort.

Another group of rock shelters is described by Mr. Jackson. They were situated on a ledge about two hundred feet long and six feet deep, but resemble cubby holes. At first they seemed as if they might be *caches*, but the evidence of fire showed that they had been quite constantly occupied. There was a row of these rock shelters, doors through the dividing walls affording a passage the whole length of the ledge. Another group of three small houses, each about five feet wide and ten feet long, with doors through the end walls, was seen situated about sixty feet above the trail. Still another group was found on the Rio San Juan, consisting of an open plaza, with three rows of apartments surrounding it. This should not be called a cliff-dwelling; as properly considered, it would be a pueblo.

Mr. Jackson has also described what he calls the great Echo Cave. It is situated twelve miles below the Montezuma. The bluff here is about two hundred feet in height; the depth of the cave was one hundred feet. The houses occupy the eastern half of the cave. The first building was a small structure, sixteen feet long, three to four feet wide. Next came an open space eleven feet long and nine feet deep, probably a work-shop. Four holes were drilled into the smooth rock floor, six feet apart, probably designed to hold the posts for a loom, showing that the people were familiar with the art of weaving. There were also grooves worn into the rock where the people had polished their stone implements. The main building comes next, forty-eight feet long, twelve feet high, ten feet wide, divided into three rooms, with lower and upper story, each story being five feet high. There were poles for the beams in the walls, and window like apertures between the rooms, affording communication to each room of the second story. There was one window, twelve inches square, looking out toward the open country. Holes in the upper rooms, which may have been used for peep-holes and shooting arrows through. Beyond these rooms the wall continued one hundred and thirty feet farther. Here the space was divided into rooms of unequal length, as follows: 12½, 9½, 8, 7½, 6, 10, 8, 7, 7, 8, 31, dwindling in width from 9½ to 4 feet. A fire place was found in the central room, which was undoubtedly the kitchen of the house. On the inner walls of some of the rooms were impressions of hands, with the delicate lines on the thumbs and fingers visible. They were probably the hands of women and children, as they were quite small. The cave was called the Echo Cave, as the great dome of solid rock overhead echoed and re-echoed every word uttered, with marvelous distinctness. The appearance of the place, Mr. Jackson says, indicates that the family were in good circumstances. Looking out



**PLATE IV.—Echo Cave on the San Juan.**



**PLATE V.—Two-Story Cliff House in Mancos Canon.**



from one of their houses, with a steep descent of one hundred feet below them, the broad, fertile valley of the Rio San Juan, covered with waving fields of maize and scattered groves of majestic cottonwoods. These people must have felt a sense of security, which even the incursions of their barbarian foes could hardly have disturbed.

In the Canon de Chelley there are several great circular caves in which are the ruins of cliff-houses, though much dilapidated. One of these contains a cave town. See the Plate. It occurs in a great bend of a circling line of bluffs, and is perched upon a recessed bench about seventy-five feet above the valley. The cave sweeps back about eighty feet under the bluff. The total length of the town is five hundred and forty-five feet, and the width only about forty feet. It has about seventy-five rooms on the ground plan. Midway in the town is a circular room of solidly built masonry, that was probably intended as an estufa or council hall. Starting from this room is a narrow passage which runs parallel to the edge of the cliff, but back of the houses, to the two-story group at the end. Further access is prevented by the roofs of the first story, which serve as a platform to the rooms back of it. All the rooms are one story except this group, which was probably the residence of the chief. The rooms just back of it are store rooms, where the family or community kept their squashes and corn, and which may have been distributed by the chief. At the place marked B are the remains of a small cistern or spring. The whole front of this town is without an aperture, save a few small windows, and is perfectly inaccessible. Admittance was probably gained from near the circular building in the center by ladders. But this estufa seems to guard the entrance. Going to the right from this estufa we reach a ledge on which other buildings are placed, the general arrangement being similar to those of the pueblos, clusters about central courts that served, in all probability, as corrals for the domestic animals, as a solidly placed bed of old manure was found. Some of the rooms are quite large, from fifteen to twenty feet in length. All the doorways and windows opened within to the courts or corrals. They are all of one story. The very small rooms were used for storage, though some of them may have been fire-places for baking pottery. The bluff here was easy to ascend, the corrals having been situated in this place, but the village in a more secure position to the left of the estufa.

Two miles from this cave town, down the canon, was the house shown in the Plate. It is reached from the valley by a series of steps cut into the rock. The house, twenty feet in height, consists of two stories built against the sloping back of the bluff. The lower story is ten by eighteen feet, divided into two rooms; the upper floor seems to have been all in one room. At the

foot of the bluff there is a deep natural reservoir of water that seems to retain a perpetual supply. The largest and most important cliff-dwelling is one above the Canon Bonito. It occupied a large circular cave, divided into twelve or fifteen rooms, with a large corral or court, and an elevated bench on one side, with a low wall running around one side. This had been occupied by the Navajoes for corraling their sheep.

Fifteen miles up Epsom Creek there were dwellings of the cave kind, mere cubby holes. In one instance a bluff several hundred feet in height contains half a dozen small houses, sandwiched in its various strata, the highest one hundred and fifty feet above the valley. Each consisted of but one room. One of them is a perfect specimen of adobe plastered masonry. These cubby holes are so smoke blackened as to convince us they were long occupied, but not during any recent period.

Upon the opposite side of Epsom Creek we found some cave houses in a most singular, out-of-the-way place—in the very last place in the world where we would expect to find them. Scaling the bluff, at the very imminent risks of our necks, we came suddenly upon a broad open cave near the top, containing the usual style of stone built and mud plastered houses, divided into four or five apartments of just the size and number that would be required for an ordinary family of eight or ten persons. On top of the bluff we found the remains of a very old circular tower, forty feet in diameter, the stones all crumbled and moss covered. A few miles further up the Epsom valley we came upon an important group that was evidently the center of the surrounding country, a place of worship or general shire town. It consisted of a main rectangular mass, sixty by one hundred feet square, built on an elevation. Just below it was a round tower, twenty-five feet in diameter. On the opposite bank were two small round towers, each of them fifteen feet in diameter, and two oblong structures, twelve by fifteen feet in diameter.

Mr. W. H. Jackson has described another. See Plate V. He says, "Just as the sun was sinking behind the western walls of the canon one of the party descried far up on the cliff what appeared to be a house with a square wall, but so far up that only the sharpest eyes could define anything satisfactorily. The discovery of this one so far above anything heretofore seen inspired us immediately with the ambition to scale the height and explore. The first five hundred feet of ascent were over a long steep slope overgrown with cedar. Then came alternate perpendiculars and slopes. Immediately before the house was a nearly perpendicular ascent of one hundred feet, which we were only able to surmount by finding cracks and crevices into which fingers and toes could be inserted. Another short steep slope, and we were under the ledge upon which was our house. The house itself, perched up in a little crevice like a swallow's nest,

consisted of two stories, with a total height of about twelve feet, and leaving a space of three feet between the top of the house and the overhanging rock. The house stood upon a narrow ledge, the depth of the ledge being about ten feet; the vertical space between the ledge and overhanging rock, fifteen feet. There was a sort of esplanade on the ledge near the house—three abutments built out flush with the walls of the house upon the steep incline of the slope, on which probably a platform and balustrade had formerly been built. The outside walls had to be built on an incline of about forty-five degrees. This was situated in the Rio Mancos or Mancos Canon. The ground plan showed three rooms, the front room six feet by nine, those back of it five feet by seven. In the lower front room a door opened out upon the esplanade, twenty by thirty inches in size. In the upper story a window commands an extended view down the canon. Near this window is an opening into a large reservoir or cistern, the walls of which come nearly to the top of the window. From the window, and extending down to the bottom of the reservoir, are a series of cedar pegs about a foot apart, enabling the occupants to easily reach the bottom. The entire construction of this human eyrie displays wonderful perseverance, ingenuity and some taste. The perpendiculars were well regarded



Fig. 15—Cliff-House in Mancos Canon.

and the angles carefully squared. About the corners and the windows there was an overlapping of the joints, so that it always held firmly together. The mortar is compact and hard, a grayish white, resembling lime. Most peculiar, however, is the dressing of the walls of the front rooms, both being plastered with a thin layer of adobe cement, colored a deep maroon red with a dingy white band, eight inches in breadth, running around floor, sides and ceiling. The floor had been evened up with a cement resembling that in the walls. Ruins of half a dozen lesser houses were found near by, but all quite dilapidated. One little house, about fifty rods below the one described above, at the extremity of the ledge, was especially unique in the daring of its site—filling the mind with amazement at the temerity of the builders and the extremity to which they must have been pushed.

Two or three miles further and the canon changes its features. The mesa comes forward and towers over the valley with a thousand feet of altitude. The bottom lands widen out to a half or three quarters of a mile in breadth. While jogging along under this bluff, fully 1,000 feet high, admiring its bold outlines and vivid

coloring, one of our party, sharper-eyed than the rest, descried away up near the top perfect little houses, sandwiched in among the crevices of the horizontal strata of the rock. Approach to this house was accomplished only by crawling along the ledge, twenty inches in width, not tall enough for more than a creeping position, where the least mistake would precipitate one down the whole of the dizzy height. The ledge ended with the house, which was built out flush with its outer edge. The structure resembles in general features the cliff-houses already spoken of. The masonry is firm and solid, width about five feet, side wall in a semi-circular sweep fifteen feet long, seven high. To the casual observer it would not be noticed once in fifty times, so similar to the rocks between which it is plastered". The position of this house, as well as of that in Fig. 12, can be seen in the plate in the dark heavy lines near the summit, just above the most precipitous portion of the bluff, at a height of 600 to 800 feet above the level of the canon. We have seen from Mr. Jackson's descriptions that most of the cliff-houses are built after a general plan, the same as the pueblos. The houses are not always two-storied, nor are they terraced as the pueblos are, and yet there is an approximation to this in many places.

This impression has been increased by the discovery which was made within the last year by Mr. F. H. Chapin, in Cliff canon, a tributary of the Mancos. Here is a magnificent ruin, 425 feet long. The structure is placed under an arched cliff, the platform running back under the cliff to a depth of 80 feet. The ruin is inaccessible from above, except by hand holes which are cut in the face of the cliff. Viewed from the opposite side of the canon, this fortress is a most imposing sight. The builders could not have selected a wilder or more secluded spot. Fear of attack from fierce enemies must have been the cause of their constructing a building at such a place. The interest is heightened when the explorer examines it from near at hand. At first sight it strikes one as the ruins of a great palace erected by some powerful chieftan, and it is only when closely examined that one arrives at the conclusion that it was the home of a communistic people. The different apartments consist of rooms varying from 8x10 to 12x13, generally disconnected. In many cases the inhabitants entered their close quarters by a narrow hole in the roof, and the main entrances were by doors only five feet high. The distance from the base of the structure to the top of the walls is fifty feet. At one place where the masonry juts against the stone roof of the cave, the height is eighty feet from base to summit. The masonry is of a higher grade than that shown in the ruins of towers and dwellings in the valley. The "coarces" break joints and the whole structure appears as if built to last for ages. All the stones were laid in mortar, and much of the interior plastered.

## Correspondence.

### MOUNDS IN FLORIDA.

*Editor American Antiquarian:*

Yours of the 7th is at hand, and I take pleasure in responding to your inquiry as to effigies and effigy mounds in Florida so far as I can. I know the "turtle mound" well, and it resembles a turtle about as much as Shark River resembles a shark or Alligator Creek an alligator. The name, I fancy, was given it because the bones of turtle were found among the debris as part of the aboriginal food, as I found them there, and in most other coast shell mounds. I have seen all the coast shell mounds of any note from the mouth of the St. John's on this coast to Tampa Bay on the west coast, but never have seen one that was indicative of the builder's desire to represent any particular shape, except such as the nature of the locality and the necessity of the savage seemed to require. The only purpose beyond this which I have noticed in these shell mounds, extraneous to the above mentioned, is their subsequent adoption as "lookouts" or mounds of observation. Turtle mound peculiarly illustrates this use, for while almost universally shell mounds are only so high as to save the necessity of climbing up a height by enlarging its length and breadth, in this instance the shells have been artificially heaped up into two adjacent pinnacles of thirty feet and convenient access made up the side of one to the intervening depression, about eight feet below their summits. It can be called a double-leaded or twin mound, but there is no resemblance to a turtle or any other animal.

While upon this branch of the subject, I would say that this same adaptation to a different purpose from the mere disposal of the remains of their shell feasts is shown in Horr's Island, on the southwest coast of Florida; some eight miles north of Cape Roman (sometimes called in the old maps Punta Larga). Here the layer of shells is scattered over a sand ridge some thirty feet in height and half a mile in length. It is an ancient sea beach—like many others in South Florida—formed by the currents while that part of the peninsula was submerged. About the center of this ridge the shells are heaped up in a steep cone about twelve feet in height, evidently as a lookout and no doubt



for warning fires when an enemy approached. The view is a vast one over a perfect archipelago of islands and water courses. Some thirty miles north of this, and about eight miles south of Punta Rosa, is what is called Mound Key, in Estero Bay (called Oyster Bay on modern maps). This key is one shell mound of undulating surface; perhaps a third of a mile in diameter. It is remarkable for the fact that a water channel has been left directly through the center. Of course this is now choked with mud, but the mound is brought up to it on either side as steeply as the nature of the shells will permit. On one of these banks the shells have been heaped into a pinnacle about fifteen feet higher than the usual level, a total height of about forty-five feet, for observation or warning purposes, and the coast survey have a beacon upon it. There probably are other instances of the same kind along that coast, and we can well understand how, when Hernando de Soto, in 1540, approached it he saw the smoke and fires on eminences along the coast, and found the natives had gone inland.

As to the earth mounds, I have dug over fifty on the same range of coast and inspected some twenty others, but so far as my experience goes I have never yet seen one which could be called an effigy mound. Perhaps some may to an imaginative explorer have conveyed such an idea, but every one I have seen had some special reason for its construction, which could be otherwise explained on common sense principles. Of course I can not give any testimony as to mounds in the interior of the peninsula or north of the range I have named, only a few of which, of simple conical form, have come under my notice.

Of relics, representing peculiar forms or effigies, I have seen none. I was told by a resident of Indian River of a remarkable find of representations of animals (birds and beasts) in stone which had been found cached in a well-known mound at the mouth of Turkey Creek (about six miles south of Merritt's Island), but I was subsequently shown at Enterprise half a dozen of these objects in private hands, which had been bought from the finder of the hoard, and I presume to have been the objects mentioned, and they were plummets or sinkers of fantastic and peculiar forms, but certainly not designed to represent animals of any kind, though extremely interesting to a collector. One learns to doubt the tales of this kind, which magnify by transmission through many credulous channels. I have seen the collections from the West Indies which you mention, and it has struck me as strange that forms and figures of that sort should not have passed the boundary of those islands and crossed the very narrow strip of sea which intervenes between Florida and the Bahamas or Cuba. Why this should have been so impassable a barrier is very curious; but you may recollect my article on "The Earth and Shell Mounds of Florida," which appeared in *THE ANTIQUARIAN* for March, 1885. In this I

ventured to assert that all the celts I have found in Florida mounds came from adjacent countries to the north and not from the Caribs, for the simple reason that the most abundant of my finds were in the county of St. Johns (this county), and that they entirely ceased seventy-five miles south of this city, and were never found in the numerous mounds I explored from that point to Cape Florida. Had any come from the West Indies, where all *forms* are identical as well as the *material*, the mounds of South Florida, so contiguous to the Indies, would have contained them. The coincidence in the form of the celt is too universal over the whole world to be of any force as an argument for their possibly being of Carib manufacture. Nor have I ever found in Florida the fossil shell celts or scrapers so peculiar to the Indies. I have celts or scrapers of shell from the coast of Florida, but they are of oyster shell, of remarkable weight and thickness, but quite distinct in form, as well as the kind of shell, from those of the Indies. I cannot resist the notion that the natives of the Indies had no intercourse whatever with this peninsula. If they possessed any knowledge of it the information would have promptly stimulated Spanish adventure, but it was more than a decade of years after the occupation of Cuba before Florida was discovered. It is true, however, that the report of the Fountain of Youth, meaning possibly some of the copious springs of this country, came to the ears of Ponce de Leon from Indian sources, and there is a faint tradition that an earlier period Indians went from Cuba to seek that spring, but it must have been a very fitful intercourse, accidental in its way and not a matter of established custom; besides so faint was the character of Ponce's information that he believed when he struck the Bimini Islands, on the western boundary, that he had found the hoped-for waters.

So far as my personal knowledge goes, I think I have answered your questions as regards Florida. You ask if "we have in Florida the track of the effigy-builders of the West Indies." I hardly think myself competent to answer this question; yet so far as I have an opinion I should say that, like the universality of the forms of the celt, it is quite as likely to be accidental. I have no books to refer to in this place and can not refresh my memory, but would ask whether these effigies are not restricted to one or two of the islands? Do they prevail throughout the entire region of the Caribbean Sea and the Spanish main? If they do, the land of nearest contact would most likely be the source, and that must be the coast of South America. Certainly there is yet no evidence that the entrance to the present United States was through the peninsula of Florida.

A. E. DOUGLASS.

St. Augustine, February 10, 1890.



from one of their houses, with a steep descent of one hundred feet below them, the broad, fertile valley of the Rio San Juan, covered with waving fields of maize and scattered groves of majestic cottonwoods. These people must have felt a sense of security, which even the incursions of their barbarian foes could hardly have disturbed.

In the Canon de Chelly there are several great circular caves in which are the ruins of cliff houses, through much of which One of these contains a cave town. See the Plate. It occurs in a great bend of a rising line of bluffs and is perched upon a recessed band of about seventy-five feet above the valley. The cave sweeps back about thirty feet across the bluff. The total length of the town is five hundred and forty-five feet and the width only about ten feet. It has but seventy-five rooms on the ground plan. Midway in the town is a circular room or study built in a way that was probably intended as an estufa or council hall. Starting from the center is a narrow passage which runs parallel to the edge of the cliff, leading from the houses to the treasury, and at the end of it. Further progress is prevented by the ends of the first story, which serve as a platform to the rooms above. All the rooms are one story except this great hall, which was probably the residence of the chief. The rooms just back of it are store rooms, where the family or community kept their goods, and others, and which may have been distributed by the chief. At the place marked B are the remains of a small eastern or pump. This is a feature of this town, without an aperture, save a few small windows, and is perfectly inaccessible. Admittance was probably gained from near the circular room in the center by a door. For this estufa seems to guard the entrance of a passage to the right from this estate, or rather a passage to the left. The steps are placed, the general arrangement being in the middle of the public's clusters, and a central passage, which is a possibility, as it trails into the canyon at many points, and is a bed of red granite with a few small stones, and is quite large, from fifteen to twenty feet wide. The doorways, alcoves and windows open to the outside of the cliff. They are all of one story. The very nature of the cliff is such that, though some of them may have been used for making pottery. The chief residence, which was probably the residence, has been situated in the center of the town, and is a large room, some thirty feet long and twenty feet wide.

Two miles from the town of Chelly, in the Canon de Chelly, is shown in the Plate. It is a circular cliff house, with a series of steps cut into the rock. The town consists of two stories, the lower story consisting of the upper story. The lower story is a study, probably intended as an estufa, and the upper floor is made of stone, and is a large room. At the

## CRANIA AND BONES OF ANCIENT MAN.

These were found in a cave formed in a mountain of gniess by the expanding of the Schistose lines, and about 310 feet perpendicular below the top of Mount Lagumta, 640 feet above its base, in a narrow, U-shaped valley on its northeastern side. This valley is about five miles long and only about 1200 to 1500 yards wide from the top of one to that of the other of these two parallel extensions of the mountain. The valley and mountain form a part of this high totumbra on the Pacific edge of the dividing ridge between the Pacific Ocean and Carribean Sea; but the waters flow from this valley northward into the Rio Viejo, thence eastward through the long, large Lake Managua and larger Lake Nicaragua and Rio San Tuan, into the Carribean Sea. There is only one way of access to the cave—and this is steep, difficult and dangerous—from the top of the mountain down a fissure in the gniess, at some places vertical, at others inclined at angles varying from ten to thirty degrees. Ropes, vines and small bushes were necessary assistants in descending and ascending to and from a narrow path, twenty-two to thirty inches wide, and extending along the side of the mountain about 100 yards. On one side of this narrow path the wall of gniess rock rises 310 feet vertical, or in other places inclined over the pathway. On the other side the rocks are 640 feet, nearly perpendicular, down to small boulder-filled creeks in the narrow valley. The mouth of the cave is on a plane with the path, and extends westward to a distance not known into the cave. Near the mouth, and at least seventy-five feet inside, the cave has a width of about fourteen feet and a height of four feet. The floor of rock is covered for a few inches with a fine dry sand. The entrance is obscured and almost hid from view by the continuation outward, in a semi-circular form, of the rocks forming one side of the cave.

Why men sought so inaccessible a place and remained there until death, and when they lived and died there, are as inexplicable and mysterious as are many of the mythological relations made about them by Indians of the present day, none of whom knew until recently of the existence of the cave. Strange and mysterious tales are told by old Indians among the small remnants of both the Tokwas and Cookas tribes, living many leagues apart, about an apparition or etherealized body, defined in grand outlines, like some Indian chief and his companions, who, they declare, lived an inexpressable or very difficult to tell long time ago, that are often seen moving in majestic style along the granite top of the U-shaped valley now called Lagumta. Each relator has some specialty on which he elaborates more fully than other relators, and he keeps close to his text each time he can be induced to talk about these apparitions, and all of them agree in their general description of these

mythological bodies, especially as to the etherealized form of a grand Indian who, they declare, is always seen among the others, and who once lived incarnate and was a mighty, wonder-working chief at a time—long ago—when all men were great and strong, intellectually and physically. They all declare that this mighty one was a king, prophet and warrior, and that he frequently comes up from some hidden recess in Mount Legunita and first looks westward, viewing in the horizon the Pacific Ocean; then moving with majestic steps to the eastern extension of the mountain, he carefully scans the Atlantic Ocean,\* and by varying motions of his head, arms, legs and body, which only some of the old Indians can interpret, tells of wonderful deeds performed for ages, on land and lake and ocean, by himself and his numerous warriors and statesmen companions; and that in those days all the mountains and valleys during all the year were luxuriant with ever-green, ever-flowering and ever-fruited plants and trees; that in those days the waters issuing from hundreds of mountain springs† made music as delightful as the songs of the birds,‡ as it danced down over rapids and cascades and flowed through or near the Indian towns; that in those days all the Indian women were swift, graceful and beautiful, and all the Indian men were active, strong and brave; and much more is told about the Indian chief and his wonder-performing, intelligent companions.

The facts, from personal examinations of the mountain cave and bones, are: The skull is an Indian type, differing from any of the present tribes in Central America or Mexico or South America, and differs in form, and possibly is of greater antiquity than Aztecs or Toltecs. It is the skull of a man of much intelligence and has a long parietal axis. The other bones indicate a man five feet eight inches high, strong and active. The cranium§ and other bones were found in the cave in the mountain Legunita, as hereinbefore described, in the district of Metopa, department of Matagalpa, Nicaragua. Seven Indian men residing in that neighborhood accompanied me by orders they did not dare to disobey, yet none of them knew of the existence of the cave and bones, nor of the fissure in the rock, down which we descended to the narrow pathway and on to the entrance to the cave. When the cave and bones were discovered, the Indians present declared that they believed the most perfectly preserved cranium and bones were those of the mysterious an-

\*On a clear day the Pacific can be seen, by the assistance of a good lens from the granite peaks of this mountain; but I doubt—although I am told by intelligent and respectable persons that it is a fact—the possibility of seeing the Caribbean Sea from this locality.

†Mountain springs are abundant in this department of Matagalpa.

‡I have just seen a publication stating that the grand premium was awarded this year to Nicaragua for her exhibit of birds at the exposition in Paris. The birds in Nicaragua are certainly very beautiful and many of them are songsters.

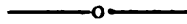
§Now the Indian women and men in Nicaragua are generally the reverse of this. They will, I suppose, hereafter be found in the Smithsonian Institute, Washington City.

cient chieftain, of whom the old Indian men relate so many stories, and they refused to assist in the removal of bones, but after a few minutes they were induced to assist by the declaration that the Government of Nicaragua had, in its loving regard for the Indians and science, determined to remove these revered relics to a suitable place, where they could rest in a beautiful mausoleum, surrounded by the *grandees* of many eras. In the fine dry sand on the floor of the cave, we found, with the bones, a few pieces containing the beak-like process of the dorsal valve of the brachapods—*terebrutula*, possibly. These were used as ornaments.

The foregoing are only a few of the many stories and superstitions among the Indians in the republic of Nicaragua.

J. CRAWFORD.

Managua, Nicaragua, December 18, 1889.



## Editorial.

### THE ISLAND OF MACINAW AND NATIVE MYTHS

The native mythology of North America is exceedingly interesting. It is wild and strange, as would be expected from a population such as existed here. There is, however, a vast amount of poetry about it, and beneath the poetry much that is instructive. We may learn from it the native superstitions and religious customs, and may possibly be able to trace through it the history of the aboriginal races. The main question in reference to these myths is whether we can separate that which is purely native from that which is of modern invention; and when we have so separated them, whether we can trace the myth back to some other continent or make them purely autochthonous. We think this can be done, if there is care exercised in studying the myths, and ascertaining the peculiarities of the native mind. It is possible to make the mythology of this country as classic as the mythology of Greece, Rome, Scandinavia and other countries, but we must be sure that it is native and that it came from prehistoric sources, and that there are no historic or fictitious inventions mingled with it. The traveler in foreign countries is taken to the various places and is told that here and there the myths with which he is familiar have been located, and in many cases the location will be found correct. In this country, however, a man may go from place to place and if he inquires about the myths, the chances are that

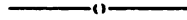
he will learn nothing, or if he learns anything at all he will find that the myths which really belong to other parts of the country have been transported and re-hashed and made to fit the new locality, and so he will find a strange mixture, much of it being the fictitious invention of the person who is telling the story or of some person who has made himself familiar with native mythology, but has not taken the pains to distinguish one myth from another. There are certain tests which we can apply to these stories, by which we can ascertain whether they are native myths or fictitious inventions.

There are many places, however, where tradition has perpetuated a native myth, and it has continued to linger about the spot where it first arose. To illustrate: There is in the island of Mackinaw a conical rock (see Frontispiece), which is called the Sugar Loaf. This is a modern name, a name which could never have been invented by an aboriginal mind. There is a story or myth connected with this Sugar Loaf, a story which has come down to us apparently without mixture of modern inventions. The story is that the island was the abode of a great turtle divinity. Hon. Lewis H. Cass gives us an account of it. He says that the Indian voyagers always made offerings to the divinity as they passed a certain point. Others say that the island has a resemblance to an immense turtle. The rock in the center of the island, any one can see, has the shape of a tent or wigwam. The myth is that it was the tent where the great turtle divinity dwelt. The thought is a happy one, for it is poetical and at the same time perpetuates the poetry of the aboriginal races. There is no reason to doubt that the myth was aboriginal and that tradition has handed it down correctly.

This, however, is not the only rock about which native myths still linger. There are rocks in Maine which resemble the moose, and the story is that the gigantic moose divinity dwelt there. There are, to be sure, other rocks which resemble elephants and human faces. The writer has had such rocks pointed out to him in the notch of the White Mountains. One of them is said to resemble the face and features of Daniel Webster; another the head and trunk of an elephant. To the imagination there may have been a resemblance, just as a white rock in a distant field resembles a white horse. No one, however, would in his right mind say that these resemblances were ever recognized by the natives. They are purely inventions of later times. Our correspondent, Mr. A. E. Douglass, who spends a part of the winter in Florida, has at our request been studying the subject in that state. The names, turtle mound, bull frog mound, are said to have been given to certain shell heaps because of their resemblance. The story still lingers about the locality, and persons who are visiting the region imagine that they see the resemblance in the shape of the mounds. Mr. Douglass thinks



there is no such resemblance. The myth or conception, whichever it may be called, if it is to become classic, must have material for its foundation, and the resemblance must be close enough to be recognized. We could tell the story, but must be sure that the tradition is correct before we ascribe it to native mythology. In this way the story becomes suggestive. The resemblances will be recognized in the natural object and the myth will be perpetuated by the object and cannot be removed from it. If an effigy is there or the rock inscription remains, we may safely locate the conception there, and may possibly find some myth which may properly be repeated. If there is no effigy and no inscription, then the resemblance must be traced in the natural object and the myth fit the resemblance.



#### LITERARY NOTES.

**DISCOVERIES AT ATHENS**—Some time ago it was announced that the American School of Archaeology was making some interesting discoveries at Athens,—among them the remains of a single statue, the coils of an immense serpent, a headless and footless statuette, and fragments of a huge bull; the head of a griffin, a small head with enormous staring eyes, and some inscriptions in the Boustrophedon kind. Recently, however, Mr. Waldstein reports some still more interesting finds, the chief one of which is the head of the goddess Iris, of the group which has been preserved in the Elgin marbles; namely, the group of divinities on the frieze inside the temple of the Parthenon. This head seems to have a singular history. It was apparently built into an old wall, which was erected during the Byzantine period, and was thus preserved. This head now makes the group complete. The frieze is in the British Museum.

**DOLMENS AND CROMLECHS; WHO BUILT THEM?**—The journal of the Anthropological Institute of Great Britain for August, 1889, has a description of the dolmens of Japan. These are of two kinds, first, a simple conical mound which contains a rude dolmen, the second, a sort of double mound containing an imperial tomb. The tombs of the first class are small, the height of the mound being about fifteen feet; those of the second class are larger, being four hundred, five hundred and eight hundred feet in diameter, and from twenty five to fifty feet in height. The dolmens are rectangular chambers with a single stone for the roof and generally with entrances toward the south. They all have central galleries, with chambers at the sides; the galleries vary from fifteen to thirty feet, and the chambers vary from nine to twenty-two feet in length. The contents are bones, pottery, iron swords, spear and arrow heads, horse bits, glass, stone, metal beads, etc. They are found on the low hills adjoining the rivers.

Megalithic remains in the form of "kistvaens" have been found west of Parumal India. The top slabs are very large, one of them weighs five

tons. The square built basement of these kistvaens is a peculiarity in its way. Cromlechs and dolmens containing large jars belonging to an unknown race, previous to the Aryans have been found; also a number of utensils, ornaments and arms. The bodies in these ancient Indian jars could only have been placed in a sitting posture. Cromlechs, stone circles, and megalithic remains are found in different parts of the world, arguing a wandering primeval tribe, in early periods of ancient society, or different races having connection with each other. The theory has been advanced that the dolmens were built by the Druids. On this we express no opinion, though it may be worth while to compare the religion of the Druids with that of the Etruscans; and then compare the work of the Etruscans with these pre-historic structures, and see if there is any clue in them. Here we have the testimony of *Cæsar*. He says: "Once a year they assemble at a consecrated place in the territories of the Carnute, whose country is supposed to be in the middle of Gaul." Recent exploration has shown that here in the department of *Eure et Loir*, in France, there are many dolmens and cromlechs and circles of stone, though many have been destroyed. A list of fifty localities may be found in the report referred to above. In ten departments of France 1471 dolmens have been found. The number in this department is above the average. They are found in the greatest abundance on the west coast of Britain,—the Druidic center of operations. The discovery of dolmens in Japan would, however, controvert this theory about the Druids having been the builders, or else it would extend the domain over which the Druids wandered in the early times.

**ETRUSCANS TURANIANS.** We notice that our coadjutor, *Dr. D. G. Brinton*, is still continuing the study of the Etruscans and their literature.\* His position is that the Etruscans were Lybians. We would say in reference to this that the general opinion is that they were Turanians and belonged to that class of people which is supposed to have inhabited Europe before the beginning of history, and in fact, before the advent of the Aryans or Indo-Europeans. On this point we have no specific knowledge. They may have been Turanian or Aryan so far as we know, and *Dr. Brinton's* argument from philology may be correct or not; we can not tell. The Etruscans were artists of a peculiar class and they must have left structures of a specific kind. Now let us compare,—take, for instance, the dolmens and cromlechs and other megalithic structures; these are supposed to have belonged to the early Aryans. Did the Etruscans leave any dolmens? that is the first question. Dolmens belong to a maritime people. They are found in Europe not far from the sea coast, but not in the central parts. They are common in Syria, the islands in the Mediterranean, the north-western shores of Africa, in Spain, Portugal, France Britain and Scandinavia. There is, however, one line in which we would ask *Dr. Brinton* to institute a comparison now that he has got started on these subjects. We may be leading him into another field, when we refer to the recent discoveries in Egypt. It is now said that the shepherd kings were Turanians, if any one knows what that means. They are, in other words, said to have been Mongolian, and so Mongolian and Turanian are supposed to mean the

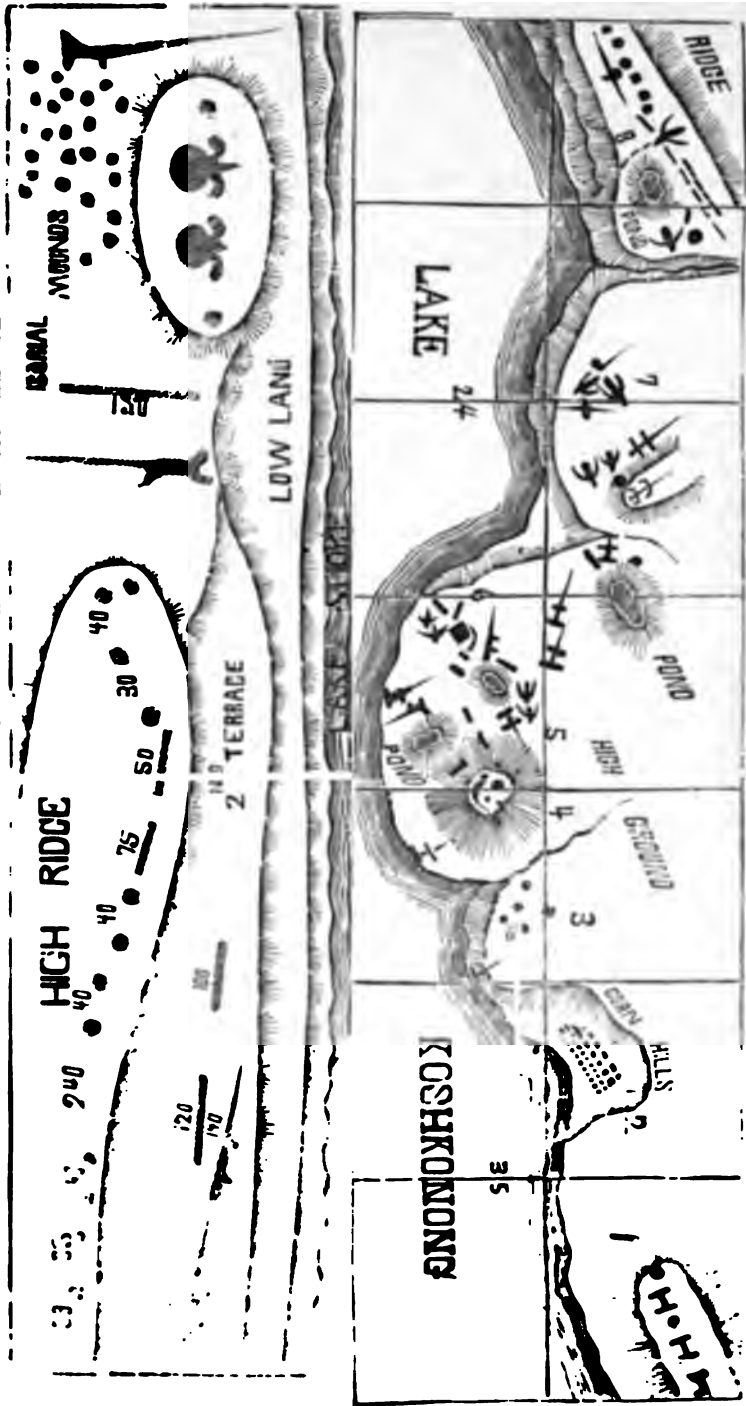
\**On Etruscan and Libyan Names: A Comparative Study.* By *Daniel G. Brinton*. Reprinted from the *proc. American Philosophical Society*, February 18th, 1880

same thing. Now if the shepherd kings were Mongolian, what were the Lybians? Were they Hamites? The general division of the Hamites has been, as we understand it, into Accadians, Pelagians, Etruscans, Himyarites Mizriamites; under Mizriamites, Egyptians, Berbers, Nubians. Here we find the Lydians classed with the Egyptians, but so classed by being related to the Accadians. The early Accadians were, however, Turanian, and the Etruscans were Turanian also. The shepherd kings may have come from Assyria, or they may have been on the Persian Gulf. They are, however, generally regarded as Hittites, the very race which were in the land when Abraham migrated to the region west of the Jordan. Now it is easier to trace the connection between the Hittites and the Etruscans, it seems to us, than it is to trace it to the Lybians. The language of the different races does not seem to remain with them, but the characteristics do. Take, for instance, the religions of the Accadians, of the Etruscans, of the Lybians and Hittites, and find the resemblance. They all worshiped the nature powers. The practice which prevailed among the Turanians, tracing descent from the mother, was a wide-spread custom as far east as China. The Aryans and Semites did not have such a custom. The Turanians poured forth as Scythians, Huns, Ugurs, Khitai, or Hittites and Mongols. Isaac Taylor says the Etruscan language is Turanian, and was related to the Lydian. The great rock sculptures of Pteria in Cappadocia, the sealed cylinders which have been recovered in Lydia, the hieroglyphic emblems like those of the Hittites. This Mr. Conder has shown more fully in the reports of the Palestine Exploration Fund. We suggest that Dr. Brinton examine these reports, as well as the Journals of the Society of Biblical Archaeology. The consensus of authority is in the direction of the Asiatic Hittites, Accadians, Mongolians, and it would be hard for him to break the commonly accepted opinion unless he brings more proof.

"THE ANCIENT MONUMENTS OF THE MISSISSIPPI VALLEY."—This book has been criticised until we had almost come to consider ourselves somewhat at fault for believing in it or defending it. But here comes a little treatise from the Bureau of Ethnology, which, while it corrects by giving the measurements anew, unconsciously praises the very book which has been criticised so much. Moreover, the monuments themselves, which various would-be surveyors have undertaken to show were so faulty, are now shown to be much more perfect in their proportions than anybody had supposed. The squares, at least, are better squares and the circles are more perfect circles. We sum up the re-survey and find that while the Liberty works become more elliptical, the Newark fort becomes a better circle, while the area of the octagon at Newark is less by ten acres, the Hopeton square is as 'nearly correct as can be stated,' the High Bank works grow to be twenty acres, instead of eighteen. But this brings the size to that of Hopeton by a single acre. The small circle at Newark is a marvel. It varies only four feet from a perfect circle. The radius is also an exact multiple of the surveyor's chain. "These are unexpected results." We are glad that the minimizing tendency has come to a pause. The survey of the earth-works of Ohio was conducted under difficulties totally unknown to the government bureau. It produced a sensation and conveyed impressions as to the char-

\*See Book Reviews, The Circular, Square and Octagonal Earth-Works of Ohio.

PLATE XIII.—Engines on East and West Sides of Lake Koshkonong.





acter of those works such as can not easily be set aside. Among those impressions, the strongest was this: that the Mound-builders of Ohio were greatly superior to any tribe of Indians which had ever been known to inhabit that particular region. This is an impression which Dr. Cyrus Thomas has undertaken to remove, but has hitherto undertaken to remove without touching upon the particular point which was at issue. Of course, under the circumstances, there would be considerable curiosity to see what he would say. The result, however, is as we have said, that the book is vindicated and the first impression is re-established. We do not say that Dr. Thomas intends this, but we think that the majority of his readers will be convinced of it. While the chief of the survey states a theory, the surveyor under him states facts, and the facts seem to contradict the theory. The theory is that the Mound-builders were Indians, but the facts seem to show that the works were erected with a skill unknown to Indians, and Dr. Thomas is obliged to say (which he does candidly): The first question which presents itself, in view of these facts, is, How are we to reconcile them with the theory that the works were built by Indians. This is certainly honest, and we are to admire Dr. Thomas for it and thank him for saying as much as he does for the other side. It would be easy for a surveyor to go over the work of any man and pick flaws, but Dr. Thomas says candidly the criticisms relate almost wholly to the want of care in editing their memoirs, yet their work is of great value. The figures of those works they personally examined are generally correct.

*The Ohio Archaeological Quarterly.*—The last number which we have received of this quarterly is that for March, '89. This number contains a sketch of the Historian, Henry Howe, with portraits. Also the Manufacture and Use of Aboriginal Stone Implements, by Gerard Fowke, and a detailed account of Mound Opening, by W. K. Moorehead; a Description of the Relics in the Ohio Centennial, by A. Graham.

#### RIVER DWELLINGS

In the year 1887 we published a letter from Mr. H. T. Cresson on the subject of river dwellings. The letter was printed as it was written, without any changes whatever. At the time we supposed that Mr. Cresson had actually made the discovery which he claimed he had, though we said nothing about it editorially, thinking that if it was a genuine case of river dwellings other specimens would come to light. The letter was extensively read, and brought great many enquiries, especially from European archaeologists. The letter was also quoted by Mr. Henry W. Haynes, was inserted bodily into the "Narrative and Critical History"—a chapter of which Mr. Haynes had the honor to write. After the letter was in type, Mr. Cresson wrote to Mr. Haynes requesting that the letter be changed, but it was too late, and so it went in as it was written. Now after two years have elapsed, Mr. Cresson seeks to shift the responsibility off from himself on to the editor of *THE ANTIQUARIAN*, maintaining that he never made use of the term "river dwellings" and intimating that he from the outset considered them to be fish weirs, and he calls upon the editor to prove that he ever wrote the letter or used the terms "river dwellings" or "pile dwellings." This proof

we are now prepared to give. It is in the shape of a letter from Mr. Cresson himself, written after his first letter was published, but before he concluded to call the pile dwellings "fish weirs."

The letter begins with a note: "Please, if possible, insert this letter in your next issue of *THE ANTIQUARIAN*. The letter will explain itself, and you will readily appreciate why I am anxious to see it in print, as many of our friends on the other side are interested in hearing from Naaman's Creek." The following is the letter, published verbatim. It will show the equivocal play with the original words "pile dwellings," the modified term "pile structures," and the last term, which he seems anxious to establish, "fish weirs". Possibly the letter may refresh Mr. Cresson's memory, so that he will be willing to acknowledge that he used the first term. If he is not, we have nothing more to say.

*Editor American Antiquarian*

I deem it best to answer through your columns some of the numerous questions that have been asked in regard to the pile structures at the mouth of Naaman's Creek, Delaware. The work of examining these interesting aboriginal remains has been carried on for the past two years by the Peabody Museum, with many interesting results, an account of which will be published at a future day, when the mass of material can receive proper study. The number of specimens obtained, after an exhaustive examination of the locality, numbers 1200, the majority of which are now at the Peabody Museum. Three stations have so far been located, and a minute examination of the shore line has not revealed any others. The work of excavation had to be done by dredging at seasons of low water, the work being slow, difficult and expensive. Care was taken not to reveal the site of the discovery, so that the entire mass of material could be obtained for scientific study. For this reason the work had to be carried on during the early daylight of the summer months. The relic beds were first discovered in 1876, and have been worked industriously of ever since that time. They are now exhausted, the last summer's work (1888) having yielded but few specimens. The numerous suggestions that the pile structures were "fish weirs" is unfortunate, if we may judge by the material obtained from the two oldest and another the most recent relic beds. The newspapers have published at times articles upon the subject, in which the writers have evidently drawn largely upon Kuhn's Lake Dwellings for their ideas. *Nature's Lake Dwellings*, as you are to be told, as the former's name was, resemble the lacustrine beds of the European lakes. Numerous questions have been so far offered in regard to the pile structures and relic beds surrounding them. The present state of our archaeological and ethnological knowledge forbids it that they are of aboriginal origin, nor are any relic beds yet examined to be seen in from Naaman's Creek. A complete examination at the Peabody Museum.

The excavations at the two most recent stations differ in ethnological and archaeological details, and it is possible to see traces of a few different periods well over the water of the Delaware, but here the beds are not so distinct as in the report on the same subject, and a careful study of the material will probably lead to a better opinion of the facts connected with the discovery of the relic beds. I am, Sir, yours very truly,  
H. HENRY CRASSON.

We quote the language of Prof. E. W. Hooton, as it reads in the report of the Peabody Museum, the very report which I saw by Mr. Cresson. He says: "When we recall that this is the first indication in North America of an aboriginal culture, resembling that of the lacustrine structures of the European lakes, the importance of Mr. Cresson's discovery will be appreciated. Here, then, we can see the work that together we had called 'pile dwellings' in *The Americanist*. Mr. Cresson says in his letter that they are not "fish weirs" in Naaman's Creek, but that they are "pile structures," and that "pile structures" is the true name for these relic beds, or "fish weirs" the same as being ponds." What next?

## PRACTICAL AND RELIGIOUS USES OF THE EFFIGIES.

[An Extract from the book on "Emblematic Mounds."

The diagrams here given represent a series of effigies arranged in their proper order, the same order as exhibited on the ground. It is an interesting series, and there are several lessons to be learned from it. It will be noticed, first, that there are several groups in the series, but that each group serves a distinct purpose, one being called a beacon, another a council house, a third a burial place, etc.; second, there was a practical and a superstitious use for each group, the practical being manifest in the round mound and the superstitious in the effigy mounds surrounding it; third, while the groups here are in close proximity, yet different uses were made of them, and different superstitions embodied in them; fourth, the combination of the different groups into one series brings before us the different superstitions and customs which each clan is supposed to have embodied in the effigies.

The practical character of the effigies can be learned from the study of the map. See Plate XIII. Here on one side of the lake we have eight groups; of these, number one is so situated as to show it to be a lookout. Number two is on the low land and consists of corn-hills. The third is a group of effigies resembling gourds similar to those described by Dr. Lapham at Mayville. The fourth is a beacon and altar like those on Effigy Ridge, Madison, (see figure 175.) The fifth and sixth are effigies of turtles and birds, surrounding duck or fish ponds. The seventh represents platform mounds surrounded by effigies, which we call a council house. The eighth is a group of burial mounds guarded by effigies. Between the burial mounds and the council house there is an open space where possibly the village may have been situated. The map will show the relative location; and the diagrams the character of the effigies in each group. The religious element comes in in several ways. The beacon and altar are guarded by effigies, and the council house and burial mounds are also guarded by effigies.

There are groups in other localities which resemble these. "Observatories" are spoken of by Dr. Lapham, and "citadels" by Mr. S. Taylor. These resemble the group number four. A council house at Baraboo is spoken of by Mr. W. H. Canfield. Another council house may be found also at Port Hope, not far from Portage. These resemble the group number seven. Birds with burial mounds between their wings, and other birds with burial mounds at the ends of their wings are found in several places. These resemble the burial mounds represented in group eight. The writer has discovered effigies similar to those at Port Andrews, in Richland County. Here the swallow is the most common effigy, showing that it was the clan emblem of the region. One group containing a swallow with burial and long mounds makes what might be called a "sacred enclosure." The swallow surmounts a knoll or isolated swell of ground which has the shape of a swallow in itself. Each wing of the swallow terminates in a conical mound which makes a sort of knob for the tip. Between each wing and the body is another burial mound. The whole group would make a sort of sacred enclosure resembling the citadel in Eagle Township. It is found at the end of a long line of swallow effigies, which extend for a mile and one quarter toward the east. This line of effigies is situated on the bank of the river, between the high bluff and the river, and is overlooked by the road from Besobel to Port Andrews. The entire line of effigies, with the group at the end, reminds one of the rock inscriptions in Arizona (see figure 129). The writer was impressed with its religious significance. There are burial mounds guarded by effigies on the west side of Lake Koshkonong; but on the east side there seems to have been a clan village or a place of assembly for several clans. It is uncertain what clan occupied this spot, but turtle effigies predominate, there being ten of them, while there are only five or six eagles. (See pp. 108, 226, 241, 248, 259, 272.)



## LINGUISTIC AND ETHNOGRAPHIC NOTES.

By ALBERT S. GATSCHEK, WASHINGTON, D. C.

**HISTORY OF AMERICA'S DISCOVERY**—In a German weekly of New York City, *Belletristisches Journal*, Julius H. Stackemann is now publishing a long serial on the above subject, which, in view of the approaching centennial celebration, is at present cultivated more than ever. Many of the publications are merely old reports pasted together so as to appear as new, but others are founded upon original researches. From the specimen before us, contained in the number of December 5, 1889, it would appear that Stackemann is better acquainted with the Latin and Scandinavian originals contained in Rafn's "Antiquitates Americanae" than many men who have plunged into the same studies. The chronicles relate that Leif's settlement, called Leifbudir, was in Vinland, where on the shortest day of the year the sun rose at 7:30 a. m. and set at 4:30 p. m. From this Stackemann concludes that Vinland could only have been in the latitude of Narragansett Bay, and that Leifbudir probably lay near Newport, R. I. Concerning Helluland, viz., "rocky country," our author believes, with others, that it is identical with Newfoundland, and Markland, or "wooded country," with a portion of Nova Scotia.

**THE DISCOVERY OF THE ANCIENT CITY OF NORUMBEGA** forms the subject of a "Communication to the President and Council of the American Geographical Society, at their session in Watertown, November 21, 1889," just published by Prof. Eben Norton Horsford, Boston, 1890, 4to; pp. 42. The author had previously published several articles in pamphlet and book form, announcing his discovery of the site of the celebrated Norumbega Fort on the banks of Charles River, which passes into the Atlantic just north of Boston City. There he traced earth works, identified by him as works of the Northmen and erected a tower on the spot to commemorate the event. The paper before us consists of three parts, of which the first is devoted to the announcement of that discovery, the second to Judge Daly's reply as the President of the American Geographical Society. The third is entitled "Story of the Discovery of Norumbega." Among the earliest writers who makes mention of that town are Farnham in 1539 and Alfeonsen in 1545, and in early days the name is spelled Nolumbaghe, which the Indians of Maine preserve to this day, according to Vetroville. The Penobscot Indians of that word all "holding" that navigable section of any river which lies between two rapids or waterfalls; the second part of the compound—*bag*, always referring to water, and being an abbreviation of *ogon*. Following the history of the district which is drained by the Charles River, the author finally reproduces, p. 39, the inscription and two paragraphs, which now adorn the tower previously mentioned.

Another important and interesting illustration, publication of the same index

fatigable author is, "The Problem of the Northmen—A letter to Judge Daly, the president, on the opinion of Justin Winsor that, though Scandinavians may have reached the shores of Labrador, the soil of the United States has not one vestige of their presence." Cambridge, Wilson 1889, 4to, pp. 33, with a profusion of old and recent maps illustrating the positions of the Northmen, and two heliotypes as frontispiece. Of this an edition was also struck off for private circulation.

**BLACKFOOT LANGUAGE**—The Rev. John William Tims, of the Church Missionary Society, is stationed in the diocese of Calgary, on the Canadian Pacific Railroad, among the Blackfoot Indians. South of the railroad station these Indians are placed on a reservation, not far from the United States boundary. Like Cheyenne and Arapaho, their language belongs to the Algonkin stock, and has been studied more diligently by scholars than those of the tribes just mentioned. Rev. Tims has composed a "Grammar and Dictionary" of this language for the use of missionaries, school-teachers and others, which has been published (1889) in London in 191 pages, 12mo., and shows a more scientific arrangement than the grammars of most missionaries and churchmen. He modestly calls himself the "compiler" of the work, and does not aspire to the loftier epithet of an "author". The accented syllable of a word is marked by the acute; the language is written by means of fifteen letters, and lacks the sonants b, d, g, v, the trills l and r, and the aspirates f, th, dh except kh, which appears to be the German sord ch. By the formation of the plural the animate noun is distinguished from the inanimate, and the inflection of it is effected in the subjective, objective and possessive cases by the addition of syntactic elements, while the noun itself remains unchanged. In the first person of the plural, the pronouns and the verbs possess an inclusive and an exclusive form. By prefixation and suffixation a considerable number of tenses and modes are formed in the verb. Mat, stai, sau, placed after the subject-pronoun produce a negative inflection of the verb. The conjugation is rich in forms, the intransitive verb being inflected somewhat differently than the transitive, and probably the paradigms of Tims do not exhaust all the possibilities of the language in that direction. The dictionary contains only the English-Blackfoot, not the Blackfoot-English part, and may embrace about 200 terms of the language, which appears to be vocalic and not of a very difficult pronunciation. No part of Scripture has as yet been printed in it.

**RECENT ARTICLES BY DR. FRANZ BOAS**—The British Association for the Advancement of Science has undertaken investigations on the physical characters, languages, the industrial and social condition of the northwestern tribes of the Dominion of Canada, and will publish reports on the same. The committee has secured the services of Horatio Hale, Rev. Wilson of Sault Sainte Marie, of Dr. Franz Boas, and others. The report on the *Snooz* or *Sarcee Indians*, by Rev. E. F. Wilson, is contained in the fourth report of the committee, and contains their ethnography and a vocabulary of about 150 terms on twelve pages. These Indians belong to the Tsimshian family of Northern Indians. The same report contains a short abstract of the travels and investigations made by Dr. Boas in June and July, 1888, among the Indians of the northwest coast and those nearest to the border of the United States. The results of one of his previous trips are embodied in his article, "The Indians of British Columbia," printed in Transactions of

the Royal Society of Canada, Section II, pp. 47-57, of the volume of 1888. This report is mainly dealing with mythology, but contains also comparative tables on linguistics. Further contributions by Dr. Boas to the knowledge of these western aborigines, which are still in a *comparatively* primitive condition, unsullied by the contact of white adventurers, are the following: "The Houses of the Kwakiutl Indians, British Columbia," in "Proceedings of United States National Museum," 1888, pp. 197-213, 8°, and profusely illustrated with wood-cuts of houses, totem-posts, gables, house-paintings and similar emblems of ethnographic value; also, "Notes on the Snanaimuq," in *American Anthropologist* for October, 1889, pp. 321-328, describing their location on an island near Puget Sound, their mortuary customs, gentes, potlaches, weddings, main deities, and relating two of their myths.

Another article, "Eskimo Tales and Songs," published by him in the *Journal of American Folk-Lore*, Cambridge, Mass., pp. 123-131 (year 1889), is reproducing some texts obtained by the author among the Bafin Land tribes. The interlinear translation of the text is due to Hendrick Rink, to whom they were sent for the purpose, but the dialectic notes and ethnographic elucidations are written by Dr. Boas. A song, "The Returning Hunters," concludes the instructive paper.

The fifth report of the committee of the Association contains a "First General Report on the Indians of British Columbia," by Dr. Franz Boas. Besides ethnology, somatology and mythology, it contains abstracts of the grammar of Tlingit, Haida, Tsimshian and Kutenai or Kutene. No grammar had ever been published of these languages.

AN ANCIENT MEXICAN HEAD DRESS.—A stately plumed ornament, preserved in the Ambras collection at Vienna, Austria, gave to Mrs. Zelia Nuttall an opportunity for victoriously disproving the statement made by the late Professor von Hochstetter (1881), that the ornament in question served as a standard borne in war-campaigns by the kings of ancient Mexico. Her reasoning, as laid down in her article, "Standard or Head-dress, etc.," in an extra of the *Peabody Museum*, Cambridge, Massachusetts, October, 1888, illustrated with forty-six colored designs, seems to lead conclusively to the result that the special ornament was borne, not as von Hochstetter thought, behind the shoulder, but across the head. Replying to the lady's apologetic statement, Dr. Edward Seler, in an article entitled "Aitmexicanischer Federschmuck und Mexican. Rangabzeichen im Allgemeinen" and printed in "Verhandlungen der Anthrop. Gesellsch. von Berlin, January 19, 1889," inclines to the opinion that the ornament was adjusted to the body in either way. In connection with this, Dr. Seler gives an exhaustive survey of the multitude of variegated armors, shields and head-dresses worn by the Mexican commanders and braves, both in war and at religious festivals. He can not refrain from giving his fair opinion: the second lady to abstain from introducing into the web of her interpretations the shaky element of "determinative signs." In spite of the extensive studies which each of the contestants evidently made upon the subject, neither could have been aware of the existence of many sculptured busts and statues found in Copan and Mexico, which, in fact, exhibit the Vienna plume-ornament just spoken of in all its special features. There it is not fastened behind the shoulders, but right over and across the head, just as asserted by Mrs. Nuttall. The execution of three colored plates in her

article is splendid; and Seler's paper contains sixty-nine illustrations in black, which confer an accurate idea of the objects discussed. (Note by Professor Ph. J. J. Valentini.)

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acter of those works such as can not easily be set aside. Among those impressions, the strongest was this: that the Mound-builders of Ohio were greatly superior to any tribe of Indians which had ever been known to inhabit that particular region. This is an impression which Dr. Cyrus Thomas has undertaken to remove, but has hitherto undertaken to remove without touching upon the particular point which was at issue. Of course, under the circumstances, there would be considerable curiosity to see what he would say. The result, however, is as we have said, that the book is vindicated and the first impression is re-established. We do not say that Dr. Thomas intends this, but we think that the majority of his readers will be convinced of it. While the chief of the survey states a theory, the surveyor under him states facts, and the facts seem to contradict the theory. The theory is that the Mound-builders were Indians, but the facts seem to show that the works were erected with a skill unknown to Indians, and Dr. Thomas is obliged to say (which he does candidly): The first question which presents itself, in view of these facts, is, How are we to reconcile them with the theory that the works were built by Indians. This is certainly honest, and we are to admire Dr. Thomas for it and thank him for saying as much as he does for the other side. It would be easy for a surveyor to go over the work of any man and pick flaws, but Dr. Thomas says candidly the criticisms relate almost wholly to the want of care in editing their memoirs, yet their work is of great value. The figures of those works they personally examined are generally correct.

*The Ohio Archaeological Quarterly.*—The last number which we have received of this quarterly is that for March, '89. This number contains a sketch of the Historian, Henry Howe, with portraits. Also the Manufacture and Use of Aboriginal Stone Implements, by Gerard Fowke, and a detailed account of Mound Opening, by W. K. Moorehead; a Description of the Relics in the Ohio Centennial, by A. Graham.

#### RIVER DWELLINGS

In the year 1887 we published a letter from Mr. H. T. Cresson on the subject of river dwellings. The letter was printed as it was written, without any changes whatever. At the time we supposed that Mr. Cresson had actually made the discovery which he claimed he had, though we said nothing about it editorially, thinking that if it was a genuine case of river dwellings other specimens would come to light. The letter was extensively read, and brought a great many enquiries, especially from European archaeologists. The letter was also quoted by Mr. Henry W. Haynes, was inserted bodily into the "Narrative and Critical History," a chapter of which Mr. Haynes had the honor to write. After the letter was in type, Mr. Cresson wrote to Mr. Haynes requesting that the letter be changed, but it was too late, and so it went in as it was written. Now after two years have elapsed, Mr. Cresson seeks to shift the responsibility off from himself on to the editor of THE ASTORIAN, maintaining that he never made use of the term "river dwellings," and intimating that he from the outset considered them to be fish weirs, and he calls upon the editor to prove that he ever wrote the letter or used the terms "river dwellings" or "pile dwellings." This proof

we are now prepared to give. It is in the shape of a letter from Mr. Cresson himself, written after his first letter was published, but before he concluded to call the pile dwellings "fish weirs."

The letter begins with a note: "Please, if possible, insert this letter in your next issue of THE ANTIQUARIAN. The letter will explain itself, and you will readily appreciate why I am anxious to see it in print, as many of our friends on the other side are interested in hearing from Naaman's Creek." The following is the letter, published verbatim. It will show the equivocal play with the original words "pile dwellings," the modified term "pile structures," and the last term, which he seems anxious to establish, "fish weirs". Possibly the letter may refresh Mr. Cresson's memory, so that he will be willing to acknowledge that he used the first term. If he is not, we have nothing more to say.

*Editor American Antiquarian:*

I deem it best to answer through your columns some of the numerous questions that have been asked in regard to the pile structures at the mouth of Naaman's Creek, Delaware. The work of examining these interesting aboriginal remains has been carried on for the past two years by the Peabody Museum, with many interesting results, an account of which will be published at a future day, when the mass of material can receive proper study. The number of specimens obtained, after an exhaustive examination of the locality, numbers 1000, the majority of which are now at the Peabody Museum. Three stations have so far been located, and a minute examination of the shore line has not revealed any others. The work of excavation had to be done by dredging at seasons of low water, the work being slow, difficult and expensive. Care was taken not to reveal the site of the discovery, so that the entire mass of material could be obtained for scientific study. For this reason the work had to be carried on during the early daylight of the summer months. The relic beds were first discovered in 1870, and have been worked industriously at intervals since that time. They are now exhausted, the last summer's work 1888 having yielded but few specimens. The numerous suggestions that the pile structures were "fish weirs" is untenable, if we may judge by the material obtained from the two oldest and another the most recent relic beds. The newspapers have published at times articles upon the subject, in which the writers have evidently drawn largely upon Keller's Lake Dwellings for their ideas. *Nothing, however, is farther from the truth, as the remains in no way resemble the lacustrine beds of the European lakes.* No conclusions have been so far offered in regard to the pile structures and relic beds surrounding them. The present state of our archaeological and ethnological knowledge forbids it. That they are of aboriginal origin no one can doubt who has examined the collection from Naaman's Creek now on exhibition at the Peabody Museum.

The writer of this letter has received numerous letters from different enthusiastic archaeologists desiring positive assurance that a pile dwelling people once dwelt over the waters of the Delaware, but here he begs leave to state that if the report on the same is published at a future date, he shall confine himself to a description of the facts noted during the dredging operations, leaving it open to those who may choose to make them.

HENRY F. CRESSON.

We quote the language of Prof. E. W. Putnam, as it reads in the report of the Peabody Museum, the very report alluded to by Mr. Cresson. He says: "When we recall that this is the first indication in North America of anything even remotely resembling the crannog-like structures of the European lago, the importance of Mr. Cresson's labors will be appreciated." Here, then, we have the word "crannoges" as we had "pile dwellings" in THE ANTIQUARIAN. Mr. Cresson says in his letter that they are not "fish weirs" in *Science*, however, he says they are or were "pile structures," and that "pile structures" means the same as "fish weirs" and "fish weirs" the same as "log ends." What next?

## PRACTICAL AND RELIGIOUS USES OF THE EFFIGIES.

[An Extract from the book on "Emblematic Mounds,"

The diagrams here given represent a series of effigies arranged in their proper order, the same order as exhibited on the ground. It is an interesting series, and there are several lessons to be learned from it. It will be noticed, first, that there are several groups in the series, but that each group serves a distinct purpose, one being called a beacon, another a council house, a third a burial place, etc.; second, there was a practical and a superstitious use for each group, the practical being manifest in the round mound and the superstitious in the effigy mounds surrounding it; third, while the groups here are in close proximity, yet different uses were made of them and different superstitions embodied in them; fourth, the combination of the different groups into one series brings before us the different superstitions and customs which each clan is supposed to have embodied in the effigies.

The practical character of the effigies can be learned from the study of the map. See Plate XIII. Here on one side of the lake we have eight groups; of these, number one is so situated as to show it to be a lookout. Number two is on the low land and consists of corn-hills. The third is a group of effigies resembling gourds similar to those described by Dr. Lapham at Mayville. The fourth is a beacon and altar like those on Effigy Ridge, Madison, (see figure 175.) The fifth and sixth are effigies of turtles and birds, surrounding duck or fish ponds. The seventh represents platform mounds surrounded by effigies, which we call a council house. The eighth is a group of burial mounds guarded by effigies. Between the burial mounds and the council house there is an open space where possibly the village may have been situated. The map will show the relative location; and the diagrams the character of the effigies in each group. The religious element comes in in several ways. The beacon and altar are guarded by effigies, and the council house and burial mounds are also guarded by effigies.

There are groups in other localities which resemble these. "Observatories" are spoken of by Dr. Lapham, and "citadels" by Mr. S. Taylor. These resemble the group number four. A council house at Baraboo is spoken of by Mr. W. H. Canfield. Another council house may be found also at Port Hope, not far from Portage. These resemble the group number seven. Birds with burial mounds between their wings, and other birds with burial mounds at the ends of their wings are found in several places. These resemble the burial mounds represented in group eight. The writer has discovered effigies similar to those at Port Andrews, in Richland County. Here the swallow is the most common effigy, showing that it was the clan emblem of the region. One group containing a swallow with burial and long mounds makes what might be called a "sacred enclosure." The swallow surmounts a knoll or isolated swell of ground which has the shape of a swallow in itself. Each wing of the swallow terminates in a conical mound which makes a sort of knob for the tip. Between each wing and the body is another burial mound. The whole group would make a sort of sacred enclosure resembling the citadel in Eagle Township. It is found at the end of a long line of swallow effigies, which extend for a mile and one quarter toward the east. This line of effigies is situated on the bank of the river, between the high bluff and the river, and is overlooked by the road from Boscobel to Port Andrews. The entire line of effigies, with the group at the end, reminds one of the rock inscriptions in Arizona (see figure 129). The writer was impressed with its religious significance. There are burial mounds guarded by effigies on the west side of Lake Koshkonong; but on the east side there seems to have been a clan village or a place of assembly for several clans. It is uncertain what clan occupied this spot, but turtle effigies predominate, there being ten of them, while there are only five or six eagles. (See pp. 108, 226, 241, 244, 259, 272)



## LINGUISTIC AND ETHNOGRAPHIC NOTES.

By ALBERT S. GATCHET, WASHINGTON, D. C.

**HISTORY OF AMERICA'S DISCOVERY**—In a German weekly of New York City, *Helleristische Journal*, Julius H. Stackemann is now publishing a long serial on the above subject, which, in view of the approaching centennial celebration, is at present cultivated more than ever. Many of the publications are merely old reports pasted together so as to appear as new, but others are founded upon original researches. From the specimen before us, contained in the number of December 5, 1889, it would appear that Stackemann is better acquainted with the Latin and Scandinavian originals contained in Rafn's "*Antiquitates Americanae*" than many men who have plunged into the same studies. The chronicles relate that Leif's settlement, called Leifbudir, was in Vinland, where on the shortest day of the year the sun rose at 7.30 a. m. and set at 4.30 p. m. From this Stackemann concludes that Vinland could only have been in the latitude of Narragansett Bay, and that Leifbudir probably lay near Newport, R. I. Concerning Helluland, viz., "rocky country," our author believes, with others, that it is identical with Newfoundland, and Markland, or "wooled country," with a portion of Nova Scotia.

**THE DISCOVERY OF THE ANCIENT CITY OF NORUMBEGA** forms the subject of a "Communication to the President and Council of the American Geographical Society, at their session in Watertown, November 21, 1889," just published by Prof. Eben Norton Horsford, Boston, 1890, 4to, pp. 42. The author had previously published several articles in pamphlet and book form, announcing his discovery of the site of the celebrated Norumbega Fort on the banks of Charles River, which passes into the Atlantic just north of Boston City. There he traced earth-works, identified by him as works of the Northmen and erected a tower on the spot to commemorate the event. The paper before us consists of three parts, of which the first is devoted to the announcement of that discovery, the second to Judge Daly's reply as the President of the American Geographical Society. The third is entitled "Story of the Discovery of Norumbega." Among the earliest writers who makes mention of that town are Parmentier in 1539 and Allefonce in 1543, and in early days the name is spelled Nolumbeghe, which the Indians of Maine preserve to this day, according to Vetroville. The Penobscot Indians of Oultown call it *Wadog*, that navigable section of any river which lies between two rapids or waterfalls, the second part of the compound—*og*—always referring to water, and being an abbreviation of *ogon*. Following the history of the district which is drained by the Charles River, the author finally reproduces (p. 39) the inscription in five paragraphs which now adorns the tower previously mentioned.

Another important and newly illustrated publication of the same inde-

fatigable author is, "The Problem of the Northmen. A letter to Judge Daly, the president, on the opinion of Justin Winsor that, though Scandinavians may have reached the shores of Labrador, the soil of the United States has not one vestige of their presence." Cambridge, Wilson 1880, 4to: pp. 33, with a profusion of old and recent maps illustrating the positions of the Northmen, and two heliotypes as frontispiece. Of this an edition was also struck off for private circulation.

**BLACKFOOT LANGUAGE**—The Rev. John William Tims, of the Church Missionary Society, is stationed in the diocese of Calgary, on the Canadian Pacific Railroad, among the Blackfoot Indians. South of the railroad station these Indians are placed on a reservation, not far from the United States boundary. Like Cheyenne and Arapaho, their language belongs to the Algonkin stock, and has been studied more diligently by scholars than those of the tribes just mentioned. Rev. Tims has composed a "Grammar and Dictionary" of this language for the use of missionaries, school-teachers and others, which has been published (1889) in London in 191 pages, 12mo., and shows a more scientific arrangement than the grammars of most missionaries and churchmen. He modestly calls himself the "compiler" of the work, and does not aspire to the loftier epithet of an "author". The accented syllable of a word is marked by the acute; the language is written by means of fifteen letters, and lacks the sonants b, d, g, v, the trills l and r, and the aspirates (f, th, dh) except kh, which appears to be the German surd ch. By the formation of the plural the animate noun is distinguished from the inanimate, and the inflection of it is effected in the subjective, objective and possessive cases by the addition of syntactic elements, while the noun itself remains unchanged. In the first person of the plural, the pronouns and the verbs possess an inclusive and an exclusive form. By prefixation and suffixation a considerable number of tenses and modes are formed in the verb. *Mat*, *stai*, *sau*, placed after the subject-pronoun produce a negative inflection of the verb. The conjugation is rich in forms, the intransitive verb being inflected somewhat differently than the transitive, and probably the paradigms of Tims do not exhaust all the possibilities of the language in that direction. The dictionary contains only the English-Blackfoot, not the Blackfoot-English part, and may embrace about 290 terms of the language, which appears to be vocalic and not of a very difficult pronunciation. No part of Scripture has as yet been printed in it.

**RECENT ARTICLES BY DR. FRANZ BOAS**—The British Association for the Advancement of Science has undertaken investigations on the physical characters, languages, the industrial and social condition of the northwestern tribes of the Dominion of Canada, and will publish reports on the same. The committee has secured the services of Horatio Hale, Rev. Wilson of Sault Sainte Marie, of Dr. Franz Boas, and others. The report on the *Sawee* or *Sawee Indians*, by Rev. E. F. Wilson, is contained in the fourth report of the committee, and contains their ethnography and a vocabulary of about 150 terms on twelve pages. These Indians belong to the Tsimé family of Northern Indians. The same report contains a short abstract of the travels and investigations made by Dr. Boas in June and July, 1888, among the Indians of the northwest coast and those nearest to the border of the United States. The results of one of his previous trips are embodied in his article, "The Indians of British Columbia," printed in Transactions of

the Royal Society of Canada, Section II, pp. 47-57, of the volume of 1888. This report is mainly dealing with mythology, but contains also comparative tables on linguistics. Further contributions by Dr. Boas to the knowledge of these western aborigines, which are still in a *comparatively* primitive condition, unsullied by the contact of white adventurers, are the following: "The Houses of the Kwakiutl Indians, British Columbia," in "Proceedings of United States National Museum," 1888, pp. 197-213, 8°, and profusely illustrated with wood-cuts of houses, totem-posts, gables, house-paintings and similar emblems of ethnographic value; also, "Notes on the Snanaimuq," in *American Anthropologist* for October, 1889, pp. 321-328, describing their location on an I near Puget Sound, their mortuary customs, gentes, potlaches, weddings, main deities, and relating two of their myths.

Another article, "Eskimo Tales and Songs," published by him in the *Journal of American Folk-Lore*, Cambridge, Mass., pp. 123-131 (year 1889), is reproducing some texts obtained by the author among the Baffin Land tribes. The interlinear translation of the text is due to Hendrick Rink, to whom they were sent for the purpose, but the dialectic notes and ethnographic elucidations are written by Dr. Boas. A song, "The Returning Hunters," concludes the instructive paper.

The fifth report of the committee of the Association contains a "First General Report on the Indians of British Columbia," by Dr. Franz Boas. Besides ethnology, somatology and mythology, it contains abstracts of the grammar of Tlingit, Haida, Tsimshian and Kutenai or Kutene. No grammar had ever been published of these languages.

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gender comprehends all living beings; and another, called *ticuo*, all inanimates, with the exception of some objects which belong to a third class or gender. This third gender comprehends some of the parts of the animal body, things of a round shape, the terms for river, mountain, tree, canoe, sky, moon, star, day, night, house.

PORTUGUESE DISCOVERIES IN COLUMBUS' TIME.—In anticipation of the coming fourth centennial, memoirs and other articles referring to the discoveries of the great Genoese are abundantly forthcoming. Many of these are conceived in a scientific spirit and as a specimen of such may be proclaimed the memoir of Prof. Philip J. J. Valentini, which was printed in the "Bulletin of the New York Geographical Society". It has the title, *The Portuguese in the Track of Columbus, 1493*, and was issued in four consecutive quarterly numbers running from December, 1888, to September, 1890, pp. 83, 8° with maps. The argument is the following: Immediately after the return of Columbus from his first voyage, Joam II, King of Portugal, secretly sent a squadron of four vessels to the islands seen by the discoverer. The commanders were ordered to push on in the direction of Columbus' boasted "waterway to India". Thus the captains reached the coast of Yucatan and as a result of their explorations drew up a chart embodying their discoveries upon the three sides of that peninsula. The Portuguese crown kept these discoveries secret, and when Spaniards landed in Yucatan, in 1518, they believed that land had never been seen by white people before. All these facts became known through later discoveries in the libraries and the publications consequent upon these. A map of 1561 was found at Modena, which contains the results of the Portuguese survey of the Yucatan coast, and has in the sixteenth century been the prototype of other maps made public in 1508 and 1520. Dr. Valentini devotes a special paragraph to the description and explanation of the twenty-two local names found on that map, two among them perpetuate the names of two Portuguese nobles, and two others, that of Comello and Kimpesh, represent the Cozumello and Campeshe of to-day. That the cartographer represented the three sides of Yucatan as a continuous line is probably to be explained through the fact that his sheet of paper was too short in that special direction. Valentini's article has been published with too many interruptions, and a reprint of the whole in pamphlet form would be greatly appreciated by scholars.

THE ANTI LANGUAGE OF EASTERN PERU, known to us up to this day only by three short vocabularies, has just been published in Paris in a form sufficient to give us an accurate idea of this idiom. Charles Leclerc, the late Indian bibliographer, found in Toledo, Spain, a manuscript composed early in the eighteenth century, which contains a grammar, a dictionary and some devotional texts of this language. The Anti or Campa tribe had been christianized at an early epoch by Spanish priests, but have now almost entirely relapsed into paganism. Anti is related to the Maipure stock of languages. This fact is clearly shown by the comparative tables given by Lucien Adam, the editor of the manuscript, who from various other sources has gathered about 650 terms of this language, which appears to be highly polysynthetic in its inflections and derivations. The title of the book is "Arte de la lengua de los Indios Antio-Campes, varias preguntas, advertencias y doctrina cristiana . . ." and contains vocabularies and an introduction

comparativa, por Lucien Adam." Paris, Maisonneuve, 1890; 8vo, pp. 118. The book forms No. XIII of the Maisonneuve's "American Linguistic Library," and is for the larger part written in Spanish.

STONE IMPLEMENTS.—In 1885 and 1886 Dr. Hermann ten Kate undertook a journey of exploration to Surinam or Dutch Guiana, under the auspices of Prince Roland Bonaparte and others. We have mentioned this expedition in THE AMERICAN ANTHROPOLOGIST for July, 1889, and are still expecting a circumstantial report of all his discoveries. The stone implements which he collected there are now in the museums of Leyden and Berlin, together with other articles of the same kind and country from other collections. Dr. ten Kate has furnished a description under the title: "On West Indian Stone Implements and Other Indian Relics," in the "Bijdragen to de Taal-, Land- en Volkenkunde van Nederlandsch-Indië," 5th Folge IV, pp. 8. A large number of the implements are figured from the fronts and sides in the eight plates accompanying the article, consisting of hatchets, chisels, flinters and celts.

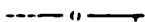
THE AUSTRIAN ethnographic and geographic weekly periodical published by J. G. Cotta & Co. in Stuttgart, and at present edited by W. Keil in Munich, has started upon its sixty-third year. Africa always occupies a prominent place in this as in other geographic magazines on account of the discoveries made there every month. But America is not neglected, and the Indians of North, Central and South America are frequently mentioned for their history, customs, mode of life and other peculiarities. In the latest numbers are contained: An article on the Greenland natives, by a missionary; on the Polar regions; through the southern parts of Mexico and through Central America; retrospective glances on American affairs; Schwatka on Northern Mexico.

ROMANIC DIALECTS.—Medley languages, having for their substratum or principal ingredient one of the Romanic languages, have been produced in considerable numbers by the negro race in several parts of the world. Professor Hugo Schuchardt, who has been investigating this recondite portion of linguistic science for over ten years past, is sending a new contribution taken from sources which would be otherwise inaccessible. In "Zeitschrift fuer Romanische Philologie", volume XIII, he has essays on "Cresole Romanic dialects" embracing the following items: all written in German. "Contribution to the Negro-Portuguese of Ilha do Principe" an island of the Gulf of Guinea, settled about 1500 A. D., pp. 463-465.—"General notes on the Indo-Portuguese," pp. 476-516: The Asiatic dialects mixed with Portuguese are subdivided by the author into four departments, as follows: Giuro-Portuguese, Dravidio-Portuguese, Malayo-Portuguese and Chino-Portuguese. "The Indo-Portuguese of Mahe and Cannanore," two dialects spoken in the area of the Dravidian family in the eastern parts of the Dekhan. All this is exemplified by facts, sentences and copious vocabularies.

For the "Magyar Nyelvőr" of 1889, Schuchardt has just written an interesting article of thirty-eight pages upon the study of the Romanic languages, with the title: "A Magyar nyelv Roman elemeihez."

DR. E. VÖGELSTRÖM's folk-lore magazine, which has been discussed at length in our November issue, is pursuing its way on the high road of literary success. On the title page the editor mentions forty-five collaborators

who are sending on material from all parts of Europe. The female sex is represented by one lady only, while in our country the women are almost as busy as the men in transmitting folk-lore to posterity. The editor has begun the second volume with a serial of his own, "Aryan cosmogonies", which promises to be long and instructive. A Russian contributor, Mr. von Davainis, also has a serial in which he discusses "Lithuanian Manners and Customs", and another writer from the same country has composed an article: "Lithuanian Culture-Legends". The eastern parts of Germany and Austria-Hungary, which are either Slavic or largely mixed with Slavic elements, are largely represented in the "Zeitschrift fuer Volkskunde;" there is an article on children's games and incantations from Transylvania, tales and legends from the Armenians settled in the same province, legends from Westpreussen, Czechian legends, and so forth. The recent folk-lore literature is carefully reviewed in special articles.



#### BOOK REVIEWS.

*The Circular, Square and Octagonal Earth-Works of Ohio.* By Cyrus Thomas. Ethnological Bureau, Washington, 1890.

This little bulletin, issued by the Bureau of Ethnology, contains the description of a re-survey of the earth-works in Ohio, which is exceedingly valuable, and all the more so because it is issued by Dr. Cyrus Thomas. He himself speaks of unexpected results. "Our belief in the Indian origin of these works led us to take this assertion *cum grano salis* (the assertion about perfect circles, etc.). We were, therefore, surprised to find, after a careful survey, the close approximation to a true circle." We need not go into particulars to show how the specific works have turned out to be so much more perfect in their proportions than was anticipated, but will only say that the multiple of the surveyor's chain was found in the radius of two circles—that at Newark and that at High Bank; the circles not varying from perfect circles but a very few feet—in one case only five feet and in another only twenty-six feet out of three thousand. These are astonishing results. In reference to the squares, the re-survey also proves that they were "nearly square" or approximating squares, and both the squares and the circles, in many cases agree closely with the re-survey. These results are such as to increase our confidence in the old survey. The authors, of course, made many mistakes, and some egregious ones, but the old exploration is so far confirmed by the new survey that it will undoubtedly continue to be the standard authority on the Ohio mounds. The Government Bureau has done a good service to science in thus going over an old field and candidly but carefully re-surveying it.

*The Problem of the Ohio Mounds.* By Cyrus Thomas, Washington, 1890.

The theory that the Ohio Mounds were built by the Cherokees is advanced by Dr. Thomas. This pamphlet is in advocacy of that theory; the proofs are as follows: First, the historical evidence, that is, the testimony of the early explorers. Second, the evidence by the relics,—those of the Indians and Mound-builders being of the same grade. Third, the stone

graves were the work of the Delaware and Shawnees. Fourth, the Cherokees built mounds, some of which resemble those of Ohio, especially in having hearths or firesides in them. Fifth, the identity of the Cherokees with the Alleghewi of tradition. Such is the theory. Opposite to this, however, we would place several facts: First, the square and circle have never been found in the Cherokee country. Second, the pipes of the Cherokee country, while resembling those of Ohio, are, nevertheless, different; duck pipes being found in that country and not in Ohio, and monitor pipes in Ohio and not in the Cherokee country. Third, the shell gorgets are rarely found in Ohio, but are common in the Cherokee country. These show the system of symbolism to be different. Fourth, the villages of the Cherokees are different from the Ohio villages. Fifth, the stone graves are found in Ohio, but the burials of the Cherokees are not to be recognized there. Sixth, the skulls of the two races are different, etc. These remarks are made, not in a criticising spirit, but to show that the Mound-builder problem is not settled. We are glad to see the discussion go on, and so welcome this essay. It is one of the most valuable which has been issued on that side.

*Fort Ancient: The Great Prehistoric Earth-Work of Warren County, Ohio.* Compiled from a Careful Survey, with an Account of its Mounds and Graves. By Warren K. Moorehead. Cincinnati: Robert Clark & Co. 1890.

Fort Ancient is one of the largest and most interesting of the earth-works of Ohio. It is situated in the valley of the Little Miami, in the midst of the wildest scenery, and yet not remote from some of the most fertile and most productive farming country of Southern Ohio. It is about forty miles northeast from Cincinnati, some twenty miles south of Miami-ville, and about thirty miles southeast from Miamisburg, where the great mound called by that name is situated. It has been often visited by surveyors and archaeologists, perhaps the first one to make a survey being Mr. John Locke, the first full description of it by Squier and Davis.

Warren K. Moorehead has, with a number of young men, spent several weeks in exploring this work anew, and has published the results of his explorations in a book of 130 pages, with a topographical map and thirty-five full-page photographs. The map was drawn by C. Cowen, and the surveying done by Girard Fowke and Clinton Cowen. The preface says that "The object is to set before the public in as brief and exact a manner as possible the prominent features and the wonders in this ancient monument to human skill, and to insist upon its purchase and preservation by some historical or scientific organization." We are happy to call the attention of our readers to the book, both because of the enthusiasm of the young author and because of the desirability of the "object set before the public," that is, the purchase and preservation of the fort.

Mr. Moorehead does not claim to have made many new discoveries. The stone pavement near the east gate was discovered before he entered upon the survey. Stone graves have been found, however, in the hollow, some five hundred yards from the two mounds. The terraces were examined and on them flint flakes and pottery fragments discovered. The author says they are artificial. A village site was discovered on the bank of the Miami below the fort, which, the author says, is a village of the people who built the structure. This is doubtful. Four feet of earth have accumulated since



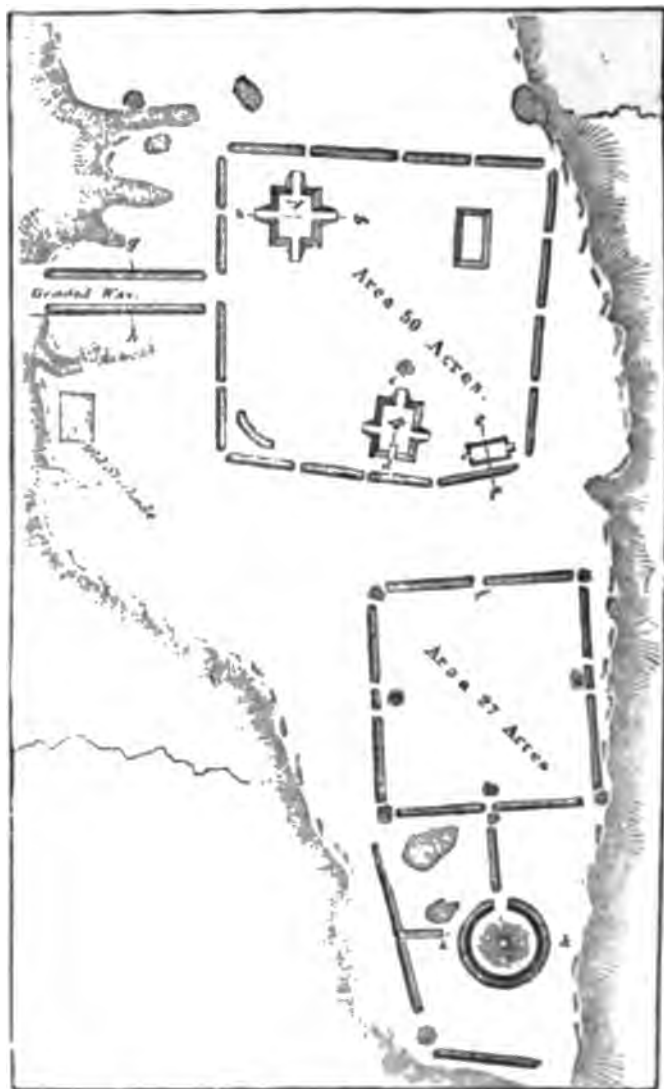
the village was there. Pottery of a beautiful texture, implements of a better grade than those found at the two-foot level were examined. The surface finds were from Mr. Ridge's farm. The author mentions the collections at Waynesville and Lebanon, which contain objects gathered at the fort. Among them are a number of copper axes, some fine effigy pipes, some rare discoidal stones. The collection at Lebanon contains five thousand specimens. Thousands of objects are in the hands of other private collectors, and a vast number have been carried away by travellers. No one knows what treasures this ancient work has produced, and no one knows even now what other treasures may be still hidden there. Every new explorer finds something to reward his efforts. There are stone graves on the terraces on the east side of the fort, south of the isthmus. One thing we think has been established by late explorations. There was more than one tribe which occupied the region. The skull from a stone grave in the village site differs essentially from the skulls taken from the stone heaps. The stone graves have been assigned to the Shawnees, but there is no reason to suppose that the Shawnees built the fort. There is an ancient cemetery in the fort, and the evidences are numerous that villages at different times were built and occupied within these walls. The author of this book takes ground against the theory which has been advanced, that the old fort was built by a class of serpent worshipers, and that the effigy of the serpent was embodied in the wall near the gateway. The evidence is, however, that one class of mound-builders in Ohio were serpent worshipers. The great serpent in Adams County shows this. In our opinion the old fort was built by this class, and it seems very likely that a connection between the fort and the serpent effigy will yet be traced. This is a problem which the author does not discuss, as his work is merely a description of his own survey.

*Mountaineering in Colorado. The Peaks about Estes Park.* By Frederick H. Chapin, Boston, 1889.

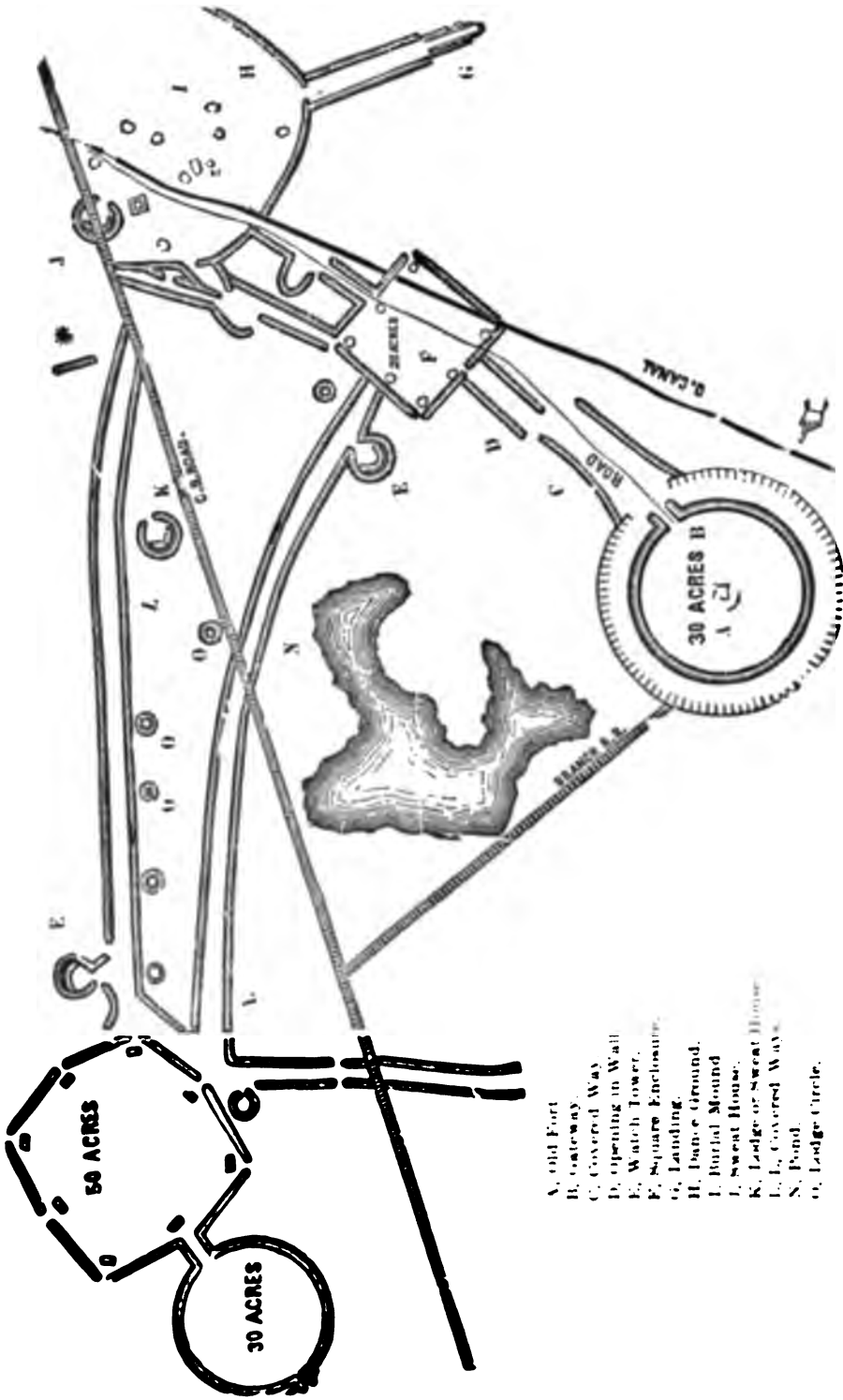
This is a beautiful book and full of beautiful engravings. It is but a little volume, but a gem does not need to be large. Mr. Chapin belongs to the Appalachian Mountain Club and has spent several summers with his wife in the midst of Estes Park. He seemed to have been a great climber, and proves also to be a very good writer. There are, to be sure, no thapsosies, and yet when he speaks of looking off one hundred miles and then to us what he sees we can realize something of the grandeur of the view. The ice on the mountain is in the picture very much like a very fine or green ice. We congratulate the author on this book. There is a leucate delusion at the beginning.

*Annual Report of the Canadian Institute, Session 1888-9. Part 1. The Proceedings of the Meeting of the Members of the Institute, 1888.*

The Archaeological Report by David Beaulieu is complete. There is a mention of the meeting of the American Association, and the visitor's opinions. Next comes a description of various village sites, with illustrations. Then follows descriptions of the most important of the relics, with wood cuts to illustrate them. After this is a catalogue of the specimens in the museum, and his report concludes with a bibliography printed in black in the library. The account of the relics will interest the reader. They are relics, mostly pottery, found in the upper section of the glacial drift at Charlevoix. The specimens of the relics are said to be very fine. The description of these given by Mr. Beaulieu is quite satisfactory. One can tell what the relics were from the descriptions, with the few figures to illustrate them. There are not many who can give good descriptions. The text, moreover, as to the value of the collection are given by Dr. Francis Parkman, Professor Putnam, Dr. Alcott, Rev. Mr. Boerhaave, Professor Morse, Mr. A. L. Duggess, and others. We are glad that they are doing such good work in the way of collecting and illustrating.



MAP OF VILLAGE AT MARIETTA.



VILLAGE ENCLOSURES AT NEW ARK.

- A, Old Fort.
- B, Gateway.
- C, Covered Way.
- D, Opening in Wall.
- E, Watch Tower.
- F, Square Enclosure.
- G, Landing.
- H, Dance Ground.
- I, Burial Mound.
- J, Sweat House.
- K, Lodge or Sweat House.
- L, Covered Way.
- M, Pond.
- N, Lodge Circle.

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THE "SACRED ENCLOSURES" OF OHIO.

BY STEPHEN D. PEET.

In treating of the Mound-builders' works heretofore we have divided them into several classes, and have stated that the different classes were found in different districts, the effigy mounds in one, the burial mounds in another, the stockades in another, the so-called "sacred enclosures" in another, and the pyramid mounds in still another, the whole habitat being filled with works which were distinctive and peculiar, but which were always correlated to their surroundings.

The classification holds good in nearly all cases, and we shall therefore continue it and proceed to consider the works which are said to belong to the fourth class, to which we have given the name of Mound-builders' enclosures. The region where these enclosures are most numerous is that which is situated on the Ohio River and more specifically in the southern part of the State of Ohio. We shall therefore confine ourselves to this district, but would at the same time have it understood that it is because the works are here so typical that we treat them so exclusively.

We propose in this paper to consider the works of this district with the especial view of enquiring about their character and their uses.

I. Let us first enquire about the symbolism which is represented in them. The works of Southern Ohio have been regarded by many as symbolic, and the symbolism in them is said by some to be that expressive of sun worship. What is more, the sun worship which appeared here seems to have embodied itself in those works which were most common and which were also very useful, the enclosures which are so numerous here having been symbolic.

1. This, then, is our first enquiry, Is there anything in the shape

of the enclosures which should lead us to think that they were symbolic? There are many kinds of earth-works in Southern Ohio, many of which are of the same character as those found elsewhere, but the most of them are works which might be called enclosures. These enclosures have a great variety of shapes, and were undoubtedly used for different purposes, though the purposes are now somewhat difficult to determine. The typical shape is perhaps that of the square and circle, but there are many circles without squares and squares without circles, the variation passing from one figure to the other. Many of the enclosures are irregular, with no definite shape; others, however, have shapes which are so definite and regular as to give the idea that they were symbolic—the crescent, the circle, the horse-shoe, the ellipse, the cross, and many other symbols being embodied in them. Some of the enclosures are very large, the walls about them being several miles in length, giving the idea that they were used for defensive purposes; others are very small, the distance across them being only a few feet, giving the idea that they were lodge circles. Some of the enclosures are full of burial mounds, others contain no mounds whatever, but are mere open areas, areas which may have been used for village residences. Some of the enclosures are made up by single walls, walls on which possible stockades may have been erected, others have double walls, a ditch being between them. Some of them are isolated circles, enclosures separated from all others; others present circles in clusters, the clusters arranged in circles, so making an enclosure within an enclosure. It is remarkable that there should have been so many different shapes to the earth works in this region. These shapes vary from the circle to the ellipse, from the ellipse to the oblong, from the oblong to the square, from the square to the large, irregular, irregular. A map of the region looks like a chart which contains all the geometric figures, and astonishes one when he thinks that they are earth works containing areas, all of which were once used for practical purposes, and embodied the life of the people.

The uses to which these enclosures were subject are unknown, and yet it is supposed that some of them were for defenses, others for villages, some of them were undoubtedly used for burial places, others for sacrificial purposes, some of them were the sites of houses, mere lodge circles, others were enclosures in which temples were undoubtedly erected, some of them were used as places of amusement, dance circles and race courses, others were probably used as places of religious assembly, estufas or sacred houses, some of them contain effigies, the effigies giving to them a religious significance, others were mere defenses, without effigies. The symbolic character of the effigies, however, has impressed many writers, and for this reason they have been called sacred enclosures. The term has been criticised

and rejected by some, but it seems to us appropriate, and we shall use it as being expressive of the real character of the works of the region. We take up the enclosures of this district with the idea that many of them were used for sacred purposes, and that a peculiar superstition was embodied in the most of them. What that superstition was we are not quite prepared to say, but the conjecture is that sun worship here obtained in great force. It sometimes seems as if the sun worship was joined with serpent worship, and that the phallic symbol was given by some of the earth-works. Whether these works were all used by one people, a people who were acquainted with all of the symbols spoken of, or were erected by successive races, one using one symbol and the other another, is a question. Be that as it may, we conclude that the district is full of earth-works which were symbolic in their character, and which are properly called sacred enclosures.

We give a series of cuts to illustrate these points. These are actual earth works. One is the temple platform, found at Marietta (Fig. 1), the second is a platform with the adjoining circular enclosure, found at Highbank (Fig. 2), the third is the small circle with the small enclosure within it, found opposite Portsmouth (Fig. 3).



FIG. 1.—Platform at Marietta.

These are all small earth works, ranging from 50 to 150 feet in diameter. The fourth is the large double enclosure, consisting of the square and circle, found at Circleville (Fig. 4), the fifth is the large octagon and circle, found at Newark (Fig. 5). The last two enclosures might be measured by rods, as there are about as many rods in them as there are feet in the former works. The map of the works at Portsmouth (Fig. 6) contains many other figures, as follows: Ten concentric circles at one end, horse-shoe enclosures and circles in the center, large square enclosure at the west end, the whole making a very elaborate and complicated system of symbolic works, the religious element being everywhere manifest in the locality.

2. Let us next consider the enclosures which we may regard as typical and peculiar to the district. We have said that there are different kinds of enclosures in this region, but the enclosure which is the most striking is the one composed of two figures—the circle and the square and combination. This is not only common in the district, but is peculiar to it, as it is very seldom seen elsewhere. The reasons for this particular type of earth-work being found in Southern Ohio are unknown. It would

the village was there. Pottery of a beautiful texture, implements of a better grade than those found at the two-foot level were exhumed. The surface finds were from Mr. Ridge's farm. The author mentions the collections at Waynesville and Lebanon, which contain objects gathered at the fort. Among them are a number of copper axes, some fine elligy pipes, some rare discoidal stones. The collection at Lebanon contains five thousand specimens. Thousands of objects are in the hands of other private collectors, and a vast number have been carried away by travellers. No one knows what treasures this ancient work has produced, and no one knows even now what other treasures may be still hidden there. Every new explorer finds something to reward his efforts. There are stone graves on the terraces on the east side of the fort, south of the isthmus. One thing we think has been established by late explorations. There was more than one tribe which occupied the region. The skull from a stone grave in the village site differs essentially from the skulls taken from the stone heaps. The stone graves have been assigned to the Shawnees, but there is no reason to suppose that the Shawnees built the fort. There is an ancient cemetery in the fort, and the evidences are numerous that villages at different times were built and occupied within these walls. The author of this book takes ground against the theory which has been advanced, that the old fort was built by a class of serpent worshippers, and that the eligy of the serpent was embodied in the wall near the gateway. The evidence is, however, that one class of mound-builders in Ohio were serpent worshippers. The great serpent in Adams County shows this. In our opinion the old fort was built by this class, and it seems very likely that a connection between the fort and the serpent eligy will yet be traced. This is a problem which the author does not discuss, as his work is merely a description of his own survey.

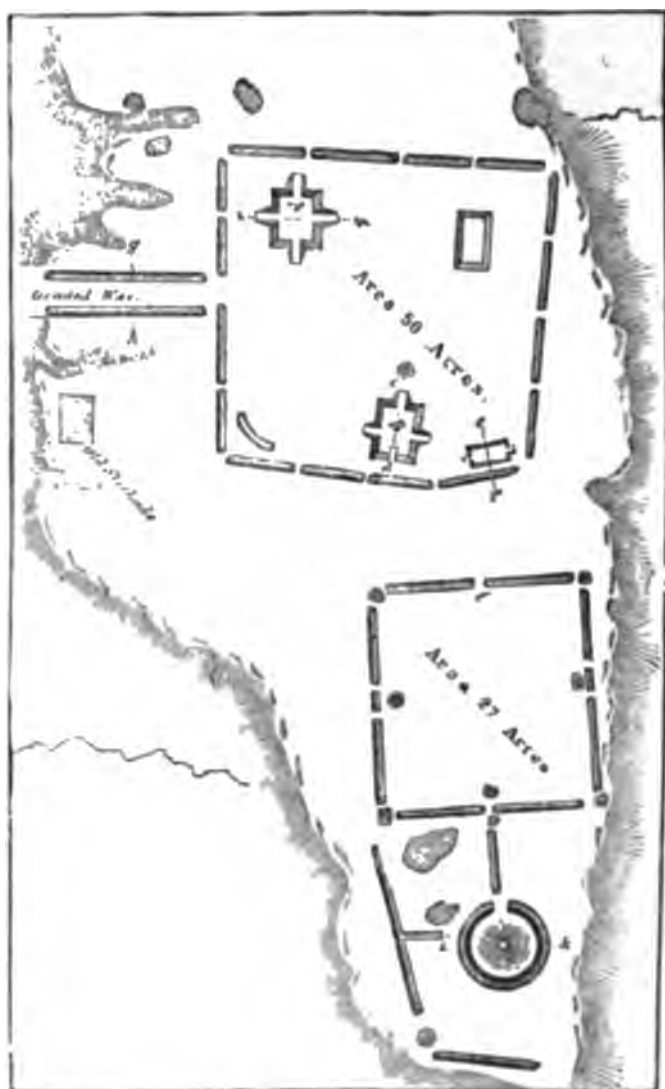
*Mountaineering in Ohio: The Park about Estes Park.* By Frederick H. Chapin. Boston, 1889.

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*Annual Report of the Geographical Society, 1888.* Boston, 1889. Pp. 1-100.

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The Archaeological Report by David B. Seymour is the most complete. There is a mention of the meeting of the American Association at the Geographical Society. Next comes a description of various objects with illustrations. Then follows a description of the most important of the ruins, with wood cuts to illustrate them. After this is a catalogue of the specimens in the museum, and the report concludes with a list of names of the objects in the library. The account of the ruins will interest the readers. They are relics in stone, pottery, bone, and copper, some of them supposed to be of native origin. The report of the Geographical Society is very fine, and a description of these specimens. Mr. Deane's notes on the objects in the catalogue, what they are, and the description with illustrations of figures to illustrate them. There are not many who are geographers, and a list of names as to the names of the objects are given by Dr. Francis Parkman, Professor Putnam, Dr. A. S. Peck, Rev. Mr. Boardman, Professor Morse, Mr. A. F. Douglass, and others. We are glad that they are all geographers, and work for the advancement of the geographers.



MAP OF VILLAGE AT MARIETTA.



further to the west, we come to the Great Miami. The works on this river are mainly fortifications and large lookout mounds; the fortifications at Hamilton, Colerain and Piqua, and the lookout at Miamisburg, being most prominent. There are, however, at Alexandria and several other places village enclosures of exactly the same type as those found at Chillicothe. This takes us across the State of Ohio. The White River is a branch of the Great Miami. It rises in the central part of the State of Indiana and flows southeast. The White River seems to have marked the boundary of this particular class of works. There are no village enclosures of the type found in Ohio west of the White River. If there are, we are not aware of their existence. There are, to be sure, many large forts or defensive enclosures scattered along the Ohio River on both sides, but they are not works which we would call village enclosures. These forts have been described by various writers, the most prominent of them

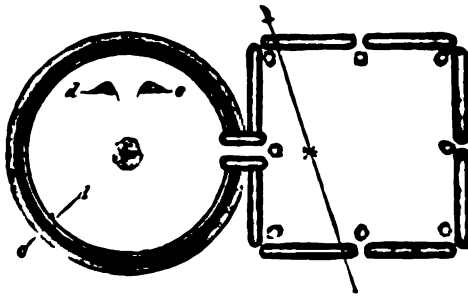


FIG. 1. Circle and Square at Chillicothe.

being the one in Clark County, near Charlestown, Ind., which has been described by Prof. E. T. Cox.\* As to the northern boundary of the district, we find it on the watershed, where the rivers flow both ways, to the north and to the south. Here a line of earth-works is found extending across

the State, about the same distance from the Ohio River. It makes a cordon of village enclosures, some of them being as important as any found in the State. Among these are the works at Circleville, Newark, Alexandersville, near Dayton, and the works on the White River, at Cambridge and New Garden, in Wayne County; all of them being near the head of canal navigation.

We have thus given the map of the district. It is a map which thus includes all the earth-works—military, or real village enclosures, effigies, lookouts and all. We do not ascribe them all to one period nor to one race, but we speak of them as found in the district. The typical work is the circle, with village enclosures being more numerous than the defenses. We have thought best to call it by the name of the district of the village enclosures, though the term sacred enclosures is appropriate. We see in this map the locality which was occupied by an worshippers. It is also a locality in which a serpent worship appeared to be prevalent.

\* *Journal of the American Anthropological Association*, vol. 1, p. 107. See also *Journal of the American Anthropological Association*, vol. 1, p. 107.

4. Let us consider the uniformity in the shapes and sizes of the enclosures. We have said that the shape was that of the square and circle. This shape is everywhere present within the district, though with variations. It is remarkable that there should be such a uniformity. It does not seem likely that the uniformity will rise from accident, but it is more likely that there was a significance to it. The uniformity has impressed many authors. The early explorers all mention it as a very striking element in the earth-works of the region. There has been a degree of skepticism in reference to this point, but the recent survey by the Ethnological Bureau confirms the old impression. The statements of the early explorers are confirmed by the last survey. We give here a few fragmentary quotations to show that this is the case.

The old authors claimed that the squares were perfect squares, the circles perfect circles. The new exploration seems to confirm this rather than to refute it. We take the enclosures in the Scioto Valley to illustrate. There are perhaps more typical works in this valley than anywhere else in the State. The following is the testimony of Dr. Thomas in reference to these. "The circle at Highbank is a perfect one." "The old survey agrees closely with the new survey." "The circles at Paint Creek have geometrical regularity." "The figures of the works which were personally examined by Squier and Davis are generally correct."

"The circle at Highbank is similar in size and other respects to the observatory circle at Newark, and, like that, is connected with an octagon." "We see in this group the tendency to combine circles, octagons and parallels as at Newark, making it probable that the works at both points are due to one people. According to Messrs. Squier and Davis the circle is a perfect one. The diameter, which, as will be seen by what follows, agrees very closely with the results of the re survey." "The somewhat unexpected results in this and the observatory circle are, first, that the figure is so nearly a true circle, and, second, that the radius is an almost exact multiple of the surveyor's chain." These remarkable admissions are made by one who denies their Euro-

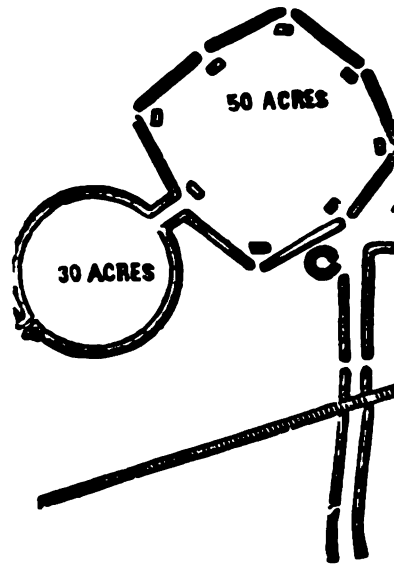


Fig. 1. Observatory and Circle at Newark.

pean origin and who makes them the work of Indians similar to the modern tribes, and who says there is nothing in the form or arrangement that is inconsistent with the Indian usages and ideas, and nothing in their form or construction consistent with the idea that their conception is due to European influence. With these admissions we are warranted in going back to the first descriptions which were given by the early explorers, and to speak of these works as perfect squares and perfect circles, and to draw our conclusions that they were symbolic as well as practical or useful structures. Mr. Atwater speaks of the circle in the village enclosures at Paint Creek, and says "the area of the squares was just twenty-seven acres." Squier and Davis also speak of this area of twenty-seven acres being a common one. The comparison is drawn by Squier and Davis between the works at Newark and those at Hopeton and Paint Creek. Extraordinary coincidences are exhibited between the details, though the works are seventy miles apart. He says the square has the same area with the rectangle belonging to the Hopeton works and with the octagon belonging to Highbank. The octagon has the same area with the large irregular square at Marietta, a place which is still further away from Newark. The conviction is forced upon us, notwithstanding all the skepticism that has existed, that there was a common measurement, and that the square and circle were symbolic, though we do not say whether they were erected by Indians or by some other people.

5. Another argument is found in the fact that walls in the shape of crescents are very common. These crescent-shaped walls are generally found inside of the smaller circle and constitute a double wall around a portion of the circle. There are also many works where there are concentric circles, containing a mound in the center, whose shape would indicate that it was devoted to sun worship and whose contents would prove that they were used for religious purposes. A notable specimen of this is found at Portsmouth, where there are four concentric circles and a mound in the center, the situation and height of the mound giving the impression to the early explorers that it was used for religious purposes and was a sun symbol. Concentric circles and circles containing crescents and mounds are also spoken of by Mr. Caleb Atwater as having been found at Paint Creek and at Circleville. The large irregular enclosure at one of these works contained seventy-seven acres, and had eight gateways, another had eighty-four acres and six gateways, but outside of one of these enclosures was a third circle sixty rods in diameter, in the center of which was a similar circle about six rods in diameter, or about one tenth of the larger circle. Here we have the large enclosures which were undoubtedly used for village sites, but at the same time we have small circles that were probably used for religious purposes.

Mr. Atwater thinks that the large circles were used for religious as well as for practical purposes. He speaks of the circle at Circleville. This was sixty-nine rods in diameter, the walls were twenty feet high, measuring from the bottom of the ditch, there being two walls, one inside of the other, with a ditch between. Within the circle there was a round mound, ten feet high, thirty feet in diameter at the top, and around the mound a crescent-shaped pavement made of pebbles, about sixty feet in diameter. This mound contained two bodies and a number of relics. A large burial mound ninety feet high stood outside of the circle. The contrast between the circle and the square attracted the attention of Mr. Atwater. The circle had two high walls, the square only one. The circle had a ditch between the walls, the square had no ditch. The circle had only one gateway, the square had eight gateways. The circle was picketed, "half way up the inner walls was a place where a row of pickets stood, pickets which were used for the defense of the circle." These facts are significant. They seem to indicate that the villages were surrounded by walls which secured them from attack; but that there was a symbolism in the shape of the walls as well as in the shape of the mounds and pavements and contents of the mounds. In these respects the villages would be called sacred enclosures.

6. Still another argument is derived from the variation in the typical form. At Marietta we have two squares and no circle except as a circle surrounds the conical mound or lookout station. At Highbank and Hopeton we have the circle and the square, and several other small circles adjoining. At Liberty Township we have the square, three circles and a crescent. At Cedarbank we have a square with a platform inside of it, but no circle. At Newark we have the octagon instead of the square. At Clark's Works we have the square, a large irregular inclosure and the circle inside. At Seal Township we have the square and circle and several elliptical works. At Dunlap's Works we have the rhomboidal figure and a small circle adjoining. Still, the typical shape is the same throughout the entire region.

II. We now turn to a new point. The inquiry is whether the enclosures which we have seen to be so symbolic were not the village sites of a class of sun worshipers. This inquiry will be conducted in an entirely different way from the former. We are now to look not so much for the symbolic shapes as for the practical uses. We maintain that whether they were symbolic or not the majority of the enclosures were used for villages. We shall first consider the characteristics of village enclosures generally, show what a village was supposed to contain, and then compare these in Ohio with others to show that they were also village enclosures.

1. We turn to the Ohio villages, and are to ask what their

characteristics are. These were composed of the following elements: First, the circumvallation, including the gateways; second, the contents, including the platform mounds, burial mounds, excavations and other works; third, the small circles adjoining the village enclosures, some of them constituting a third part of the village, scarcely separated from the larger enclosures, some of them being quite remote from the village; fourth, the parallel walls or covered ways. These were a very important element in connection with the village life. Fifth, the so-called embankments, which Atwater says were enclosures for diversion or for games, many of which were found at an early day in the valley of the Scioto, but which had disappeared before the survey of the works took place; sixth, the circles which are gathered in clusters at certain points, remote from the villages, which we call the dance circles; seventh, the look-out mounds and observatories. These works were all associated and all served different parts in connection with village life. We see in them, 1st, provisions for defense, the circumvallation giving defense to the villages, the covered ways also protecting the people as they went to and from the villages to the water's edge; the lookouts on the summits of the hills furnishing defense for not only one village, but for many. We see, 2d, provisions for religion. The character of the earth-works is suggestive of religious practices. They are, many of them, enclosures, symbolical in shape, elliptical, circular, pyramidal. Some of them were probably temples, the truncated pyramids being the foundation platforms. The same office was filled by some of the smaller circles, for these were undoubtedly used for estufas, sweat houses, or assembly places, and many of them were convenient of access to the village enclosure. 3d. The provisions made for amusement, feasts, dances can be recognized in the oblong embankments and the groups of small circles. 4th. The provision made for water is found in numerous wells spoken of by the early explorers, and in the walls which surround them, and in certain ponds near the enclosures. 5th. Provision was made for safe cultivation of fields in covered ways which passed out from the enclosure to the open country, and in the watch towers which were placed at the ends of these. There were many openings in the covered way, which gave egress from the villages to the fields in every direction. 6th. Provision was made for navigation and the safety of the canoes by running the covered ways down to the water's edge, and there making a grade, which should be like a levee, for the landing of the canoes. All these peculiarities indicate plainly that village life was the factor which ruled. Everything was subservient to this.

If we take the number and sizes of the enclosures, and then look at their situation and all their surroundings, and consider the fertility of the plains in which they were located, we will

have a remarkable picture of village life. It seems almost like an Arcadia. The people seem to have been prosperous, and to have dwelt in peace and security. The population was dense. The organization was complete. Religion had its strong hold upon the people; the people lived and died and were buried with the sacred religious rites observed on all occasions. They filled their altars with offerings to the great sun divinity. The most costly sacrifices were made; pipes and beads, carved stone, pearls, many precious works of art were thus consecrated with great ceremonials. But the scene changed. The invasion of an enemy drove them from their seats. Their villages became the seats of bloody warfare. They were obliged to leave their abodes; other tribes came in and occupied their villages.

2. We now turn to the specific locations and give descriptions of the works. We first commence with the works at Marietta and quote the language of the Rev. Dr. Harris, who with Rev. Dr. Cutler, examined them and furnished a full description of it. The following is their account: The situation of these works is on an elevated plain on the east side of the Muskingum, about half a mile from its junction with the Ohio. The largest square fort, by some called the town, contains forty acres, encompassed by a wall of earth from six to ten feet high, and from twenty-five to thirty-six feet in breadth. In each side are three openings, resembling twelve gateways. A covered way formed of two parallel walls of earth 231 feet distant from each other, measuring from center to center. The walls at the most elevated part inside are twenty-one feet in height; the outside only average five feet in height. This formed a passage about 680 feet in length, leading by gradual descent to the low ground, where, at the time of its construction, it probably reached the river. The bottom is crowned in the center, in the manner of a well-founded turnpike road. Within the walls of the fort at the northwest corner is an elevated square 188 feet long, 132 broad, 9 high, level on the summit. At the center of each of the sides are gradual ascents sixty feet in length. Near the south wall is another elevated square, 150 by 120 feet, 8 feet high; but instead of an ascent to go up on the side next the wall, there is a hollow way, ten feet wide, leading twenty feet toward the center, with a gradual slope to the top. At the other end is a third elevated square, 108x54 feet, with ascents at the end. At the southwest corner is a semi-circular parapet crowned with a mound, which guards the opening in the wall. The smaller fort, contains twenty acres, with a gateway in the center of each corner. These gateways are defended by circular mounds. On the outside of the smaller fort is a mound in the form of a sugar loaf, of a magnitude and height which strike the beholder with astonishment. Its base is a regular circle, 115 feet in diameter; its altitude is 30 feet. It is surrounded by a ditch 4 feet deep and 15 wide, and defended by a parapet 4 feet

high, through which is a gateway towards the fort 20 feet in width.\*

The description of this one village will indicate the elements which were common in all the villages, the square enclosures, the graded ways, lookout mounds, protecting walls, wells, etc., being found in nearly every village.

It shows also the religious ideas which were embodied in many of the village enclosures, the platform mounds and the circle about the lookout mounds having probably been used as symbols as well as defenses. This same combination of symbols with defenses is seen more fully in the elaborate system of works found at Portsmouth. These works seem to have been erected for purely religious purposes, and we recognize many symbols in them, the square at one end, the concentric circle at the other end, and the horse-shoe, the crescent and several other symbols in the central group, the whole connected by a wall seven or eight miles long.

III. We now turn to the forts of Ohio, but are to consider them chiefly in their symbolic capacity. There are three peculiarities to earth-works of this region, namely: the large majority of them are enclosures; second, many of the enclosures are symbolic in shape, the circle and square being the most prevalent symbol; third, the majority of the symbolic works are very strongly fortified, nearly every place which the sun worshipers occupied having been furnished with a strong and heavy earth wall, which served as a protection to them. The classification of the works of the sun worshipers reveals to us a great variety of uses, the most of them, however, being such uses as would be connected with village life. But with the uses we discover that defense was as much sought for as was convenience. It is remarkable that there were so many walled enclosures in this region, but the fact that there was danger always threatening the people from a lurking foe will account for these. They needed to defend themselves on all occasions, and so they never resorted to a place of worship or amusement, they never went to a sacrificial place, they never even went to the fields or to the water's edge, but that they must have a wall to protect them. We have dwelt upon the symbolism which was embodied in their works, but we might dwell even longer upon the view of the defense provided by them. It will suffice, however, to say that symbolism and defense were often united, the superstition about the symbol giving them a sense of security as much as the earth-works gave them actual safety. We have only to look at the different works found in any one locality to see the wonderful combination.

1. Let us ask what works there are and what uses we may dis-

cover in them. We have first the village enclosure. This we see was always protected by a circumvallation. This circumvallation was generally in the shape of a square and a circle, but the circle was always protected by a high wall and sometimes by two such walls, and the openings in the wall of the square were always protected by a watch tower or additional platform guard on the inside. Second, there were near the villages many fortified hill-tops, places to which the villagers could resort in times of attack. These fortified hills were generally located in the midst of several villages, so that they could be easily reached by all. Third, the sacrificial places and the places of religious assembly were always provided with circumvallations or long covered ways. Nothing of a religious nature was ever undertaken unless the people could be protected by a wall. Fourth, we find that the sweat-houses, so-called, were always close by the village enclosure, but if, by any means, it was remote, there was always a covered way provided, so that it could be reached in safety from the village enclosure. Fifth, the same is true of the dance circles and places of amusement. These were sometimes remote from the village, but in all such cases there was a covered way between the village and the dance ground. Sixth, the fields were cultivated, but the fields were reached by passing through the parallels or covered ways, and lookout mounds or observatories were always provided to protect those at work and to sound the alarm to them. Seventh, there were landing places for canoes and places at which the villagers could reach the water's edge. These, however, were always protected by covered ways. Every village had its landing place, but nearly every landing place was furnished with a graded and a protected or covered way, the canoes being kept from the water and from the enemy by the same contrivance. Eighth, we find a few isolated enclosures. These are the parallels, supposed to have been used for races and other games. They, too, present the peculiarity of having a wall to protect them. The sacrificial or burial places were also isolated, but even the burial grounds were furnished with heavy earth-walls or circumvallations. The lookouts were also at times isolated from the villages, but even the lookout mounds were surrounded with circles to protect them, and some of them were connected with the village sites by covered ways. It would seem as if the people were not willing even to trust their sentinels or watchmen to the open fields or to risk the chance of his reaching an enclosure by rapid flight, but even he must be protected by a wall or covered way.

This presents a new view of the earth-works of the region. It shows that the people realized their danger; that while they were peaceable themselves and were given to agriculture and to a peculiar religious cult, yet they were in the midst of a savage foe which was always lurking near. They remind us in this



respect of the people who dwelt in the terraced villages of the West. They lived in villages and were peaceful and industrious, but needed always to guard their villages from sudden attack. The mound-builders of Ohio, then, and the Indians of later times were plainly very different from one another.

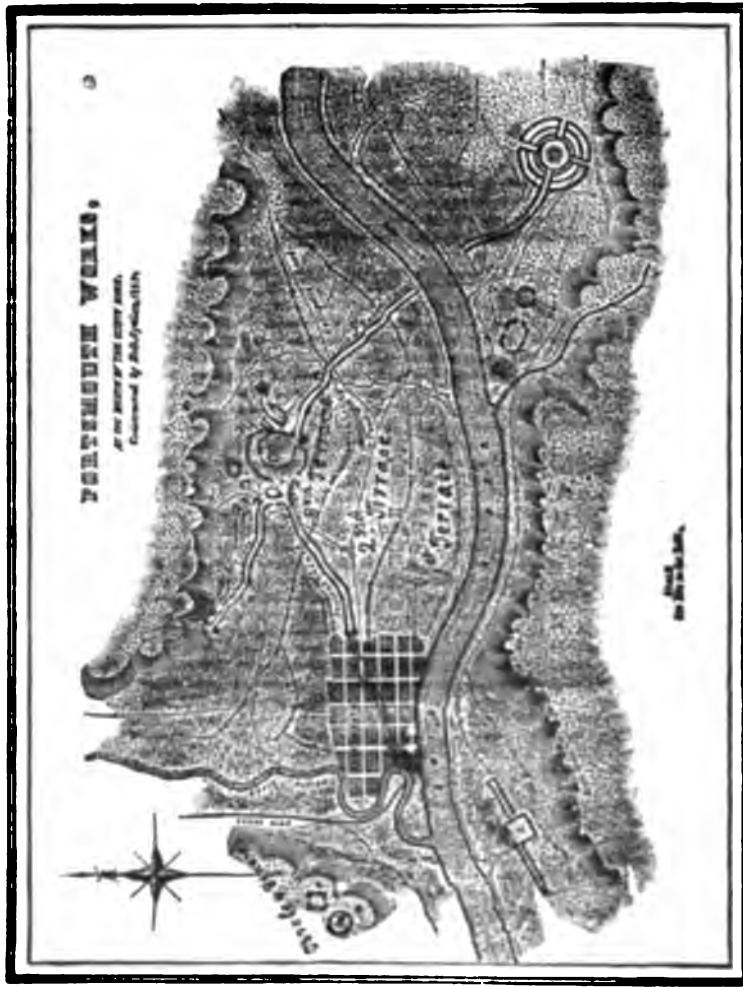


Fig. 7. Wells at Portsmouth.

The forts differ among themselves in many respects. Those which were erected by the original Mound builders—that is, the Mound builders who occupied the village enclosures—are much more elaborate than those built by the later tribes. The writer has discovered three classes of forts in this region. The first class belongs to village mound-builders, the second to the mound-builders who were serpent-worshippers, the third to the race of

stockade builders. Each class had its own peculiar way of erecting fortifications. The fortifications are more distinctive in reality than village enclosures. The enclosures may have been occupied by two or three successive populations, the one erecting the walls and giving to the enclosures the peculiar symbolic form of the square and circle, the other occupying the circles but placing within them, as signs of their presence, some particular effigy. The great serpent probably belongs to this race, the third race, who erected the stockade forts, but put no symbolism into their works. The distinction between the first two is that one was a race of sun worshipers and the other of serpent worshipers, the sun symbol being frequently embodied in the earth works which are connected with the village enclosures, but the serpent symbols being embodied in the walls which surrounded the fortifications built by the other race. We have the two classes represented in a single fort, that at Fort Ancient. The upper fort, which is called the new fort, but which in reality may have been the older of the two, has all the characteristics of the village enclosures. Its walls are high and angular, well defined and furnished with massive gateways, all showing a high degree of architectural skill, the crescent being the only symbol contained within it. The lower or southern fort, which is called the old fort, differs from this in all respects. The walls are ruder, the gateways smaller, the scene wilder, and the symbolism stranger and more mysterious. This part, the writer maintains, embodied the symbol of the serpent in its walls, the superstition of the people being that the form of the serpent in some way gave protection to the people. We ascribe to the first class, that is, to the village people, the forts at Bourneville, at Hamilton, at Massey's Creek, and on the north fork of Paint Creek, called Clark's Works; to the second class, we ascribe the Colerain Works and the fort north of Hamilton, leaving the Fort Hill, in Highland County, doubtful; to the third class—the stockade builders—we ascribe the fort near Granville, those at Four-mile Creek and Seven-mile Creek and Big Run, and several of the works near Hamilton, in Butler County. The peculiarity of the forts of the village people is that there were very elaborate gateways, the walls being very sharply defined, and having re-entering angles, some of them being provided with double and triple earth works as guards for the entrances. Two of the entrances are furnished with what is called the Tlascalcan gateway, and the other furnished with a most elaborate system of embankments, six different semi-circular walls being arranged around a single opening, to protect it from the entrance of an enemy. The gateways of the race of serpent-worshipers were provided with walls in the shape of serpents, and serpents' heads, but with no other contrivances except this symbol to guard them.

This brief review of the forts as related to the symbolism

will give to us an idea as to the great variety of earth works found in Southern Ohio. They are all of them enclosures, some of them having been used for defenses, others for villages, others for burial places, others as council houses, and as dance circles, and a few perhaps merely as symbols. The peculiarity of all is that they have earth walls which enclose areas, though there are conical mounds or solid structures either in the areas or on high land overlooking the areas. These enclosures bring before us a picture of the native society as it once existed. It is evident that the population at one time was very dense, probably much denser in the time of the early mound-builders than at any time since. The people were then in a peaceful and sedentary condition. They were agriculturists. They placed their villages in the midst of the rich agricultural country and surrounded them with walls, and in some cases built walls which would, in a measure, surround their fields, or at least protect the people in going to and from them. The forts were placed in the midst of their villages on high ground, where there would be a natural defense, the cliffs being precipitous. In case of a sudden incursion the people might leave their villages and resort to the forts. Their villages were situated upon the rivers and were connected with the river's bank by covered ways. They navigated the rivers by canoes and had landing places for them near their villages. Their villages were sometimes close together, giving the idea that the clans inhabiting them were friendly to one another. At other times the villages are isolated and wide apart, giving the idea that the people sought room for hunting, as well as fertile spots for agriculture. The villages, however, were all walled and the most of them had walled approaches, giving the idea that they were liable to be attacked by a lurking foe, and that they continued their pursuits with this constant sense of danger in their minds. Everything impresses us with the thought that the Indians were foes to the mound-builders, and that the mound-builders were well acquainted with Indian ways, the two classes—Indian and mound-builders—being very similar in their ways and modes of life, though their symbolism was different.

They may have been Indians, or at least have belonged to a great American stock which we call Indians, but they were evidently quite different from any of those tribes which have been known to inhabit the region since history began. They may, to be sure, have had the same general organization, being divided into clans, the clans having their residence near to one another, and the clans belonging to tribes. In some cases it would seem as if the tribes were located upon the rivers, and that the different rivers were occupied by different tribes, the tribes in the district having, however, great similarities. Whether the tribes were brought together into a confederacy or not is uncertain, and yet it is probable that the villages all belonged to one people.

IV. We now turn to a comparison of the village enclosures. This comparison might lead us to consider the villages of all the modern Indians. We shall, however, confine ourselves mainly to the enclosures of Ohio, for these seem to be the most complete specimens of village enclosures to be found anywhere among the uncivilized races. We find in them the elements which go to make up village architecture everywhere. It may be that there were higher grades among the semi-civilized tribes of the west, but for the uncivilized we shall discover nothing more complete. We take up the elements here presented, and learn from them about the factors which are obscurely contained in other districts. The following are the elements given by the Ohio earth-works: 1, the circumvallation; 2, the lodge circle, including the estufas; 3, the temple platform; 4, the observatory or watch tower; 5, the covered ways, including the protected landing, or graded way; 6, the sacrificial place or sacred burial enclosure; 7, the fortifications; 8, the lookout mounds.

1. It should be noticed, that the villages of the different districts all had circumvallations which were very marked. The villages of the emblematic mound-builders had effigies near them, those of the tomb builders had circles of burial mounds about them, those of the pyramid-builders had pyramids around them, and those of the lodge-builders had walls on the outside and lodge circles inside, to characterize them. In like manner the defenses of the serpent worshipers had the serpent effigy to characterize them, and the villages of the sun worshipers had the circle, crescent, horse-shoe, and other symbols to characterize them, each district containing a different religious system and a different class of works which embodied it.

There is this difference, between the villages of Ohio and those found elsewhere. The villages here were always characterized by a double or a triple enclosure, one of them being a square and the other a circle or a cluster of circles. That at Newark contains five enclosures and three sets of parallel walls, with an effigy in one of the enclosures and many small circles scattered around among the covered ways.

The most remarkable of all the village sites are perhaps those at Hopeton, Newark, Circleville, Highbank, and Twinsburg. That at Hopeton is the most beautiful, where there is a square and circle, and two or three smaller circles joining the squares on the outside. There are found on the third bottom. They consist of a rectangle with an attached circle. The rectangle measures 950 by 900 feet. The circle is 1050 feet in diameter. The gateways are twelve in number, and have an average width of about 25 feet. On the east side are two circles, measuring 200 and 250 feet, the gateways or opening to the circles corresponding to the gateways in the square. The walls of the larger work are 12 feet high, 50 feet wide at the base. "They

resemble the heavy grading of a railway, and are broad enough on the top to admit the passage of a coach." It is probable that on the summit of these walls there was a timber palisade resembling those at Circleville, or possibly like those described by Dr. William Dawson as Hochelega. There are no ditches outside the wall, but a ditch inside that of the smaller circles.

This characteristic of the Ohio villages has never been explained. It was probably owing to a peculiar social organization, but that organization is now unknown, and we are left only to conjecture as to what it was. The square may have been used for the governing class, very much as the truncated pyramids at the south were. The large circular enclosure may have contained the lodges of the common people, the village proper. The small circles may have been the sweat houses or assembly places for the villagers. In the cases where there are three enclosures, the third, which was a circle, may have been used by the priestly class, if we may suppose that there was such a class.

2. We have said that the enclosures were used as clan residences. These residences were in villages. Wherever there was a clan there was a village, and what is more the villages were not built by individuals or by families, but were built by the clan. We are uncertain what kind of houses they were. They may have been frail temporary structures built of poles, covered with skins, bark or dirt, similar to those of the Mandans. They may have been circular lodges, such lodges as have left their rings in many places in the south and west. They may have been long houses, however, built after the model of the Iroquois long house. There may have been a difference between them, some of them being mere circular lodges or tents, others square or rectangular buildings, resembling those built by the southern tribes—Choctaws, Chickasaws and Creeks. The sweat houses or estufas, or assembly places, may have been circular buildings, resembling the rotundas of the Cherokees, while the house of the chiefs may have been square, or rectangular, similar to those which were erected on the summit of the platforms or pyramids of the Gulf States. There are lodge circles or rings with fire-beds in Ohio, such as have been found in Tennessee and Missouri, and in some cases in Iowa. These lodge rings, however, are suggestive, for they show what might have been the arrangement of the houses among the Ohio mound-builders. These rings were generally placed in lines around the outside of a central square, or plaza, as the Spaniards call it. Somewhere in the enclosure there would be a high mound which was used as a lookout. This would be near the edge of the village.

3. In the center of most of these villages there is a platform or truncated pyramid, which is supposed to have been the place where the chiefs had their houses. This is the uniform arrange-

ment of the villages, as they are found in the mountain district of Tennessee and in the cypress swamps of Arkansas and Missouri. The arrangement of the Ohio villages may have been the same, at least there are platforms, elliptical or circular in shape, which are situated in the center, showing that a public building of some kind was in the midst of the enclosure.

4. The parallel walls form another peculiar feature of the villages of Ohio. These generally extend from the enclosures to the river's bank, but sometimes extend from one enclosure to another. They were probably intended to protect the people as they went to and from the villages. The works at Newark illustrate this point. (See the Plate.) These works are interesting. They are situated in the midst of a fertile plain, which is surrounded by high hills on all sides, one hill being especially prominent, the hill on which the alligator mound is situated. The works are very extensive. They cover in extent about two miles square, and consist of three grand divisions, which are connected by parallel walls. The most prominent is the circular structure, which is called the old fort. The area of this structure is something over thirty acres. In the center of it is the mound of singular shape, which is called the bird; the head of the bird pointed directly toward the entrance of the enclosure. This so-called bird originally contained an altar. It seemed to point out a religious design to the whole structure, and yet it may have been only a central object in the midst of a village, an object which would show that the villagers were peculiarly superstitious. The gateway of this fort, so-called, is very imposing. The walls are not less than 16 feet in height, and a ditch within is 13 feet deep, giving an entire height of about 30 feet. "In entering the ancient avenue for the first time the visitor does not fail to experience a sensation of awe, such as he might feel in passing the portals of an Egyptian temple." Such is the testimony of the author of "Ancient Monuments," but the writer can bear witness that the same impression was made upon himself when entering it for the first time. The circle is nearly a true circle, its diameter being 1189 by 1163 feet. The circle is united with a square by parallel walls, which form a wide covered way. There is between the square and the creek or river another large enclosure, which is partially surrounded by walls, and which has a complicated system of covered ways connected with it. This seems to have been the central spot for the two villages which were located here. It may have been a place of assembly, a dance ground or a feast place. There is a single circle within it, a number of conical mounds, and a graded way which leads from it to the edge of the terrace, situated south of it. This graded way is a peculiar work, but is similar to those found at Piketon and Marietta. The chief peculiarity of the work is that there are parallel walls; two of these, which are upwards of a mile in length, extend

from the works just described to the octagon situated west or northwest of the old fort or great circle. These parallel lines were probably covered ways, one of which connected the village enclosures with one another, the other connecting the west enclosure or octagon with the bottom land and river's edge, though the two covered ways are nearly parallel. There is a third line, which extends from the octagon southward for nearly two miles. This covered way loses itself in the plain. It may have been designed to protect the villagers as they went to and from the fields.

In the center of the works, nearly surrounded by the covered ways, is a large pond, which may have served as a reservoir of water for both villages, as access could be gained to it through the openings in the walls from either side. There are small circles scattered around among the works. These may have been the estufas or sweat houses, as they all have the same general appearance and dimensions. The chief feature of the work is the octagon and small circle.\* The octagon has eight gateways, each gateway being guarded by an elliptical mound or truncated pyramid, 5 feet high, 80 by 100 feet at base. The circle connected with the octagon is a true circle 2080 feet—upwards of half a mile—in circumference. It has on the southwest side what was probably once a gateway, but it seems to have been abandoned and an observatory built in its stead. See Fig. 7.

5. The watch towers and observatory mounds are also to be noticed. The observatory at Newark is very imposing. It is 170 feet long, is 8 feet higher than the general embankment, overlooks the entire work, and may have been used as a look-out station to protect the fields adjoining. A number of small circles, which are called watch towers by Atwater, are found connected with the works, and are chiefly embraced in the area between the parallel walls.

In reference to the works at Newark in its different parts, Messrs. Squier and Davis say: "Several extraordinary coincidences are exhibited between them and the works situated elsewhere. The smaller circle is identical in size with that belonging to the Hopeton works and that at Highbank, which are situated seventy miles distant. The square has the same area as the square at Hopeton and the octagon at Highbank. The octagon has the same area as the square at Marietta. There are mounds inside of the gateway the same as found in other places. The observatory here corresponds to the large observatory at Marietta, though that is somewhat higher. The small circles, which we call estufas, are of the same general character and

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\*Each has a diameter of about 20 feet, has a ditch interior to the walls, and elevated embankments in the shape of crescents interior to the ditch. This is the common form with all of the small circles which are so numerous in connection with the village sites.

dimensions as those found at Hopeton, at Highbank, at the junction group, and at Chillicothe. The resemblances between the village at Newark and those found elsewhere in this district are, we think, quite significant. We find in many of the other works, especially those on Paint Creek and in the Scioto Valley, that there are three enclosures, two of them being a circle and square, and a third being irregular in form, but generally larger than either the circle or square. This larger enclosure sometimes intervenes between the circle and the square and sometimes it is situated at the side of each, making a tri-

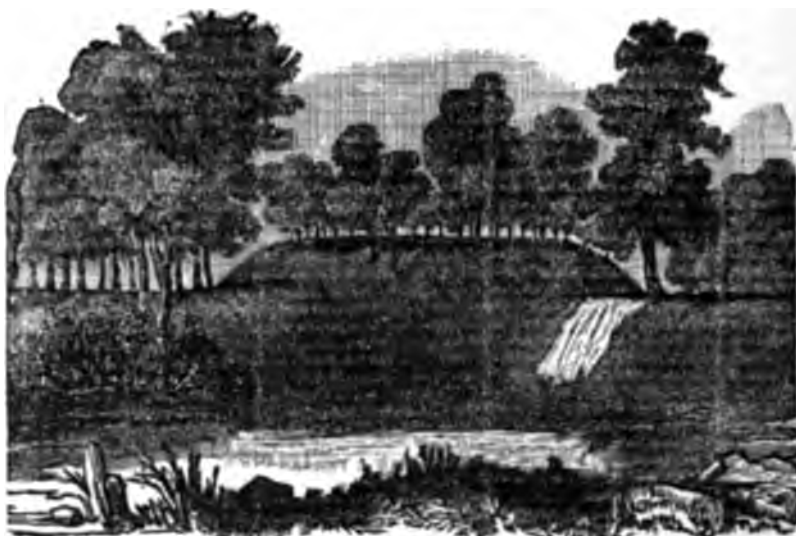


Fig. 7.—Observatory at Newark.

angle with them. It is probable that the same use was made of this large enclosure in the other localities that was made of the large enclosure at Newark, the only difference being that connected with the circle and square, it constituted one village, but in this case it served for the two villages, the connection between them being secured by the parallel wall.\*

6. We turn to the description of the graded ways. These are very interesting works, but confirm what we have said about village sites. There is a graded way at Newark, another at Piketon, another at Marietta, and another is said to be situated at Piqua. They all have the same general characteristics. They

\*The reader will see this plainly by examining the plates in the Ancient Monuments. See Highbank works, Plate XVI, works on Liberty Township, Plate XV, works on Paint Creek, Plate XXI, 1 and 2, and works on the Scioto near Chillicothe, and on the north fork of Paint Creek, at Old Chillicothe, Plate XXI, Nos. 3, 4. See works at Hopeton, XVII, also works in the Scioto Valley, Plate II, also at Blackwater group, XXII, No. 2. Clarke's Works contains the square and the circle, but the circle is inside of the large enclosure, which is very much larger than the ordinary square, being 200 by 150 feet, and contains an area of 111 acres, instead of 30.



run from the terrace on which the village enclosure was situated down to the bottom lands. The bottom lands are now dry, but it is probable that at the time the works were built they constituted the river bed. The object of the graded way was undoubtedly to secure a landing place for canoes. The rivers of Southern Ohio are still subject to floods. They were probably severer in prehistoric times. The walls on either side of the graded way would serve a double purpose; they would protect the villagers as they went to the water's edge, and would also keep the canoes from being carried away by the sudden rise of the water. The graded way at Newark has a tongue of land which extends beyond the walls. This may have served



*Fig. 8. Graded Way at Piketon.*

as a sort of landing place or quasi wharf. Owl Creek, a small stream, flows south of this work. The elevated grade was extended out to the water in this creek. In the case of the graded way at Piketon and at Newark the incline begins at the bottom land and rises by a gradual ascent to the summit of the terrace. The breadth between the walls at Piketon is 215 feet at one end and 203 at the other, but the way is 1080 feet long; the rise is 17 feet. See Fig. 8. The height of the wall, measured from the lower extremity of the grade, is no less than 22 feet, but measured from the common surface varies from 11 feet at the brink to 5 feet at the upper terrace. The ascent is very gradual. At the upper extremity of the grade there is a wall which runs 2580 feet toward a group of mounds, which at present are enclosed in a cemetery. There is also another mound 30 feet high about 40 rods away. The object of this graded way is unknown, but judging from its similarity to other graded ways in the same state, we conclude that there was a village site on

the upper terrace, though there are no walls perceptible there. The graded way at Marietta is also very interesting. This has already been described. A distance of several hundred feet intervenes between the end of the graded way and the bank of the river, which is here 35 or 40 feet in height. It has been conjectured that the river flowed immediately at the foot of the way at the time of its construction. If so, it would prove the antiquity of the works to be very great. Graded ways similar to these in Ohio are found in Georgia in connection with the high conical mounds, but they generally lead to ponds, and may have been used for a different purpose.

7. In reference to the association of the fortifications with the villages and the sacred enclosures, a few words will be appropriate. It is explained by the peculiarities of clan life. It appears that among all uncivilized races the clan was the unit. The family was nothing when compared with the clan. In fact, the clan seemed to be more important than the tribe. It was much more important than the nation, if the nation existed. It is probable that the communistic system prevailed in most of the clans. Subsistence was secured by members of the clan. The burials may have been in clans, or by a number of clans uniting together. The so-called altar mounds were probably the places where several clans were brought together and presented their offerings and made their burials. The fortifications were also places where the clans came together for common defense.

Many of these hill forts are situated in the midst of village enclosures. One of them, that at Bourneville, has been frequently described. It is very large, containing 140 acres, being situated in the midst of the villages on Paint Creek. The Ancient Fort and that at Hamilton, on the Great Miami, were also large. These were situated not far from other village enclosures. The fortified hill called "Fort Hill," in Highland County, is not very far from villages, being but thirty miles from Chillicothe. The fortified hill near Granville is near the works at Newark, but it was probably built by a later race, as it differs very materially from the works at Newark. The ancient works on Massey's Creek, in Greene County, may have been erected by the typical mound-builders of the district, but of the works at the mouth of the Miami, on the Great Miami, in Butler County and Hamilton County, there is some uncertainty. Some of them may have belonged to the typical mound-builders, but others may have been built by an earlier or a later race.

This is also the use which was made of Fort Ancient. A part of this had been built by a race of effigy-builders, the same race who built the great serpent and made it the great center of serpent worship. A part of it, however, was probably built by the same people who erected the village enclosures, who were sun worshippers. There are some reasons for believing that the ser-

pent worshipers migrated from this part of Ohio and afterwards became the effigy-builders of Wisconsin, as there are many serpent effigies scattered along the bluffs of the Mississippi River, the route which they are supposed to have taken in their migration. The sun worshipers may possibly have been the same people, and yet the probability is that they migrated southward and became the pyramid-builders of the Southern States, embodying that worship in the pyramid as they had here in the circles and crescents.

8. The connection of the village enclosures with the lookout mounds is our last point. These lookout mounds may have been used by all of the different tribes or races which occupied the district, but it is plain that they were also used by the people of the village enclosures. Squier and Davis speak of the lookout on the top of the hill above Chillicothe, the lookout which commands a view of the whole district in which the villages were situated. The writer has visited the great mound at Miamisburg, and found that it commanded a view of the valley in which were the works at Alexandersville, and at the same time was connected with others which reached as far as Fort Ancient. One peculiarity about this mound was noticed. At a certain height on the side of the mound the view extended over the valley where were the various earthworks, but it was limited by surrounding hills or headlands. The summit, however, gave a view of other hills beyond these, and the writer was convinced that it was raised to this height in order that signals might be exchanged between those who were living in the Miami valley and those who were living in the valley west of it, thus showing that the White River and the Miami River were included in one district. Rev. T. J. McLean has also studied out the signal stations and made a complete net-work of them throughout Butler and Hamilton Counties. Whether this system of signal stations extended beyond the district which we are now describing we are unable to say, but we have no doubt that the signal stations were used by the village people who erected the typical earth works of Southern Ohio. Grave Creek mound may have been one of the signal stations, an outwork which was farthest to the east. The high conical mound at Marietta was another. The high conical mound at Circleville reached the height of ninety feet; this is another of the signal stations which were used by the village Indians.

## THE COMING OF THE WHITE MAN REVEALED.

## DREAM OF THE WHITE ROBE AND FLOATING ISLAND.\*

BY REV. SILAS RAND.

When there were no people in this country but Indians, and before they knew of any others, a young woman had a singular dream. She dreamed that a small island came floating in towards the land, with tall trees on it and living beings, and amongst others a young man dressed in rabbit-skin garments. Next day she interpreted her dream and sought for an interpretation. It was the custom in those days, when any one had a remarkable dream, to consult the wise men and especially the magicians and soothsayers.† These pondered over the girl's dream, but they could make nothing of it; but next day an event occurred that explained it all. Getting up in the morning, what should they see but a singular little island, as they took it to be, which had drifted near to land, and had become stationery there. There were trees on it, and branches to the trees, on which a number of bears, as they took them to be, were crawling about.‡ They all seized their bows and arrows and spears and rushed down to the shore, intending to shoot the bears. What was their surprise to find that these supposed bears were men, and that some of them were lowering down into the water a very singular constructed canoe, into which several of them jumped and paddled ashore. Among them was a man dressed in white—a priest with his white stole on, who came towards them making signs of friendliness, raising his hand towards heaven and addressing them in an earnest manner, but in a language which they could not understand. The girl was now questioned respecting her dream. "Was it such an island as this that she had seen? was this the man?" She affirmed that they were indeed the same. Some of them, especially the necromancers, were displeased. They did not like it that the coming of these foreigners should have been intimated to this young girl and not to them. Had an enemy of the Indian tribes, with whom they were at war, been about to make a descent upon them they could have foreseen and foretold it by the power of their magic. But of the coming of this teacher of a new religion they could know nothing. The

\*This was related to me by Josiah Jeremy, Sept. 26, 1869.

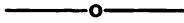
†Like the Egyptians, Chaldeans, etc.

‡It was, it is needless to say, a vessel with masts and yards, and sailors upon them, moving about.

These two myths illustrate the mingling of prehistoric and historic ideas in the native mythology of this district.

new teacher was gradually received into favor, though the magicians opposed him. The people received his instructions and submitted to the rite of baptism. The priest learned their tongue, and gave them the prayer-book written in what they call *Abiöotloveögasiik*—ornamental mark-writing, a mark standing for a word, and rendering it so difficult to learn that it may be said to be impossible. And this was manifestly done for the purpose of keeping the Indians in ignorance. Had their language been reduced to writing in the ordinary way, the Indians would have learned the use of writing and reading, and would have so advanced in knowledge as to have been able to cope with their more enlightened invaders, and it would have been a more difficult matter for the latter to have cheated them out of their lands, etc.

Such was Josiah's story. Whatever were the motives of the priests who gave them their pictorial writing, it is one of the grossest literary blunders that was ever perpetrated. It is bad enough for the Chinese, whose language is said to be monosyllabic and unchanged by grammatical inflection. But Micmac is partly syllabic, "endless," in its compounds and grammatical changes, and utterly incapable of being represented by signs.



### THE BEAUTIFUL BRIDE,

WHOSE FACE WAS WHITE AS SNOW, HER CHEEKS AS RED AS  
BLOOD, AND HER HAIR AS BLACK AND GLOSSY  
AS A RAVEN'S PLUME.\*

An aged couple resided alone in the forest with their only son. The young man provided for his parents by hunting. One day he brought down a crow with his arrow, and the snow was stained and reddened with the blood of the bird. As the young man gazed upon the three brilliant colors thus brought together in contrast before him, he was struck with the singular beauty of the combination. Would, thought he, that I could find a girl whose tresses were jetty and glossy as the raven's wing, whose skin was white as the driven snow, and whose cheeks were crimson as the blood that stains it. I would marry such a girl, could I find her. When he came home, he told his mother what had passed through his mind. His mother informs him that such a girl there is, but her home is far away, too far for a winter's travel, but when summer comes he may go and fetch her. He resolves to do so, and it occupies his

\*Related to me by Ben Brooks, who heard it long ago. He can not tell the origin, but is quite sure it was manufactured by Indians of the olden time.

mind much. Meanwhile he pursues his vocation as a hunter; he becomes absorbed with other matters and forgets his beautiful ideal of beauty. Spring comes and summer, and one day while he is exploring the forest in quest of game, he encounters a well-dressed, good-looking man, who salutes him in a friendly way and enquires what he is about out there. He tells him he is in quest of venison for the use of the household. "Well," rejoins the stranger, "of what were you thinking about so much last winter?" It took the young man some time to recollect himself. Finally he recalled to mind the circumstance of the dead crow, and the wish that had passed through his mind respecting the beauty of the girl he would like to marry, and what his mother had told him. He related the whole affair to the stranger, who assures him that he knows of such a girl, and can guide him to the place where she lives and assist him in the important business of winning her for his bride.

This stranger is a *Migumooesoo*, and the young man accepts his proposal, and goes home to inform his parents and make preparations for the journey. Having made all his arrangements, he starts off and soon is joined by his friend of supernatural prowess. On they go in company until, after several days' travel, they come out to the borders of a large, long lake. About midway from one extremity to the other on the shore of this beautiful sheet of water is a large wigwam, inhabited by an old man. He receives them kindly, inquires whither they are going, and what their object is. The *Migumooesoo* answers for his young friend, and *Glooscap* (for it is no other than he), does not disapprove of the adventure, but gives a word of encouragement. But they must cross the lake, however, and they see no means of transit. But the old veteran offers to lend them a canoe, and accompanies them to the shore, where they are directed to step upon a small island, which is covered with trees and rocks, and are told that this is his canoe. As soon as they embark and unmoor, the island craft moves off by magic and glides over the glassy surface of the lake, without sail, rudder or oar, and conveys them straight to the opposite and distant shore. There they land and moor their ship, and start upon their distant journey through the forest. They had passed one danger, of which they had received timely warning from *Glooscap*. This was a huge skunk (a necromancer under the form of this animal), who had taken up his position on the extremity of a point of land which ran far out into the lake, and which it would be necessary for them to go around. There he stood, as they approached, all ready to deluge, stifle and drown them as they passed. But the *Migumooesoo* was too many guns for him. Making ready a suitable cord with a slip-knot, with a movement sudden and adroit, he rendered powerless this magician's means of offense and defense, by cording the orifice of his unsavory reservoir, and they passed the enchanted

place unscathed.\* Not far had they proceeded on terra firma before they encountered a man with a strongly-built, muscular frame who was chopping logs. Seeing no means of conveying these logs to the shore, they ask him how this is accomplished. "I take them on my back," is his answer. He then enquires whither they are going and what their business is. They tell him, and he proposes to accompany them. To this proposal they agree, and the three go on together.

They soon come up to another man, who is hopping along on one foot, the other being tied close up to his body. They enquire why he ties up his leg. "Too keep from running too swiftly," he answers. "Were I to untie my leg," says he, "I would go round the world in four minutes." "Let us see you run," they reply. Whereupon he unties his leg, and, presto! he is out of sight, and in a few moments he returns from the opposite direction, having run, in the meantime, around the whole world. On learning the object and destination of the party he offers to go with them, and his company is cheerfully accepted.

They next came up with a man of portly size and mien, whose nostrils are carefully closed and guarded. "What is the meaning of all this?" he was asked. "I thus hold back the storm and restrain the whirlwind," he replied. "Let us see a display of your power," says the superhuman guide of the party. Immediately he releases the pent-up winds, and they rush forth to the work of destruction, tearing up the earth, overturning the rocks, and smashing the forest. This man also joins the party.

In due time they reach a wide and beautiful river, meandering through an extensive meadow, which runs parallel to a chain of high mountains, at whose base is a perpendicular bluff, and midway between which and the meadow is a large Indian town. The inhabitants are well-clad, of goodly stature, and commanding mien. The travelers make their way to the chief's lodge, share his hospitality, answer his enquiries, and make known their errand. They have been informed that in that town dwells a beautiful girl, whose skin is as white as snow, whose cheeks are red as blood, and whose hair black and glossy as the raven's plumes, and this young man has come to woo and win her and make her his bride. They are informed that the story of the girl is correct, but the task of gaining her hand and heart will be a difficult and dangerous one. He must enter the lists with the other suitors, and contend with them in certain athletic games, and the winner will be awarded the prize. The terms are accepted, and after several days of feasting and preparation the contest begins. First they dance, and the Migumoo-weeso beats the rest. Then they run; another party produces

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\*The opening of the sack which contains the fetid fluid, which is the same in both male and female of this disagreeable animal, is projected in the form of a tube when the animal is about to discharge his bile.

a runner who has to confine one leg on all ordinary occasions. They are let loose and start for a run around the globe, but our friend's comrade comes in four minutes ahead of the other competitors and wins the day. Next they engage in feats of strength—lifting, pitching rocks, wrestling, and pulling at each other at square angles, grabbing with their hands a piece of wood. Our log-lugging friend carries off the palm in all these exercises. One more trial completes the contest. They must coast down the side of that mountain, and leap the bounding precipice with their sleds, and the one who reaches the ground unscathed carries off the beautiful girl. Two parties volunteer for the dangerous experiment—the Migumoowesoo and his young friend and two other men of mighty magic. The whole village turns out to witness the exciting scene. Down from the beetling battlements dart the sleds, and as the Migumoowesoo and his charge reach the verge of the cliff, he utters a shout and down they dart to the ground all right and ride on their headlong way through the village, and far out upon the grassy mead that lines and adorns the banks of the broad flowing river. The other party dash headlong over the cliff and are killed.

The contest is now ended, the young stranger receives the prize and celebrates the wedding feast. The party then leave for home, bearing away the beautiful bride. Not far, however, have they proceeded when a terrific roar and crashing is heard thundering in their rear. They look around and are horror-stricken at the sight. A terrific whirlwind, conjured up by the magicians of the village, is bearing down upon them, plowing up the earth, rending the rocks, overturning the trees and snapping them like pipe-stems, as it comes on. Now comes in play the prowess of the comrade with the mighty breath. The plugs are withdrawn from his nasal organs, and the storm is let loose, and whirlwind meets whirlwind in mid-forest, and mingles heaven and earth in their rage. But the retreating party are again triumphant. Tempest turns on tempest, and storm chases back the storm, sweeping away everything in its course, sending the village to atoms and destroying all the inhabitants.

The party now proceed at their leisure. Each comrade drops off as he reaches his home. The Migumoowesoo, his young friend and his bride reach the lake, and embark on board the magical canoe and are swiftly conveyed to the other side. There Glooscap meets and greets them. They relate their adventures and are kindly entertained. Afterwards they go on. The superhuman guide slides off to his home and the young couple arrive safe, to cheer and delight the aged, anxious pair. And the story ends.



## MYTHS OF THE PUGET SOUND INDIANS.

BY REV. M. ELLIS.

Herewith I give some of their own ideas of the origin of certain objects:

*Thunder and Lightning.*—The general belief has been that these are caused by a great bird, which flaps its wings and thus causes the noise; and some point to trees which have been struck by lightning, and say that the bird touched these trees with its wings, and that thus they were torn to pieces. The head of this thunder-bird is often pictured on various articles, especially those which were used in war, to inspire the warrior with courage. It is also sometimes figured on dishes and other articles.

There is also at Eneti, on the Skokomish reservation, an irregular basaltic rock, about three feet by three feet and four inches, and a foot and a half high. On one side there has been hammered a face, said to be the representation of the face of the thunder-bird, which could also cause storms. The two eyes are about six inches in diameter and four inches apart, and the nose about nine inches long. It is said to have been made by some man a long time ago, who felt very badly, and went and sat on the rock, and with another stone hammered out the eyes and nose. For a long time they believed that if the rock was shaken it would cause rain, probably because the thunder-bird was angry. They have now about lost faith in it, so much so that a few years ago they formed a boom of logs around it, many of which struck it. That season was a very stormy one, and many of the older Indians said, "No wonder, as the rock is shaken all the time." It is on the beach, facing the water, where it is flooded before the tide is full, though not at low tide, and the impressions are gradually being worn away by the water.

A fable of the Twanas says that long ago the Daswailopsh mountain had two wives, Mt. Ranier being one and a mountain near Hood's Canal being the other. These latter two mountains quarrelled, and Mt. Ranier moved away, and now they always fight by means of thunder and lightning.

*The Sun.*—The Twanas have the following two legends in regard to the origin of this luminary, both, however, I believe being to them more a matter of legendary than real belief.

First. A woman had a son who ran away from home. After

a little she went after him, but could not find him. Her people went after her, found her, and brought her back. They did not know what became of her son until a short time afterward they beheld him, having been changed into the real sun, coming up from the east. This is the origin of the sun.

Second. A woman having no husband had a son, who, being left in charge of its grandmother, who was blind, was stolen away by two women who carried him very far away, where they brought him up, and he grew very fast and became their husband. His children were the trees, the cedar-tree being the favorite one. His mother in the mean-time sent messengers, the cougar, panther, and some birds, who went everywhere on the land searching for him except to this place, where they could not go on account of a very difficult place in the road, which was liable to come together and crush whatever passed through. At last, the blue-jay made the attempt, and was almost killed, being caught by the head, nearly crushing it, and thus causing the top-knot on it. It, however, found the son, a man grown, and induced him to leave his present home and return to his mother. When they came to this difficult place in the road, he fixed it, and did good wherever he went. When his mother found that he was lost at first, she was very sorry, and gathered his clothes together, pressed from them some water, wished it to become another boy, and, being very good, her wish was granted. He was a little boy when his older brother returned. They were both somewhat like God, in that they could do what they wished. The older brother said to the younger one, "I will make you into the moon to rule the night, and I will be the sun to rule the day." The next day he arose in the heavens, but was so hot that he killed the fish in the sea, causing the water to boil, and also the men on the land. Finding that this would not do, he retired, and his brother tried to be the sun and succeeded, as the sun is at present, while the older brother became the moon, to rule the night.

The Clallams have the following legend about the sun. A long time ago there was only one woman in the world, but no man. She made the image of a man of gum, set it up, and wished it to become alive and be her husband. She went to sleep, and life came to it. Having been formed of gum, however, he was very sensitive to the heat of the sun, this heat having been much greater then than now. He worked when it was cool and rested in the shade when it was hot. One day he went a-fishing, and told his wife to look out for him if it should become hot; but she went to sleep and did not do so. The heat became intense, and he died. His sons were angry at the sun for this. One of them made a bow and very many arrows. He shot them up towards the sun, and they formed a chain or rope, on which the boys ascended, and there they found a prairie land. They first asked of the geese, who could then

talk, "Where is the man who killed our father?" The geese pointed in one direction and said, "Yonder." The boys went in the direction indicated, and arrived at a house where two blind women lived, into which they entered and sat down. As one of the women gave some food to her companion, one of the boys took it. "Have you received your food?" said the first woman to the other. The latter said "No," whereupon both of them wondered what had become of it. Soon one of the boys said he had taken it, and then he asked, "Where is the man who killed our father?" The women replied, "Farther on," and gave them a very small basket, in which were six salmon berries. The boys went on, and soon found some swallows who could talk; and again they asked, "Where is the man who killed our father?" The swallows said, "In yonder house." The boys went to the house, and there they found an old man piling pitch wood on a very hot fire, so hot that it nearly roasted the boys, and this was what made it hot on the earth. They gave the old man the six salmon berries, which became very many and swelled within him, and thus killed him. The fire then went down somewhat, and it has not been so hot on the earth since that time.

They supposed that the sun really rose and set, and had no idea that the world really turned over, as they have been lately taught.

*Wind* they supposed was caused by the breath of a great being, who blew with his mouth. In this they reasoned from analogy, as a man can with his breath cause a small wind.

*Cold* they supposed to be caused by our getting farther away from the sun in the winter, for they suppose that the sun is much farther off when it is low than when it is high, and that the cold regions are away from the sun, hence, that we are near these cold regions in the winter.

*Eclipse.*—An eclipse of the sun almost annular occurred about 1875, which gave me an opportunity to learn some of their ideas about it. They formerly, as near as I can learn, supposed that a whale was eating up the sun. At the time of the eclipse, several of the women and old persons told me that they stopped work, went to their houses and prayed in their minds to God. Many wished to know what I thought was the cause of it.

#### PROVERBS OF THE CLALLAMS.

Do not laugh at an old man: If you do and he talks back to you, you will die.

Do not steal a woman in the day-time, or the sky will see you and you will die; but you may steal her at night if she is not another man's wife.

## PROVERBS OF THE TWANAS.

When any one plays with you, you must never say naughty words to him.

Do not sit on a rock; if you do you will not grow fast. (Not true.)

Do not point at the rainbow; if you do, the finger which you use for this purpose will become sore. (Not true.)

Honor your father and your mother.

Never see any old people going to carry water without getting the bucket and going in their stead.

Never laugh at the aged; if you do, they will curse you; but if you do not, they will bless you.

When you hear a man telling his son to be good, go and listen, and do as he says. "As an example of this teaching," wrote a school-boy to me, "I will relate the following: There were two boys who were playmates. One said that his parents always talked bad to him, and he never felt happy; but the other said that his parents talked good to him and he always felt happy. Afterwards the latter went near the house of the former when his parents were talking to him. He listened to all that was said, kept the advice and did as was said; he was a good boy, while the other was a bad one, and what the bad boy called a bad talk was in reality a good one." The same informant put the words "not true" in parenthesis at the close of two of the proverbs.

## FABLES OF THE TWANAS.

*The Pheasant and the Raven.*—The raven had a trap and caught very many fish, but would not give any to the pheasant. At last the pheasant went to hunt deer. While on his way a deer met him, driven by a man. The pheasant killed it, and when he was skinning it, the man stood watching him and said, "Well, pheasant, you can shoot straight." But the pheasant thought it was not so. When the man saw that the pheasant was not proud, he said that the latter would be able to carry the deer nearly home, but added that when he should nearly reach his house it would become very heavy. Thus it proved to be, for when he was almost home, it became so heavy that he could not carry it. He laid it down, and his wife came and helped him. When the raven heard that the pheasant had killed a deer, he sent his sons to carry some fish to the pheasant, so that he might receive some meat in return; but when they were going into the pheasant's house, the pheasant drove them out. Then the raven told his children to fight with the children of the pheasant; and they had a battle. The raven's children threw fishes at the pheasant's children, who in return threw the grease of the deer at the raven's children. The raven

sat between the two armies, and when the little pheasants threw any grease the raven caught it and ate it.

After a time the raven went to hunt deer. While he was hunting he met a deer, driven by the same man whom the pheasant had met. The raven shot the deer and killed it. While he was skinning it, the man, acting as if he were surprised, said, "The raven can shoot straight." The raven was proud, and said, "I can shoot straight because I am a raven." When he was about to carry the deer home, the man said that when he should almost reach his house, it would turn into something else. And when the raven had got nearly home, he dropped his game and went and told his wife where to find it. She went to the place where the deer had been left, but when she arrived she found that it had all turned to rotten wood.

The school-boy who furnished me with the foregoing fable, and also with the next one, had read some of Æsop's fables, with the morals added, and ventured to make the following application: "I think this fable teaches us not to be stingy or proud. The raven was so and lost his deer, but the pheasant was not and secured his."

*About a Woman.*—At one time there was a woman living at her father's house, and after a while a man came by night, and took her for his wife, but soon afterwards deserted her. After a time, she took some of her father's slaves and went to the other side of the water to hunt for him, but was unable to find him. Next she started to return home. After having gone some distance, she looked down on the bottom of the canoe, and saw a man smiling at her. She knew it was her husband. He pulled her down and the slaves saw her no more. Sometime afterwards she made a visit to her parents. At a second visit a child was born to her. On a third visit her face was covered with some kind of moss. During her second visit her parents wished to deceive the man; hence they took a slave, with a face exactly like that of the married woman, and started to carry her to the man. But a sea gull cried out and said, that it was not the right woman; so they took the true wife and restored her to her husband. This man killed a great many fishes and sent them to his father-in-law. After a time the woman died; and after that a voice was heard crying, which was the woman's voice. When this woman's tribe got off to sea, they always capsized.\*

#### CHILDREN'S STORIES OF THE TWANAS.

*A Kolsid Indian and a Wolf.*—One day a woman espied a wolf swimming across Kolsid Bay. She told her husband, who, wishing to have the skin, went to kill the wolf, but his wife

\*NOTE.—Some of the Indians believe this to be true.

begged him not to do so. The man rowed out to the wolf and patted him on the head with his paddle. The wolf looked at him, and threw his ears back as if he would beg for his life. At last they both reached the shore, whereupon the wolf did not run away from the man, but stood looking at him with his ears back. The man, wishing to deceive the wolf, said: "I did not wish to kill you, but was afraid you might drown, so I came to help you across. Now, for a reward I ask this:—you must drive as many deer to me as you can". So the wolf went off into the woods, and drove home deer until the man's house was filled with meat. Every time the wolf came home, he drove home a deer.

There was once a great hunter (who, the narrator said, was his father's brother). At one time, when out hunting, he found two young wolves, which he thought he might tame, so that they might assist him in hunting deer. He brought them home, but until they were grown he killed no deer. When they were partly grown he took them out with him. While they were going along, they found the mother wolf, and as the man wished the cubs to grow fast, he took her home, too. After that this hunter never failed to kill deer. "This," said the narrator, "only shows how animals can understand, and act well to those who are kind to them."

Although there is something fabulous, at least in the first of these stories, if not in both, yet they may show how the Indian dogs were first obtained by domesticating wolves.



## PERFORATED SKULLS FROM MICHIGAN.

BY FREDERICK STARR.

In his well-known article on *Platycnemism*,\* Mr. Gillman describes a considerable number of skulls, from mounds on the Sable and Rouge Rivers, which were perforated by a single drilled circular hole. He then says: "I have since heard of a skull having been found near Saginaw, Michigan, which presented this peculiarity, but in this case there were three perforations, arranged triangularly, cocoa-nut fashion."

Within the past year Mr. Isaac M. Bates, of Detroit, has made an interesting discovery, and has, at my request, supplied me with the facts, which are presented below.

Within the city limits of Detroit, is an old Indian burial place. At one time or another, remains of some forty individuals have

\*The Mound-builders and *Platycnemism* in Michigan. Henry Gillman. Smithsonian Report, 1875.

been discovered in various excavations made for building purposes, sewers, etc. A variety of relics have also been found: hard copper knives, beads, awls, axes, copper kettles, bone fish hooks, needles, stone axes, celts, flint arrow and spear heads, pipes, etc. One article of silver, as large as a silver dollar, very thin, perfectly round, with straight marks from the center to the rim, was also found.

Mr. Bates and two friends made an excavation in a vacant lot located within the area of this old cemetery. They came upon a curious and interesting burial spot. At a depth of two feet, five skulls were found, lying in a circle, facing the center. Within this circle were ashes and charcoal,—evidence of a fire; but the bones were not at all burned. The skulls were all laid on their left side and under each was a little heap of bones. Mr. Bates says: "a bundle of bones", because the position of the bones was such as to suggest that they had been tied together in a bundle by some binding, now lost by decay. The bones were probably those of the skeleton belonging with the heads above them, although there was not in any case a complete skeleton preserved. It is probable that the bones were gathered after exposure of the bodies on scaffolds or otherwise, and then arranged and buried as here found.

Of these five skulls three were perforated, and perforated, not with a single hole like those found by Mr. Gillman, but with three like the one from Saginaw to which he refers in the passage quoted. The three holes are drilled directly on top of the skull, are arranged in the form of a triangle and are half an inch or so apart. In diameter they range from one-third to one-half inch. The two unperforated skulls are smaller and more delicate than these three and were evidently skulls of young persons or females. Of the perforated skulls two had "double teeth" in front. Mr. Bates says the third may have had also. (It is no longer in Detroit and some uncertainty exists in the matter.) The dentition of the other two skulls is normal. The perforated skulls were *full* of earth and gravel quite closely packed. It is probable that this filling is the result of natural causes, though Mr. Bates feels that it was done intentionally at the time of the burial.

The drilling of the holes was certainly *post mortem*. Their object is hardly satisfactorily explained. We have called attention to this find, hoping that other information regarding the occurrence of such skulls and suggestions respecting the purpose of the perforations may be drawn out by this reference.

COMPARISON OF RELICS IN ONTARIO AND  
NEW YORK.

BY W. M. BEAUCHAMP.

THE AMERICAN ANTIQUARIAN recently spoke in high terms of the work and collections of the Canadian Institute, of Toronto, Canada, whose excellent reports are becoming familiar to many in the United States. I have had occasion to study all these closely, because of the well-chosen relations of much of that province to the Iroquois district of New York, and may take notice of some points of interest. Although this collection, the growth of four years, is not yet large, it has that feature so valuable to every working archaeologist, of representing the local forms of a district, with just sufficient outside material for proper comparison. The field is the region between Lake Huron and the west end of the St. Lawrence River, but the portion of the highest interest and that most thoroughly explored, lies mainly north and west of Toronto, being the historic domains of the Huron, Petun, and neutral nations, all of which were conquered by the Iroquois in the middle of the seventeenth century, and a large portion transported to New York. Perhaps more than most others I studied this collection, because I had long been familiar with similar sites and articles, and was thus prepared to notice the many differences and resemblances, a few of which will be here mentioned.

Most recent articles differ little from those south of Lake Ontario. Beads, bracelets, brooches, rings, copper and iron implements and utensils are much the same. There is even a lead pipe, but none of iron or brass, as in New York, nor are there many articles of later date than 1650. If any such are found they are from recent camps, or have been lost by travelers, though some may be expected at some late Iroquois villages. The homes of the Hurons, of course, produce none of these. One feature of the copper kettles found in the ossuaries, or bone-pits, is hardly creditable to the Canadian Indians, at least the Hurons. When placed in graves they were almost universally perforated in the bottom, to render them useless, and so prevent robbery of the tomb. Apparently they were just as good in the spirit world. I have known no such instances in New York, where the dead seemed to need as good articles as could be had, when any were interred with them. But this practice was variable, and neither in New York nor Canada were articles always placed in the tomb. In the country of the



Mohawks I have seen one recent implement which I have not observed elsewhere. They used pieces of rolled copper as fine saws, making small teeth along the edge. Triangular copper arrows belong to recent Iroquois sites in New York, but were not of early introduction into Canada. Iron arrow-heads were furnished to the Western Indians late in the seventeenth century by the French, but they are rarely found. The Cayugas also used iron fish-hooks, which I have observed on no other sites, but iron axes were almost everywhere coeval with the coming of Europeans.

Unfinished articles are not showy, but are always interesting, and of these the Canadian Institute has a good lot; the most notable being unfinished stone beads. Huron and Iroquois sites seldom abound in flint arrows, and these are usually slender and triangular in New York. The truth seems to be that the Huron and Iroquois were not fond of working in stone, much preferring horn, bone and clay. When the Five Nations began to use rolled copper for arrows, they invariably made these of the long, triangular form. The cabinet has a fair assortment of flint arrows, but a large proportion of these are from the United States. Spear heads, too, come from the older camps and graves; and many large flint implements are from islands in the St. Lawrence.

While bone and horn articles are rare on the earlier sites of Canada and New York, they abound on those of the Huron and Iroquois, which come later. This may favor the theory that this family was partly derived from the Eskimo, for the distinction is very marked. The flint perforator or drill disappears and is replaced by the bone or horn awl. Gouges, chisel adzes are made of the same materials, and ornaments are carved in these. A walrus tooth has been found in the country of the Hurons and another in a fort near the St. Lawrence river. A bone mask from the country of the Petuns corresponds with New York specimens of a little later day, but which are wrought in stone. On both sides of Lake Ontario, ground and perforated pieces of human skulls probably a little earlier.

Barbed bone fish-hooks may be mostly earlier than the seventeenth century. Out of four known to me, and all belonging to the Huron-Iroquois family, but one can certainly be placed as late as A. D. 1600. A fine one belonging to the Institute has no determined age, not having come from a village. It is the largest I have seen, and has the usual knob at the head of the shaft, and the inside barb, as in most modern forms. Recent bone ornaments are fewer than in New York, for the reasons already given. From the same cause the small wampum is rare, the Iroquois themselves, nearer the sea shore, having none of this until the early part of the seventeenth century. Shell beads of any kind were little known in Ontario, and the interior of New York, before the coming of the whites, as a thorough

examination has shown. A large proportion of the Canadian shell beads are of the disk variety, though the small belt wampum was used to some extent in the later days of the Huron Confederacy. The Jesuits often called this "porcelain", but did not confine the term to this. Apparently, the recent engraved shell gorgets had not reached the Hurons before their overthrow, nor did the Iroquois obtain them until some time later. Ornaments of shell they soon had from the whites; but the gorgets may not have been known to them before the Cherokee war, or that with the Catawbias. Long beads, made from the columella of large sea shells, are less frequent than in New York.

As on the south side, gouges occur mainly on Lake Ontario, the St. Lawrence, or the larger water courses, but stone pipes are quite frequent in the country of the Petuns. Some years ago I made a drawing of a fine bird pipe from the Oneida River, New York, the material being stone, the crested bird resembling a woodpecker. A figure of this appeared in THE ANTIQUARIAN

afterward. Fig. 1. [It is given again to illustrate this article. Ed.] I was gratified to find its counterpart in Toronto, although in a battered condition. There could be no doubt of their being made by the same hand; but like many other stone pipes, this was done after the introduction of iron tools,—the general type being well known.



Fig. 1.

The country of the Petuns, just west of the Hurons, produced many clay pipes. In this one cabinet there were ninety-one from the Town of Nattawasaga, against eleven from all other parts of Simcoe County. Thus, the Petuns, who raised tobacco for sale, may have furnished pipes for the smokers as well. The clay pipes seem to embrace all the types commonly found in New York, and many have the quadrangular rimmed bowls, sometimes indented at the corners. A few weeks later, in examining one of the two earliest Mohawk sites, occupied about A. D. 1600, I dug up one of this kind, which might have passed for a Huron or Neutral pipe. As this was in use soon after the Mohawks left the St. Lawrence, and was of a different clay from the pottery found with it, it may have been obtained in Canada just before the Huron war. Those of this form are somewhat rare in New York, though a quadrangular bowl sometimes is of another type. I have a pipe bowl from an early site, in which the outside of the bowl is square at the top, with accurate angles and sloping sides. Half way down it becomes circular, with regular mouldings. It is tastefully ornamented and has some resemblance to another form of Huron pipe. The more prevalent New York form, where the character is simple, is a circular, trumpet-like bowl. Two curious "white stone" pipes at once arrest attention. They are very slender for stone-- a head projecting from the rear of the bowl-- and are much like some of the larger clay pipes in form, differing only in material. One is five and one half inches, and the other, seven and one quarter inches from tip to tip. The former was found at Hamilton, and the other, at Lake Medad.

In general the earthenware north of Lakes Erie and Ontario presents no remarkable features, the style of ornament being common elsewhere. The curious forms found in the Mohawk and Onondaga villages of the early part of the 17th century are entirely lacking, and this makes it certain that this style was not derived by them from Huron captives. The nearest approach to it, in ornamenting vessels with human faces or figures, has been found near the St. Lawrence River. I was much interested in two specimens of pottery found between Niagara and Detroit, which had distinct handles from the rim, much like a very short jug handle. Among local specimens these had a decidedly foreign air, but corresponded closely with fragments from Missouri. I may say here that the earliest approach to the human face on earthen vessels is seen on pottery from Jefferson County, N. Y., and Montreal. Three elliptical or circular indentations are arranged so as to represent the eyes and mouth, sometimes with enclosing lines. A little later the Mohawks and Onondagas seem to have evolved from this human faces and forms on their vessels. I know of no others who did this, but have received a fragment from a burial mound near Springfield, Ohio, which has the three indentations pre-

cisely like the New York specimens, which it resembles in other ways. See Fig. 2. [A specimen is given from Pennsylvania to illustrate Mr. Beauchamp's point.—EDITOR.]

Worked steatite seems little known in the Province of Ontario, not at all in vessels; proving what I have always supposed, that the frequent fragments found in Central New York came into the state from Pennsylvania before the Iroquois occupation. I have never known it on Iroquois sites, nor does it belong to the Huron.

As in New York there are many evidences of travel or commerce. An elliptical tube of striped slate from Middlesex County, Ontario, is like those of the Ohio valley, being the exceptional and short form with a groove on one side. From the care with which it has been worked, or from the abundance of the remains Middlesex County is very remarkable in its show



Fig. 2.

of gorgets, ceremonial objects or banner stones, and bird and bar amulets. Of the perforated and completed gorgets in the Canadian Institute catalogue about sixty, or more than half, are from this county. Out of forty bird and bar amulets nearly the same proportion are from Middlesex. More than this are catalogued under these heads, but a few of those here entitled bar amulets have not the diagonal perforation at each end. This is an unusual number for one county, perhaps equal to the highest elsewhere. The series, too, is an excellent one in its great variety of forms, comprising the simple "bars," the depressed and wide bird form, the high and more slender, those with peduncled eyes or ears, and those without. Some peculiarities of occasional specimens, however, will be missed here, but many of these have anomalous features. The longest does not equal some New York specimens, nor are there any of mottled stone. Although sometimes reported as coming from Huron-Iroquois sites I have never been able to determine that they were so found and regard them as an earlier article, though perhaps

occasionally coming into the hands of a later people, as I once saw one suspended from the neck of an Onondaga Indian girl. They are so seldom found on village sites and so often on small camps, or where they might have been lost by hunters or travelers, that I think they had the character of the later medicine. The nature of the perforations tend to prove that they were not bound to anything, but that it is quite probable that smaller objects were attached to them, as in the case of the Zuni fetiches.

In all the country of the Huron-Iroquois family there is a noticeable absence of stone axes with well worked grooves, showing that those Indian nations who used these had no lodgement in the territory. It is a curious circumstance that this should so exactly correspond, supposing such grooved axes are of any great antiquity. The Huron-Iroquois succeeded to a people whose small villages or camps were often removed, or who used these only for hunting and fishing, having their homes elsewhere, just as the Iroquois, at a later day, lived in New York and hunted in Canada and Illinois. There is a wide difference between these earlier camps and the later towns. But why both these earlier hunters and these later town builders did without the grooved axe in exactly the same territory is not so clear. Were there any evidence of descent from the one to the other we might understand it better. There is nothing to show this, and to believe it at all we must suppose the later inhabitants to have lost many arts in gaining some others.

As in New York, so in Ontario, the study of the remains has been a means of establishing movements and dates. In his expedition of 1615 Champlain passed many deserted clearings along the River Trent in Canada, abandoned because of the Huron war. Field work has shown how the foes withdrew from their frontiers or old homes on either side, so that they might be less accessible to their enemies. Beyond all reasonable question the Mohawks left the St. Lawrence for their later homes not many years before Champlain sailed up that river. About the same time the Onondagas withdrew from Jefferson County, N. Y., and settled in the highlands farther south. A similar movement simultaneously occurred north of Lake Ontario, the Hurons abandoning their exposed villages near the lake and consolidating their strength between Lake Simcoe and the Georgian Bay. Sagard, one of their earliest visitors, records this as their policy in war. The proof of the Iroquois movement need not be given now, but it is clear and unanswerable. In the Province of Ontario Mr. A. F. Hunter has shown how and when the latter took place by a careful comparison of known Huron sites. Out of forty-seven Huron villages towards Lake Ontario, in York and Ontario Counties, but two had any European articles, but among two hundred and eighteen in Simcoe County, ninety-six were recent. In the same county, out

of one hundred and twenty-two ossuaries, fifty showed contact with the white man,

This comparison, of course, is not conclusive on every point, but affects the question of antiquity as well as removal;—the Hurons occupying their historic territory for a period of forty years after discovery by the French. Some allowance may be made for earlier trade, when a few European articles may have reached their country. More than one third of their towns north of Lake Ontario were occupied during the first half of the seventeenth century; but in the earlier period it is natural to suppose that they were much fewer in number, and the time of occupation may be lengthened in a corresponding degree.

As among the later New York Iroquois, earth-works were exceptional among the later Hurons; but farther west in Ontario, circular banks appear, as in New York. I think this due to increased mechanical skill, for the Iroquois stockade was an ingenious improvement on the defensive earth-works, although no one seems to have observed this. In some respects it saved labor, for the triple stockade required but one row of shallow holes for the central posts, the cross timbers being set on the ground; and there is reason to suppose that quadruple palisades required no holes at all. This need not be discussed now; my intention being to speak, in a comparative way, only of those articles easily accessible, like those in the interesting cabinet of the Canadian Institute

## Correspondence.

### THE SOURCE OF THE JADE

*Editor American Antiquarian:*

The source of the jade, and closely allied minerals, found in America, usually in the form of implements or fragments of them, is a very interesting question to many. In the "Canadian Record of Science," Vol. II, No. 6, April, 1887, may be found an extremely valuable note upon the "Occurrence of Jade in British Columbia, and its Employment by the Natives," by Mr. George M. Dawson, of the Geological Survey of Canada, in which he states that not only implements, but "two partially worked small boulders" were found on the lower part of the Frazer, illustrating the manner of sawing off pieces suitable for making edges, etc. Doubtless many of the readers of THE ANTIQUARIAN are familiar with this interesting paper, which is well worthy of study by those interested. In this connection, I wish to refer to five fragments, these certainly being parts of implements, which were found at Umatilla, Ore., and forwarded to me for examination, all of which are pronounced jade by all mineralogists who have examined them. Two of these fragments appear to be pieces of a water-worn pebble or boulder. One of the worked pieces is evidently a part of an adze, having a portion of the edge in good condition now. This specimen is uniformly about three eighths of an inch thick, except at the edge. The other two worked specimens are three quarters of an inch thick, showing no part of the edge, nor is there enough to clearly indicate the form and size. Probably both are parts of axes or large celts. The five pieces vary in color, from the dark mottled green to medium light, and the three worked specimens are well wrought and polished. I intend to have other fragments from the same locality thoroughly analyzed.

I do not assume to decide as to the source of these specimens or do anything more than state the facts as to where they were found and the character of the mineral, according to the best information obtainable. While the analysis made by Prof. O. W. Huntington of specimens from Nicaragua and Costa Rica, reported in *American Naturalist*, January, 1887, and I believe the general opinion of those who have investigated the subject, points to an Asiatic or Chinese origin of many specimens of jade found in various parts of this continent, this fact is not inconsistent with the existence of the same mineral *in situ*. What can

be more natural than that ancient tribes, familiar with its use in their Asiatic home, should, if they emigrated, diligently search for a material so valuable to them in daily life? In the "History of the Pacific Coast," H. H. Bancroft, Vol. I, it is stated that the "shamans," or medicine men, of one or more tribes on the coast made journeys twice each year into the mountains after jade, for the manufacture of implements, carefully concealing the locality whence it was taken.

Without expecting others to share in the opinion, or now attempting to give all the reasons for it, I am confident that jade exists in the mountainous regions of North America *in situ*, and that future explorations will lead to its discovery.

GRANVILLE T. PIERCE.

Somerville, Mass.



#### LOCATIONS OF MOUNDS IN WISCONSIN.

*Editor American Antiquarian:*

Your card of inquiry as to locations of Indians mounds in this vicinity is received and awaits answer. In these notes, the ranges are all east of the principal meridian, passing one township west, of Juneau County.

On Daniel Gee's farm, town of Lisbon, animal mounds and others, Township 16, R. 3 East, Section 17, S. E. quarter. The mounds near Scott & Buckley's former mill site, of which I gave you notes, are located in T. 17, R. 3 E., Sec. 19, N. E. quarter. I am also informed of a large circular mound beyond this, located about T. 17, R. 2 E., Sec. 13, in N. E. quarter of S. E. quarter. Three long ranges we visited near Little Yellow River are located, as near as I could make out on the map, T. 17, R. 3, Section 23, N. E. quarter of S. E. quarter. The one we visited before that with Mr. Mason, which was much obliterated, was located in T. 17, R. 3, Sec. 29, S. E. quarter. I was told to-day of a fine man mound that had been plowed over years ago. Indian boys called it the Big Indian. It was about 80 feet long, in the form of a cross, i. e., arms extended on each side, and with the head clearly marked. It was located T. 17, R. 3, Sec. 14, S. W. quarter. Between this and the lower mounds, on the same side of the Little Yellow River, are some scattered circular mounds. I have word also of a fine circular mound located in T. 16, R. 3, Sec. 20, S. E. quarter. Mr. Joseph Cartis, one of our oldest deer-hunters, has reported to me very enthusiastically a site of mounds on the east side of Cranberry River, on high land. He pronounces them very fine indeed. He does not know whether any are animal. They are reached from Necedah. Their location is T. 19, R. 3, Sec. 23, N. W. quarter.

The above are all near to streams. Mr. Mason reported to me

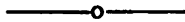


this morning one that he came across while hunting, which is located near no river, but near a marsh. He did not have time to examine it carefully. He thinks it is a bird mound. It is located T. 17, R. 3, Sec. 5, S. E. quarter.

These mounds all lie in a breadth of only six miles from east to west, and eighteen miles north to south; yet this is probably only a partial list. The parties reporting them have identified the several locations on the sectional map of Juneau County, and I think you will find them correct to the quarter section.

A. A. YOUNG.

New Lisbon, Wis.



### WHO FIRST MADE MAPLE SUGAR?

*Editor American Antiquarian:*

Some years ago I saw the statement that "maple sugar was first made in New England in 1737." It set me thinking, for I had imagined we had the art from the Indians. In Appleton's *American Cyclopedia* it is stated that it "was first made in New England in 1752, and from thence soon spread to the other provinces." I wrote to the Massachusetts Historical Society, Boston, and the Librarian replied that "it was derived from the Indians; see Sparks' *Am. Biog.*, Life of Sebastian Rale." I got Father Rale's Life, and the reference was that "Rale would have no condiment to his rough and plain food but a little maple sugar." Any one might have "guessed" as much, and I take it as a mere guess; and Sparks was nothing of an antiquarian. Then I wrote to Parkman. His "*Jesuits in America*" says nothing of it, except that he hints that marauding Mohawk parties coming to Canada would have maple sugar among their stores of food carried. Probably a mere "guess" again. He wrote me that he thought Appleton was wrong, but wanted more time to look it up. I have not heard from him since.

Next I wrote to Bancroft. He told much about the Indians of the Pacific coast—their rude manufactures, etc., but gave no information about either Indians or whites making maple sugar on the Atlantic coast! He replied to me that his knowledge of maple sugar "did not go further back than his childish recollections in New England." There the matter at present rests with me.

I thoroughly believe it was first made only as recently as last century. Because (1), nothing is ever heard of it for the first century of the settlement of New England; (2) the "*Jesuit Memorials*" say nothing of it; (3) those who speak of 1737 and 1752 must have some knowledge on the subject; with me, the authorities were independent and years apart; (4) Squando taught the Pilgrims to plant corn, but they had to eat their

johnny-cakes without the syrup. He would have given them that if he could. I want light.

WILLIAM WYE SMITH.

Neromasket, Ontario.

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The editor thinks that maple sugar was made in prehistoric times. He has discovered emblematic mounds in the midst of sugar maples, which conveyed the idea that they were built by the Mound-builders while they were making sugar. They contained the totems of different tribes assembled together. Most of these are at the headwaters of certain streams, as, for instance, at the headwaters of the Milwaukee River, near Great Bend; also at the headwaters of the Rock River, at Mayville; and of the Crawfish, near Beaver Dam, in the township of Oak Grove; also at Sugar River, and in various points along the Wisconsin River.

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### NEGRO SLAVERY AMONG THE SOUTH CAROLINA INDIANS.

*Editor American Antiquarian.*

It is natural to suppose that in colonial times Indians could be found in South Carolina who were the owners of negro slaves. I have, however, never seen but one instance of the kind mentioned. In the "History of the Old Cheraws," by the Right Rev. Alexander Gregg, D. D., there appears a notice which was published in *The South Carolina Gazette* during the year 1748. The notice is about a "negro fellow" taken up by an overseer on an island Uchee Island. The negro's account of himself was that "he belonged formerly to Mr. Fuller, and was by him sold to Billy, king of the Pedee Indians; that the Catawba Indians took him from King Billy, and carried him to their nation, and that in endeavoring to make his escape Catawbas he was lost in the woods, and had been so a considerable time before he was taken." The notice gives a description of the negro.

MCDONALD FURMAN.

Ramsey, Sumter County, S. C.

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### ASH HEAPS AND STRATIFIED MOUNDS IN OHIO.

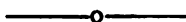
*Editor American Antiquarian:*

The prominent objectionable feature as to the animal origin of the ash heaps is the immense quantity. True, the bulk is largely made up of foreign matter, which may be explained by the heterogeneous character of the materials gathered with the ashes. Still, in view of the marvellous reduction of the human body under excessive heat, we find the quantity of pure ashes too great to sustain a hypothesis based upon an animal origin. I present another theory. Assuming that fire-worship was observed here, can these heaps be the accumulations of ashes re-

sulting from long continued sacred fires? If the fire was held sacred, the ashes very naturally would claim a certain share of attention. Moreover, on this hypothesis we can account for the presence of votive offerings and the religious solicitude exhibited in their preservation.

I notice that Prof. Putnam reports horizontal strata as the prevailing form of mounds in his explorations on the Little Miami. In my experience, the form of the mound governs in this matter. Thus, in the platform and terrace mound, the strata are horizontal, but in the hemispherical or cone form, the strata are uniformly curved;

S. H. BINKLEY.



### "DAVENPORT WARE."

*Editor American Antiquarian:*

In your researches after material of antiquarian interest, you have undoubtedly met with authorities on ceramics, and will perhaps kindly respond to an enquiry as follows, or mention some book where I can get the information. We have in our family a set of china which, we are informed, is "Davenport ware." It appears to have been made in the infancy of the art of decoration, and is about as ugly and archaic as dishes can be. Now, what is Davenport ware? where and when made? There is a report that it is now regarded as among the most unique and valuable of china.

I append a description of this ware to enable the ceramic critic to judge of its character: The china is white. A saucer will have three dark blue triangles of solid color. These occupy nearly half the dish, leaving three white spaces, in which is painted a crude flower with its leaves. The colors here are red, yellow and green. There are flourishes of gilding on the blue and elsewhere. There is no manufacturers' mark beyond a few figures, and on some specimens nothing.

With apologies for troubling you if the enquiry chances to be without interest, I am, very sincerely,

MRS. LOUISA PALMER SMITH.

Glenburn, Pennsylvania.

Will some of our readers answer Mrs. Smith?—ED.

## Editorial.

### DID THE BOOMERANG PRECEDE THE BOW AND ARROW?

The study of the primitive relics brings us at times into the presence of strange objects—objects which are strange in material, in shape and in use, but whose prevalence is acknowledged by all. Such is the case with the boomerang, and to a certain extent the war club. The boomerang is a singular implement. It is but a crooked stick, which is generally used for throwing, and is with some tribes very effective as a hunting weapon. It was once supposed to have been used only by Australians, but is now acknowledged to be quite widely distributed. To be sure, the peculiar kind of boomerang which is so noticeable in that country may not be very common, but weapons which are similar to these have been found in many countries, and so we may class them among the common primitive weapons. The Australian has a faculty of shaping his weapon so that it will turn in its course, fly at different angles and return almost to the spot where the thrower stands. Very few have been able to imitate it. A writer, however, in one of the late numbers of *Scribner's Magazine*,\* speaks of manufacturing one of these implements and surprising the natives by his dexterous use of it. The interesting thing about the boomerang is that it is found among people who are in a very primitive condition, so low, ill formed and ignorant that their name has become a synonym for "imbecility."† Here, however, the throwing-stick has attained its highest development.

The enquiry is whether the boomerang did not precede the bow and arrow in the development of primitive art, and whether this is not a reason for its superior excellence in the hands of the Australians. In reference to this point we have a few words to say.

1. In the first place, the boomerang is only one of a series, all of them throwing-sticks, but this the best. We here call

\**Scribner's* for March, 1890, p. 375. The author, Mr. Horace Baker, says: "We find them classified as hunting, fighting and amusement boomerangs. The little blacks practice aiming at a disk of wood, which is rolled along in front of them, to imitate the running and trapping of animals."

†*Smithsonian Report*, 1879, p. 227.

attention to the article entitled, "A Study of the Savage Weapons at the Centennial Exposition," prepared by Dr. Edward H. Knight, LL.D.\* The writer says: "A variety of sticks and clubs were brought from the different Australian provinces, among the peculiar hurling weapons, the boomerang and the kangaroo rat." He says also: "In the districts where the boomerang is used, there are all grades of throwing-sticks, three of which were in the New South Wales exhibit, and are shown in the figure." With these weapons the natives give three motions—a direct blow, a whirling blow, and a ricochet or upward rebounding blow. Boomerangs vary much in shape, but do not depart from the characteristics mentioned. They differ in their curves, lengths, widths, taper and weight. A good specimen may be thirty-three inches long, two inches wide, and weigh twelve ounces. The peculiarity of the boomerang is its erratic flight, thrown so as to strike the ground forty yards in advance

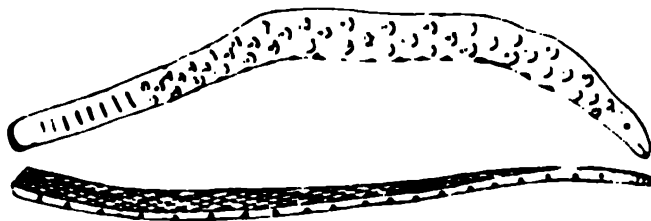


Fig. 1.

of the thrower, it rebounds, describes a high circular backward course and falls behind the thrower. The peculiarity of this motion, we suppose, is owing to the spring and elasticity of the stick and to its crooked shape, the rebound being equivalent to its being thrown back by another hand. There is another motion. It is thrown in the air, mounts to a great height, circles backward until its force is expended, and then drops dead at a point behind the thrower. This motion is partially owing to the peculiar jerk with which the thrower sends it. It is also thrown so as to make its rebound in a horizontal direction and curve its flight around an object, so as to strike behind it. "The boomerang is roughly made, but the work of adjusting the curves is most scrupulously and faithfully performed by the natives."

2. In reference to the development of the throwing stick, Mr. Knight says: "From the straight, round, knobbed, flat, curved, curved edge, or sword-shaped stick, through every degree of curvature up to the perfect boomerang, the series of Australian hurling weapons occupies the whole ground." He also says

\*Smithsonian Report, 1876, p. 22.

- that a common hurling club is found at the Cape of Good Hope, which by a modification, giving the handle a slight bend, assumes the ricochet motion, rebounds from the ground and strikes upward.

Further facts are given on this point. Among the clubs of the Fijians there is one especially for throwing, with a knob at the end, like that spoken of above as found at the Cape of Good Hope and which the Kaffir calls his "keerie." The throwing-stick of Unganda, is peculiar. It is three feet long, has a spear-shaped head, and is hurled with a hurling motion. The curved throwing-stick in Abyssinia, spoken of by Sir Samuel Baker, resembles the boomerang somewhat, or perhaps has more resemblance to what is called the kangaroo rat. This has a head of conical shape, something like a spear-head, but its tail or handle is very flexible, about a yard long. The native takes it by the tail, and lets it fly with an underhand jerk. It glides hissing through the air, strikes and rebounds, and skims the surface, resembling a kangaroo in its motion. There are not many weapons like this.

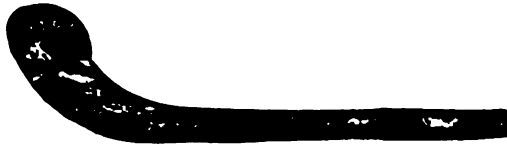


Fig. 2.

Mr. Knight says there is no law or custom which would prevent the hurling of almost any kind of primitive weapon. The war club might be hurled, and undoubtedly was at times. The same was the case with the stone mauls and hammers. The tomahawk was often thrown, and great skill was exercised in making the edge strike in the right place. The sling-stone is another specimen, but the particular adaptation of the crooked stick for the purposes of hurling seems to have been known to a great many tribes and races. This will explain its prevalence in America. The Moqui Indians used a curved throwing-stick for killing rabbits. These resemble in this respect the Australian weapons. The crooked stick was the weapon for the hunter rather than for the warrior. This would indicate that it may have been used before the bow and arrow were invented. It becomes a war weapon in certain cases. The barngeet of the Yarra is a war weapon, though it is not a come-back, nor is it as curved as the boomerang of the Australians.

- 3. The prevalence of the boomerang in America. This has been supposed by some to prove a contact with other countries, but the fact that it is so primitive and at the same time so prevalent among all primitive races would to others prove that it

originated in this country. This is doubtful, however. The most primitive specimens of the crooked stick, similar to the boomerang, are to be sure found among the Californians, who are acknowledged to be a very primitive race. It is called by them the "makana." A cut of this is given in Fig. 1. It measures two feet in length, is about one and one fourth inches across at the handle; average thickness, three fourths of an inch. The end opposite to the handle is finished so as to imitate the head of a snake. It will be observed that the stick is curved both ways, and is very crooked. "The weapon was thrown near the ground, so as not to pass over a rabbit while it was running."\* It is not known that these Indians ever used it as a boomerang, or that they were able to give it the return motion. The com-

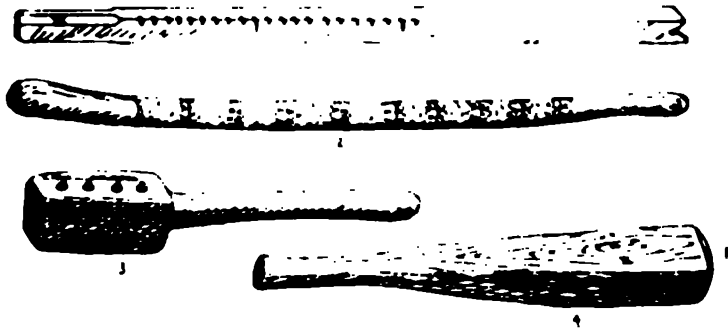


Fig. 1.

parison of this stick with others used by the Moquis and the Zunis is suggestive. See Fig 2. Among these the crooked stick is called the war club, and it will be noticed that the war club is generally crooked †

We are to weigh the probabilities then. Paleolithic man may have had throwing-sticks which were similar to those found in California. The war club may have come from the paleolithic age. Of course the clubs have disappeared, as they were of perishable material. We have no specimen and must depend upon conjecture. This is one side. On the other hand, we have the throwing-stick as a common weapon among the Californians, and we find the same kind of a weapon among the western tribes. In California the earlier tribes were more advanced than the later, as the ollas or mortars and many other relics from the gravel beds show. The later tribes were much ruder. We can not trace the weapons back to any more primitive time in this local-

\*See Essex Institute, Vol XVII, No. 1, March, 1885, Hugo Bend's account of the Indians of Los Angeles, Cal. Notes by W. J. Hoffman, M. D.

†Second Annual Report of the Ethnological Bureau, pp. 372 and 373, Figs. 546 and 549, Waipi Wooden Implements.

ity. It seems more probable that they were introduced when the wild savages intruded themselves upon the more civilized people which formerly occupied the country.

4. The question arises whether the war club did not grow out of the throwing-stick. Perhaps we might say that there were two lines of development to the throwing-stick, one of them coming into the shape of the war club by the way of the boomerang and resulting in the crooked shape which was so common among the hunter races, the other coming to the war club by another method, the throwing-stick, retaining its straight lines, but gradually assuming a heavier head, the head sometimes becoming a mere knob, and at other times swelling out like a ball club. The cuts given will illustrate this point. See Fig. 3. They show the war clubs which were used by the Californian tribes.

Curved sticks were common in Egypt, and are found among the earliest inscriptions. They were used among heavy and light armed troops as war clubs.\* We find also among the inscriptions hunters throwing the crooked stick at birds, showing that it was used as a hunting weapon as well as a weapon of war.

5. Another question arises, whether the bow and arrow were used in paleolithic times and whether they can be ascribed to the paleolithic man. We call attention to the article by Mr. Haynes,† in which he states that the paleolithic man was no more capable of making a stone arrow-head than he was of building a pyramid. Dr. A. A. Julian takes issue with him and says that there were several arrow heads found by Boucher DePerthes, that the paleolithic inhabitant was more than a savage hunter, and that he found in the flint a material easily chipped into many useful forms. But in answer, Mr. Haynes claims that while some of the chipped relics resemble arrow-heads they were not provided with shafts, but were thrown by the hand—were projectiles in act. Mr. J. H. Morgan‡ also states that the bow and arrow was an invention of man when he had reached the upper status of savagery, about the same time that he became acquainted with the art of pottery. The bow and arrow were unknown to the Polynesians. Here comes up the question again whether some of the American races were not originally Polynesians. The boomerang or hurling-stick is found only on the western side of the continent §. This suggests that possibly it came from Polynesia.

\*See Wilkinson's Ancient Egyptians, Vol. I, p. 218.

†American Antiquarian, Vol. VI, p. 17; also the proceedings of the Boston Society of Natural History, Vol. XXIII, '86, the bow and arrow unknown to paleolithic man.

‡Ancient Society, p. 10.

§Asar Peschel thinks that the bow and arrow were in use among the Polynesians, but went out of use on account of there being no large animals. This is doubtful.



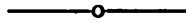
## LITERARY NOTES.

**MR. CRESSON AGAIN.**—This gentleman is fast proving himself to be the most persistent slanderer who has arisen in scientific circles for many a day, and his representations have no other end apparently than to prove himself an infallible investigator and incapable of making a wrong interpretation of his own finds. It appears that some twenty years ago, in 1870, Mr. Cresson saw some poles sticking out of the water in Naaman's Creek. Some years afterward he went to Europe, and then it occurred to him that these poles or logs might be pile-dwellings. He wrote a letter to that effect and the letter was published as it was written in *THE AMERICAN ANTIQUARIAN* for November, 1887. This letter awakened much interest. The matter runs on for three years. In the meantime, Mr. Cresson is employed by the Peabody Museum, and he carries on his investigations in the "early morning hours." As a result, a report is published, and Professor Putnam says of the find: "This is the first indication of anything even remotely resembling the crannoge-like structures of Europe." The Narrative and Critical History also appears, and that contains the letter first published in *THE ANTIQUARIAN*. Of course, there would be enquiry, but how does Mr. Cresson meet it? Instead of acknowledging himself in error, however, he throws the responsibility on the editor of *THE ANTIQUARIAN*, and slanderously says that he garbled his letter and made it read differently than it was written. The charge was denied by the editor, and another letter from Mr. Cresson was produced, written a year after the first. Mr. Cresson now comes out with a new charge. See *Science*, April 25.

The charge which Mr. Cresson makes is that this letter has been tampered with. The word "untenable," he says, was written "tenable," though the sense shows the contrary. Now we take this occasion to say that this charge is utterly false, and we are thoroughly convinced that Mr. Cresson knows it to be false. This letter is in our hands. If it were necessary we can furnish any number of vouchers to prove that the word was written just exactly as it is published, and that no change has been made in this or any other letter furnished by him and published in this journal. We have to say further that we consider the course which Mr. Cresson has pursued in this matter is beneath the character of an honorable and straightforward man. He goes over his letters and studies out the words which he can twist into another form and still make sense, and then makes these the basis of his assault. Any one can see this. Is this science? We despise trickery in any man, and much more in a man who is seeking to establish a reputation in scientific circles. Does not Mr. Cresson know that his tricks will end in a reaction on himself? They establish nothing in reference to the pile-dwellings, and are only calculated to destroy confidence in other discoveries claimed by him. They are not sufficient to establish him so strongly that he can wantonly break down his own handwriting. His attack published in *Science* February 27, was a surprise. We made no attack upon him. He

now comes out with a charge still more atrocious. Both of them are untrue. What good does it do to be so persistent in his mischief? Is he not dependent himself on the confidence of others? Has he the proofs of the truthfulness of his statements about his various finds? If one man must furnish vouchers to prove the genuineness of a letter published, another ought to be made to furnish vouchers in reference to the genuineness of his discoveries.

STONE MORTARS.—Major J. W. Powell, in his article in *The Forum*, maintains that the stone mortars found in the auriferous gravels of California are exactly the same as those found in modern times. This position is denied, however, by Mr. W. H. Haynes. The question is, Which is correct? Are they the same or not? We ask our readers in California to answer this question.



#### ARCHAEOLOGIC NOTES.

BROKEN RELICS.—It has long been an opinion that the broken relics found in graves and mounds were broken because of a superstition, the idea being that the spirit of the relic could thus escape and be with the spirit of the deceased, the shades always supposed to need the same weapons which the persons used in life. This opinion is denied by Mr. James Mooney. This gentleman claims that the ownership of everything left by the deceased is always vested in the clan or gens, and the personal belongings are destroyed, so as to prevent disputes among the relatives of the deceased. This is certainly a novel explanation. We would ask if the skulls of the dead, which are perforated and afterwards buried, were perforated for fear of disputes. It seems to us that the superstition in reference to the double is too wide spread to be recklessly denied in this way. The Chinese burn paper, the Egyptians embalm their dead and then place a chamber near the mummy, in which the spirit may come and feast and live over again the scenes of life, depicting those scenes on the walls of the chamber. The prehistoric races of Europe left openings in the dolmens, so that the shade might go in and out of the tomb, and the North American broke a hole in his canoe, so that the spirit might navigate the waters after death, as he broke his weapons that he might have them to use in the spirit land. Ownership by the clan did not do away with the superstition of the clan, and so it became a religious duty to bury broken relics. The fact is, however, that many clans abstained from relic burying; the burial of the body being regarded sufficient with them. Of all the mounds which hunter races erected, it is proven now that the large proportion are without relics. Only with the agricultural tribes was the custom at all general to bury with the deceased the relics which belonged to him. Was this because the warlike races had a way of settling disputes over property, or is it not because the superstition about the double found this way of expressing itself.

POTTERY FIND IN FLORIDA.—A large piece of ancient pottery was recently found at Tampa, Fla. It is about nine inches in length, and rounded so as to suggest the idea that it is a fragment of a large vase. It is dark brown in color, and is composed of a vitreous material, having quite a brilliant glaze. Upon its outer surface are figures of animals in high relief, executed

with remarkable skill and faithfulness to nature. In fact, the work in these respects would reflect honor upon the most skillful artists of the present day. This interesting relic was found about forty feet below the surface of the large shell mound near the mouth of Bill Frog Creek, on the eastern shore of Hillsborough Bay, which is the eastern arm of Tampa Bay. Pieces of this relic have been sent to the Smithsonian Institute.

In 1886 Mr. E. M. Hall saw a large and beautiful jar, three feet high, but unornamented, which had been fished up in fifty feet of water, near Sanibel Island.

**A WALLED VILLAGE OR TOWN.**—We have spoken of the serpent-ridge accompanying a series of lookout mounds and burial mounds which constituted a wall with bastions. The peculiarity of this wall is that it extends along the valley edge of the bluff, parallel with the river valley and over-looking that valley. It was evidently a wall which had been thrown up as a protection to some village. In this respect it resembled the wall which was discovered last summer in the same county, Adams County, Illinois. Old settlers say that there was formerly a village in that locality, and that the remains of the stockades were to be plainly seen at early times. It was about forty rods across this village, and there was a depression, which constituted a pond, in the centre. The writer can easily believe that this was a village and that the pond was a desirable feature, since the scarcity of water is felt even by the residents at this day, as there are very few springs, and it is impossible to get good water by digging wells. The mounds at this place were explored last summer, and the contents were thoroughly examined. The walled town which has just been discovered is situated seven miles south of the one explored last summer, this one being at the mouth of Rock Creek, eight miles north of the City of Quincy. The other is at the mouth of Bear Creek, both in Adams County. There are no traces of any stockades at either village, but it is probable that both were fortified. The ground slopes back from the edge of the bluff and is bounded on the back side by the creek and its tributaries. There was excellent ground enough for a village to have been located here. It would be very easy for a village out of sight to one who was navigating the river. It resembles one of the Mandan Villages, which have not been built by Indians. Here the mounds and tents are scattered along the edge of the bluff, and the stockade constitutes a wall for the village. The largest part of the stockade is on the top of the bluff. The stockade part of this wall is that the mounds are on a ridge, and where these ponds are seen to be produced by the mounds, and not by itself. These ponds are scattered at great intervals, with some of them sixty to one hundred and twenty feet from one another. The wall is on the position which the wall would be in at a distance of one mile from the wall, and the wall is only six hundred feet long. The approach to the village from the north side was by the way of a serpent-ridge. The village is situated on a narrow path or elevated graded way, or on a narrow road path, with a gradual incline, which made the approach comparatively easy, but there were several large lookout mounds between the ridge and the wall, which constituted the front of the village. The village is situated in the town belonging to David Long, T. 2, S. E. Quarter Section 36, T. 1, R. 10. The ridge north of it is on the farm of Mr. E. S. Moore, S. W. Quarter Section 36, T. 2, R. 10. There are two mounds on both sides of the village, one of them is situated about

half a mile south on a high part of the bluff. It overlooks the village site, and the region of the interior, the other is on the north side of Rock Creek, on an isolated conical hill. This commands a view of the bottom lands, as well as the valley of the creek. A third lookout mound is situated on the bluff, one half mile still further north. All of these lookout mounds contain bodies, and were used, evidently, for burial purposes as well as for lookouts. The only effigy connected with the village was the one which constituted the approach to it. The shape of the wall, with its so-called towers and bastions, is, however, peculiar. Each bastion has a flat terrace surrounding it, making a platform which projects out a little beyond the line of the wall. The circular shape of the spur of the bluff makes a natural bastion, and the mound above it makes an artificial bastion or tower. It is singular that there should be such a conformity of the artificial to the natural. In this case, it extends to the serpent effigy, which constitutes the pathway and the front wall of the village. It is not the only case where such a conformity has been seen, but it is more marked here than elsewhere. The discovery of the serpent effigy furnishes one more link to connect the effigy mounds of Ohio with those of Wisconsin. The village where this effigy was found was, apparently, older than the village situated north of it. It may have been a Dakota Village, and the other a village of the Illinois tribes. It is known to have been occupied by the Sacs and Foxes, late in history, and many of the skeletons exhumed from the wall were probably those of that tribe. The exploration of the mounds of this village will be conducted during this coming season.

DISTRIBUTION OF THE EFFIGY MOUNDS.—In a general way, we should mark the limits within which the effigy mounds are included, by a line drawn about the State of Wisconsin, but extending south of the State line as far as the southern extension of Lake Michigan and west of the line so as to include the bluffs which border on the Mississippi River, on the west side, would constitute the habitat of the effigy builders. The effigies, however, do not extend quite as far north as the State does. The limits of the effigies towards the north, so far as ascertained, are in the neighborhood of Trempealeau, Wisconsin, or at the mouth of the Chippewa River, with a line extending from this point over to the village of War-aw, on the Wisconsin River, and then bending back again so as to reach the north shore of Lake Winnebago and the mouth of the Fox River. This was formerly the abode of the Winnebago Tribe. There are, however, a few effigies outside of these limits. Mr. T. H. Lewis has just discovered an effigy (see Science, May, 1890) on the Sioux River. This was situated sixteen miles southeast of Sioux Falls. Mr. Lewis says that there is a group of mounds and a fort at this point. The mounds, one hundred in number, have already been described in THE AMERICAN ANTIQUARIAN, Vol. 9, No. 6. Professor Frederick Starr is the writer. The effigy discovered by Mr. Lewis is in the shape of a bear, with the front paw extended. The length is fifty-five and one half feet, the height, at present, is about two and one half feet. The situation of this fort and the mounds is on a plateau which rises twenty-five to fifty feet above the river, and near a branch which has the expressive name of Bloody Run. The fort is an enclosure of irregular, elliptical shape, and contains an area of about fifteen acres. The walls are, at present, two feet in height, and have an average width of fifteen feet. Mr. Lewis

says that the wall extends over one of the mounds, which is three and one half feet in height, and judges from this circumstance that the village was built later than the mound. Judging from Mr Lewis' description, we should say that it is the same kind of a fort as those which we have discovered on the Mississippi River, and the city was built by a branch of the same tribe or race. The city is the only one which had been found in the limits of the Missouri Basin. It is a remarkable find on this account, as the distance between the Missouri River at this point, and the Mississippi River, where the city mounds were discovered, is, at least, two hundred and seventy miles. The Mandans migrated up the Missouri River. Did the Mandans build this city?"

**ALTAR MOUNDS.**—The distribution of Altar Mounds is an interesting enquiry. It is possible that by following out this line of study we may ascertain something about the migrations. The place where the Altar Mounds are the most numerous, and where they are found in the greatest perfection, is southern Ohio. Squier and Davis have spoken of many of these. Prof. F. W. Putnam has discovered others, and says that there was a great group of Altar Mounds around which was a wall of stone four feet high, built below the surrounding level of the field. These mounds contained from one to seven altars formed of clay, on which fierce fires had been made. In two of the basins of the altars in the mounds an immense number of ornaments and relics were discovered—2,000 pearls, many copper ornaments, and little figures of terra-cotta. These objects had been thrown into the fire. Extensive ceremonies of the deepest import to the people had evidently been practiced, as shells with holes drilled in them, to let the soul out, were arranged around two skeletons and the whole burned significantly. Altar Mounds have recently been found as far north as Devil's Lake, in Dakota. These however may not have been used for the same purpose as those in Ohio. They were more stratified mounds with a clay basin at the bottom, no relics upon them.

**STONE FIGURES.**—The same remark might be made about the distribution of stone idols. Mr E. H. Lewis has discovered an immense number of stone which is a nearly perfect imitation of the Egyptian sphinx. It was a face sculptured in profile. The resemblance to the early Egyptian sculptured stone discovered in Memphis is strikingly exact. It is a good deal larger. It was found by Mr M. C. Butler in the hills of Tennessee. Stone images are more numerous in Tennessee than in any other State, and are everywhere. This discovery is a new one, and it is in Memphis, the same city, where perhaps our readers will remember that the first stone image of a man was discovered. It is suggested.

**Serpent Idols.**—In reading of the distribution of images we are brought to the consideration of other objects, and of serpent images. The place where the serpent idols are found in the greatest perfection is in Adams County, Ohio. A long strip of the images can be seen in a line of hills in the country between Marietta and Columbus. A series of images was found here. The same objects are found in the hills of Kentucky, and in the mountains in form a series of hills, and in the hills of Tennessee. The first image of a serpent was found near Mayville, and then near Lebanon, and near Madison. Two serpent images were also found near the river of Illinois. These crowned

the summit of a long, narrow precipitous ridge which constituted the bluff line of the Mississippi river. Many of these bluffs are in this shape: very narrow ridges, the longest axis being parallel with the river; the ends and sides having apparently been worn, in geologic times, so as to leave them nearly isolated; a crooked line of the bluff running out to connect with these rocky ridges. The serpent effigies spoken of constitute the spine of these limestone ridges; the head being placed on the summit of an isolated butte or column of limestone which abutted out. At this end of the effigy was a conical mound which formed the head. Burial mounds were also scattered along the whole length of this serpent effigy. The second serpent began at about the center of the ridge, the widest part, and extended in a tapering line to the other or southern end of the ridge. This represented a different kind of a snake. The head was the largest part of it, and was swollen all the way from the nose to one-third the entire length of the body. After that the body was narrow, and somewhat tortuous. The first snake was more like a garter snake, or black snake—had the same size the whole length. The head of the large snake was near the tail of the slim snake, but overlapped it. They are both remarkable figures. The writer has also discovered many tortuous figures resembling snakes at the ends of the bluffs in Adams County, Illinois. Several such have come under observation during the last few weeks. These effigies are not very distinct, as they are much water worn. They are generally found at the end of a ridge; the ridge constituting the bluff line here, somewhat as the limestone ridges do in Wisconsin. The ridges are not precipitous, but are somewhat abrupt, the end always having a tapering point, which slopes gradually toward the bottom land. These ends are naturally tortuous, as the gravel, of which the bluffs are composed, assumed that shape in the process of the drainage during geological times. These tortuous ends of the bluffs resemble serpents, but in some cases they seem to have been modified by artificial means so as to make them resemble tortuous serpents. In several cases the writer has discovered a large, conical lookout mound on the very summit of the bluff, but so placed as to constitute the head of the snake. On one ridge a snake effigy was found on the north end, with an outlook toward the north. At the south end there was also a conical mound with a lookout toward the south, but with no effigy perceptible. In another case the serpent effigy with a lookout mound was found at the north end; and along the edge of the bluff a series of mounds which constituted a wall with abutments and towers, if this term could be applied to rude earth-works. Of these we shall speak later. The peculiarity of this wall, with its abutments and towers, is that it follows along the very edge of the bluff, and that the conical mounds which constitute the protruberances in it were placed at exactly the points where there was a projection in the bluffs.



#### BOOK REVIEWS.

*Essays of an Americanist.* Ethnologic and Archaeologic, Mythology and Folklore, Graphic Systems and Literature, Linguistic. By Daniel G. Brinton, A. M., M. D. Philadelphia, Porter & Coates. 1890.

The title of this book is peculiar. In the first place the term "Americanist" is one which was borrowed from the French, and implies that American archaeology has assumed the position of a science among all the other ethnical sciences. In the second place, the term "Essay" is used in the sense

of an endeavor or an attempt, and implies that many of the theories advanced are tentative. This gives a clue to the whole volume. There are in it many theories which are tentative, and they are theories concerning prehistoric America. The theories are as follows: First, the theory of an autochthonous origin of the American races. This theory is supported by various arguments, derived from tradition, monuments, industries, languages, physical peculiarities, geological data, discoveries. The author makes tolerably clear, but after all these is as much to be said upon the other side, and we are confident that if Dr. Brinton had continued to hold to the opinion which he formerly advocated that he would find as many evidences of an extralimital character as he does now of the autochthonous.

Another theory is that of paleolithic man. Dr. Brinton quotes a discovery by Mr. Cresson, and says these discoveries carry the age of the appearance of man in the Delaware valley back to a date which is positively over a hundred thousand years ago. The evidence may be satisfactory to Dr. Brinton, but it certainly would not be to us; we should look for more testimony than has thus far been furnished. Another theory is that the Toltecs were a fabulous people. This is merely a theory. The Toltecs have long figured in history; they were the inhabitants of Tula. There were three tribes who covered Mexico with civilization, which goes under the name of Toltec, just as there have been later three tribes which gave the name of Aztec to later civilization. We think it is unfortunate that the name should be thrown out for the sake of a mere theory. Another tentative essay is that upon the Sacred Symbol in America. The cross, the swastika, the Ta symbol, and the triskales are found in America, as in all parts of Asia. They show contact with Asiatic countries, and if followed up might furnish a clue to the origin of the American races. The misfortune about the Autochthonous theory is that it cuts off debate and hinders one from following up certain lines which might lead to the truth. We deprecate any such result.

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**VIEW DOWN CLIFF CANON.**  
From a Photograph by Frederick H. Chapin.

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CLIFF DWELLINGS OF THE MANCOS CANONS.\*

BY FREDERICK H. CHAPIN.

Beyond the southern Rockies, where Utah, Arizona and New Mexico border upon Colorado's frontier lines, is a strange land, inhabited by strange people, and containing monuments and relics of yet stranger tribes of an unknown antiquity. From the melting snows of the lofty Sierras, rivers, far larger than those of the present day, have run to the south and west, cutting out a network of canons in the sandstone plateau that give to the landscape an appearance resembling the face of the moon. Among some of the deep cuts and weird valleys dwell remnants of wild tribes which once hunted among the mountains to the north and east. All along the banks of the San Juan River and some of its tributaries are gathered bands of the Ute Indians, who in the more remote districts, far from the agencies of the reservation, live a primitive life. Over the Colorado line in Arizona is the reservation of the Navajo Indians, and to the south and west of them are the pueblos of the Zunis and Moquis. These latter live in communistic towns, built of stone and adobe, and are supposed to be the descendants of the prehistoric race,—a once numerous people, the ruins of whose edifices are found here upon cliff and in valley throughout a broad zone. They were known in early times to the Spaniards, through rumors brought to the ears of Nuno de Guzman in 1530, when he was at the head of affairs in Mexico.†

A few years later they were seen by Cabeça de Vaca; and influenced by his reports, Coronado made his famous march from Compostello to the plains east of the Rockies. The existence

\*This article appeared in the May number of *Appalachia*, the journal of the Appalachian Club; we are indebted to this club for the use of the illustrations which accompany the text.

†Narrative and Critical History of America, edited by Justin Winsor, article "Early Explorations of New Mexico," by Henry W. Hays, Vol. II, pp. 674 et seq.

with remarkable skill and faithfulness to nature. In fact, the work in these respects would reflect honor upon the most skillful artists of the present day. This interesting relic was found about forty feet below the surface of the large shell mound near the mouth of Bull Frog Creek, on the eastern shore of Hillsborough Bay, which is the eastern arm of Tampa Bay. Pieces of this relic have been sent to the Smithsonian Institute.

In 1886 Mr. E. M. Hall saw a large and beautiful jar, three feet high, but unornamented, which had been fished up in fifty feet of water, near Sabel Island.

**A WALLED VILLAGE OR TOWN.** We have spoken of the serpent effigy accompanying a series of lookout mounds and burial mounds which constituted a wall with bastions. The peculiarity of this wall is that it extends along the valley edge of the bluff, parallel with the river valley and overlooking that valley. It was evidently a wall which had been thrown up as a protection to some village. In this respect it resembled the wall which was discovered last summer in the same county, Adams County, Illinois. Old settlers say that there was formerly a village in that locality, and that the remains of the stockades were to be plainly seen at early times. It was about forty rods across this village, and there was a depression, which constitutes a pond, in the centre. The writer can easily believe that this was a village and that the pond was a desirable feature, since the scarcity of water is felt even by the residents at this day, as there are very few springs, and it is impossible to get good water by digging wells. The mounds at this place were explored last summer, and the contents were thoroughly examined. The walled town which has just been discovered is situated seven miles south of the one explored last summer, this one being at the mouth of Rock Creek, eight miles north of the City of Quincy. The other is at the mouth of Bear Creek, both in Adams County. There are no traces of any stockades at either village, but it is probable that both were fortified. The ground slopes back to the edge of the bluff and is drained on the backside by the creek and its tributaries. There was level ground enough for a village to have been located here. It would, however, be a village out of sight to one who was navigating the river. It is one of the Mandan Villages, which are pictured in Catlin's Indians. Here the huts and tents are scattered along the edge of the bluff, and the stockade constitutes a wall for the village. The longest part of the stockade being on the edge of the bluff. The striking feature of this wall is that there are projections inward, which correspond to the projecting spurs or spurs of the bluff itself. These spurs are scattered at irregular intervals, which range from sixty to one hundred and twenty feet from one another. The wall is on top of the bluff on which the wall sits, and being about five times as long as the wall itself is only six hundred feet long. The approach to this village on the north side was by the way of a recent cut-off. The edge of the bluff constituted a narrow path or elevated graded way, and on this a crooked path with a gradual incline, which made the approaches somewhat awkward, but there were several large lookout mounds between the cut-off and the wall, which constituted the front of the village. The village is situated on the farm belonging to David Long, Twp. 25 S. 1 E. Quarter Section 15, T. 1, R. 90. The ridge north of it is on the farm of Mr. E. S. Miller, S. W. Quarter Section 36, T. 2, R. 90. There are lookout mounds on both sides of the village, one of them is situated about

half a mile south on a high part of the bluff. It overlooks the village site, and the region of the interior, the other is on the north side of Rock Creek, on an isolated conical hill. This commands a view of the bottom lands, as well as the valley of the creek. A third lookout mound is situated on the bluff, one half mile still further north. All of these lookout mounds contain bodies, and were used, evidently, for burial purposes as well as for look-outs. The only effigy connected with the village was the one which constituted the approach to it. The shape of the wall, with its so-called towers and bastions, is, however, peculiar. Each bastion has a flat terrace surrounding it, making a platform which projects out a little beyond the line of the wall. The circular shape of the spur of the bluff makes a natural bastion, and the mound above it makes an artificial bastion or tower. It is singular that there should be such a conformity of the artificial to the natural. In this case, it extends to the serpent effigy, which constitutes the pathway and the front wall of the village. It is not the only case where such a conformity has been seen, but it is more marked here than elsewhere. The discovery of the serpent effigy furnishes one more link to connect the effigy mounds of Ohio with those of Wisconsin. The village where this effigy was found was, apparently, older than the village situated north of it. It may have been a Dakota Village, and the other a village of the Illinois tribes. It is known to have been occupied by the Sacs and Foxes, late in history, and many of the skeletons exhumed from the wall were probably those of that tribe. The exploration of the mounds of this village will be conducted during this coming season.

DISTRIBUTION OF THE EFFIGY MOUNDS.—In a general way, we should mark the limits within which the effigy mounds are included, by a line drawn about the State of Wisconsin, but extending south of the State line as far as the southern extension of Lake Michigan and west of the line so as to include the bluffs which border on the Mississippi River, on the west side, would constitute the habitat of the effigy builders. The effigies, however, do not extend quite as far north as the State does. The limits of the effigies towards the north, so far as ascertained, are in the neighborhood of Trempealeau, Wisconsin, or at the mouth of the Chippewa River, with a line extending from this point over to the village of Warsaw, on the Wisconsin River, and then bending back again so as to reach the north shore of Lake Winnebago and the mouth of the Fox River. This was formerly the abode of the Winnebago Tribe. There are, however, a few effigies outside of these limits. Mr. T. H. Lewis has just discovered an effigy (see *Science*, May, 1890) on the Sioux River. This was situated sixteen miles southeast of Sioux Falls. Mr. Lewis says that there is a group of mounds and a fort at this point. The mounds, one hundred in number, have already been described in *THE AMERICAN ANTIQUARIAN*, Vol. 9, No. 6; Professor Frederick Starr is the writer. The effigy discovered by Mr. Lewis is in the shape of a bear, with the front paw extended. The length is fifty-five and one half feet, the height, at present, is about two and one half feet. The situation of this fort and the mounds is on a plateau which rises twenty-five to fifty feet above the river, and near a branch which has the expressive name of Bloody Run. The fort is an enclosure of irregular, elliptical shape, and contains an area of about fifteen acres. The walls are, at present two feet in height, and have an average width of fifteen feet. Mr. Lewis

says that the wall extends over one of the mounds, which is three and one half feet in height, and judges from this circumstance that the village was built later than the mound. Judging from Mr Lewis' description, we should say that it is the same kind of a fort as those which we have discovered on the Mississippi River, and the effigy was built by a branch of the same tribe or race. The effigy is the only one which had been found in the limits of the Missouri Basin. It is a remarkable find on this account, as the distance between the Missouri River at this point, and the Mississippi River, where the effigy mounds were discovered, is, at least, two hundred and seventy miles. The Mandans migrated up the Missouri River. Did the Mandans build this effigy?"

**ALTAR MOUNDS.**—The distribution of Altar Mounds is an interesting enquiry. It is possible that by following out this line of study we may ascertain something about the migrations. The place where the Altar Mounds are the most numerous, and where they are found in the greatest perfection, is southern Ohio. Squier and Davis have spoken of many of these; Prof. F. W. Putnam has discovered others, and says that there was a great group of Altar Mounds around which was a wall of stone four feet high, built below the surrounding level of the field. These mounds contained from one to seven altars formed of clay, on which fierce fires had been made. In two of the basins of the altars in the mounds an immense number of ornaments and relics were discovered—6,000 pearls, many copper ornaments, and little figures of terra cotta. These objects had been thrown into the fire. Extensive ceremonies of the deepest import to the people had evidently been practiced, as skulls with holes drilled in them, to let the soul out, were arranged around two skeletons and the whole burned significantly. Altar Mounds have recently been found as far north as Devil's Lake, in Dakota. These, however, may not have been used for the same purpose as those in Ohio, they were more stratified mounds with a clay basin at the bottom, no relics upon them.

**STONE IDOLS.**—The same remark might be had about the distribution of stone idols. Mr. E. H. Lewis has described an image made of stone which is in every a rude manner, but the upper part of which has a face sculptured upon it. This is said to be the only original sculptured stone discovered in Minnesota. It is called the "L'Anse-au-Loup" image. It was found by Mr. M. C. Charbonneau in 1854 at L'Anse-au-Loup. Stone images are more numerous in Tennessee, and the best specimens are now on file. This discovery of a sculptured stone in Minnesota is interesting. Perhaps our reader can give us some other finds of this kind. The distribution of idols is suggestive.

**SERPENT EFFIGIES.**—In speaking of the distribution of images we are brought to the recollection of a new class of serpent effigies. The place where the serpent effigies are in the greatest perfection is in Adams County, Ohio. A description of this effigy may be found in a late number of the *Tourney Magazine*. We have also yet to see serpent effigies in Wisconsin. Here the same characteristics are exhibited as in Ohio. Effigies resembling in form a serpent are surmounted by a serpent effigy. One such effigy or ridge, was found near Mayville; another near Ripon; another near Madison. Two serpent effigies were discovered last summer near Potosi. These crowned

the summit of a long, narrow precipitous ridge which constituted the bluff line of the Mississippi river. Many of these bluffs are in this shape: very narrow ridges, the longest axis being parallel with the river; the ends and sides having apparently been worn, in geologic times, so as to leave them nearly isolated; a crooked line of the bluff running out to connect with these rocky ridges. The serpent effigies spoken of constitute the spine of these limestone ridges; the head being placed on the summit of an isolated butte or column of limestone which abutted out. At this end of the effigy was a conical mound which formed the head. Burial mounds were also scattered along the whole length of this serpent effigy. The second serpent began at about the center of the ridge, the widest part, and extended in a tapering line to the other or southern end of the ridge. This represented a different kind of a snake. The head was the largest part of it, and was swollen all the way from the nose to one-third the entire length of the body. After that the body was narrow, and somewhat tortuous. The first snake was more like a garter snake, or black snake—had the same size the whole length. The head of the large snake was near the tail of the slim snake, but overlapped it. They are both remarkable figures. The writer has also discovered many tortuous figures resembling snakes at the ends of the bluffs in Adams County, Illinois. Several such have come under observation during the last few weeks. These effigies are not very distinct, as they are much water worn. They are generally found at the end of a ridge; the ridge constituting the bluff line here, somewhat as the limestone ridges do in Wisconsin. The ridges are not precipitous, but are somewhat abrupt, the end always having a tapering point, which slopes gradually toward the bottom land. These ends are naturally tortuous, as the gravel, of which the bluffs are composed, assumed that shape in the process of the drainage during geological times. These tortuous ends of the bluffs resemble serpents, but in some cases they seem to have been modified by artificial means so as to make them resemble tortuous serpents. In several cases the writer has discovered a large, conical lookout mound on the very summit of the bluff, but so placed as to constitute the head of the snake. On one ridge a snake effigy was found on the north end, with an outlook toward the north. At the south end there was also a conical mound with a lookout toward the south, but with no effigy perceptible. In another case the serpent effigy with a lookout mound was found at the north end; and along the edge of the bluff a series of mounds which constituted a wall with abutments and towers, if this term could be applied to rude earth-works. Of these we shall speak later. The peculiarity of this wall, with its abutments and towers, is that it follows along the very edge of the bluff, and that the conical mounds which constitute the protruberances in it were placed at exactly the points where there was a projection in the bluffs.

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#### BOOK REVIEWS.

*Essays of an Americanist.* Ethnologic and Archaologic, Mythology and Folklore, Graphic Systems and Literature, Linguistic. By Daniel G. Branton. A. M., M. D. Philadelphia: Porter & Coates. 1890.

The title of this book is peculiar. In the first place the term "Americanist" is one which was borrowed from the French, and implies that American archæology has assumed the position of a science among all the other ethnological sciences. In the second place, the term "Essay" is used in the sense

of an endeavor or an attempt, and implies that many of the theories advanced are tentative. This gives a clue to the whole volume. There are in it many theories which are tentative, and they are theories concerning prehistoric America. The theories are as follows: First, the theory of an autochthonous origin of the American races. This theory is supported by various arguments, derived from tradition, monuments, industries, languages, physical peculiarities, geological data, discoveries. The author makes tolerably clear, but after all there is as much to be said upon the other side, and we are confident that if Dr. Brinton had continued to hold to the opinion which he formerly advocated that he would find as many evidences of an extralimital character as he does now of the autochthonous.

Another theory is that of paleolithic man. Dr. Brinton quotes a discovery by Mr. Cresson, and says these discoveries carry the age of the appearance of man in the Delaware valley back to a date which is positively over a hundred thousand years ago. The evidence may be satisfactory to Dr. Brinton, but it certainly would not be to us; we should look for more testimony than has thus far been furnished. Another theory is that the Toltecs were a fabulous people. This is merely a theory. The Toltecs have long figured in history; they were the inhabitants of Tulan. There were three tribes who covered Mexico with civilization, which goes under the name of Toltec, just as there have been later three tribes which gave the name of Aztec to later civilization. We think it is unfortunate that the name should be thrown out for the sake of a mere theory. Another tentative essay is that upon the Sacred Symbol in America. The cross, the swastika, the Ta symbol, and the triskales are found in America, as in all parts of Asia. They show contact with Asiatic countries, and if followed up might furnish a clue to the origin of the American races. The misfortune about the Autochthonous theory is that it cuts off debate and hinders one from following up certain lines which might lead to the truth. We deprecate any such result.

There are other theories in the book which are similar to these. We take the liberty to question the theories; because, it is granted to us by the very first word in the book. Dr. Brinton seemed to expect that his position would be criticized. We take it that the reader who goes through with the series of essays, many of which are suggestive and interesting, will hold himself back from any fixed conclusion in reference to the topics brought out, for they are not established at present. They are still open questions and must be debated before final conclusions are reached. It will be noticed that the book is made up of articles which have appeared in various journals, some of them in *THE AMERICAN ANTIQUARIAN*, some of them in the proceedings of the Numismatic Society, of Philadelphia, and the American Philosophical Society, and the American Association for the Advancement of Science. They are essays which are based upon studies—disconnected fragmentary studies. The special value of these is that they represent the current lines of thought, and embody latest known facts and discoveries, some of which, especially the discoveries, have not been thoroughly tested so as to prove that they are genuine. We are glad to have the old theories tested by new essays, but we ask the question, whether the new may not be tested also. Discoveries are going on all the time, some of them are genuine, and some not so genuine. The discoveries are to be tested before any theory based upon them can be established. We test the discoveries and then accept the theories, until other discoveries shall overthrow them.





up on a terrace on the west side and above the trees, so that we obtained a clear view of the opposite walls and steep slopes. Suddenly we saw a drove of horses upon the hillside, and following them rode an Indian with a little Ute sitting behind him astride the steed. The red-man caught sight of our "outfit," and for a long time regarded us with a stern curiosity. He evidently considered us as intruders in his domain. He was a picturesque sight; without covering for his head, his black hair flowing down his neck, and with a blanket over his shoulders. He did not take his eyes from us till we had passed down into the brush in the river-bottom.

While we were under the sheltering cliffs which protected the ruins, a heavy shower passed over. We thought that we had escaped a wetting, but the bushes and trees were so damp that we got pretty well soaked, and before reaching our proposed camping-place we were treated to a deluge from the skies. We pitched camp at quarter of seven in a clump of box-elders, at a point a little above the entrance to Cliff Canon, a tributary of the Mancos from the west. The branches were so wet from a passing shower that we could not cut any boughs for a bed; so stretching a wagon canvass (which had covered one of the packs) between two trees to keep off the rain, we spread blankets on the ground and then dried ourselves off by the camp fire. The river ran very near our camp. The liquid was disagreeable to the taste and very muddy. John bailed some from a pool that contained water that had overflowed from the stream, and thus had had time to settle. The disagreeable flavor is not noticeable in coffee, but boiling the water alone does not seem to improve it. The night was pitch dark, and we could see nothing when far from the fire. Rain continued through the early part of the evening.

We were up at half-past six; dispatched breakfast of bacon and coffee in short notice; and leaving John to arrange camp and saddle our beasts, Mr. Howard, Richard, and myself scrambled up the eastern side of the canon to a height of about two hundred feet, to obtain a glimpse of a cliff-house perched high up on the western side. This little ruin is difficult of detection without a glass, but when once seen is instantly recognized. It seems quite inaccessible, but is reached without much difficulty. The canon walls are very bold and striking. A grand tower stands at the entrance to Box Canon,\* in which there are a number of small houses which have never been entered or explored in any way. Our camp, in the trees below, with the ascending smoke, was very picturesque. Upon the opposite cliff coal showed in seams.

\* A short canon ascended through all the very short canons are thus designated, because they end abruptly against high cliffs and thus differ from the long lateral gorges, some of which can be gotten into easily from the upper extremities.



**INTERIOR OF CIRCULAR ROOM (Mancos Canon.**



**PLATE III.—CLIFF HOUSE IN ACOWITE CANON.**  
From Photographs by Frederick H. Chapin.



Returning to our temporary home, we all started at nine o'clock with three horses and the mule, to ascend to the top of the steep mesa on the east, journeying by a rough Indian trail. We were bound for some ruins in Acowitz Canon.\* Near the trail a sharp ridge or dyke of igneous rock has been thrust up through the sandstone. In twenty minutes we were forced to dismount and lead our horses the rest of the way; and as much more time spent in hard walking brought us to the plateau, perhaps eighteen hundred feet above the river. From this point is obtained a good view of houses in Cliff and Mancos Canons, also an outlook toward the western mountains, the Sierra El Late. An hour's ride across country, over a comparatively level tract, through pinon-pine and junipers, brought us to a fork of Acowitz Canon, in which are antiquities well worth investigation by the archaeologist. We tied our horses to trees at some distance from the great ravine. Here, as on the edges of many of the other chasms, there is no soil, grass, or trees within several hundred feet of the brink. The surface is smooth sandstone, with here and there great hollows filled with rain-water. These places are called "tanks" by the ranchmen, and are the only water-supply for deer or cattle on the mesa.

The group of ruins which we proposed to photograph, to be exact, is situated on the western cliff of the third left-hand fork of Acowitz Canon. The structures are invisible from above on the same side, neither is there any way of descending to them; so we worked our way around to the eastern side, and there found a wall which must have been used as a fortification. Originally the breastwork was built with great care, for the stones are regular in shape and have been cut and faced. But few of them remain as placed by the builders; yet this little rampart gives a clue to the explorer who is hunting for a way down into the canon. Stepping over the tumbled-down walls and looking down the precipice, we found hewn steps on the face of the cliff, and descending by them, as members of the tribes must have done,—as perhaps their ferocious adversaries may have done,—we soon reached the bottom of the gorge, and hurriedly scrambled up to the interesting ruins.

A strange, wild, lonely canon! No sounds were heard to disturb the scene but the croaking of ravens as they flew over our heads. The great arched cliff hangs high above the ruins, but a little way from it the canon ends in solid sheer walls, which sweep around in a curve. Looking all about we see but one exit above, and that by the steps which we had descended. Perched in a little cleft over our heads was a second group of masonry, apparently inaccessible and in good repair. I suggested

\*This was formerly called Johnson's Canon, for the simple reason that a man by that name once wintered some cattle down in the bottom of the gorge. As some of the other canons have Indian names, it would seem quite appropriate to give this one a similar designation.

that we try to scale the cliff. Richard thought it impossible, and pointed to the trunk of a tree that leaned against the ledge, which he had placed there, and which failed by some six feet of reaching the rounding sandstone terrace above. While our companions were rummaging around the lower rooms, John and I tried our luck in squirming up the tree. It was of no use; we could not reach far enough, and there was not the slightest hold or crevice for the fingers. We got an old beam from the ruined floors, which was a trifle longer than the tree, and fastening a rope to one end, placed the timber up against the cliff by the side of the other stick. With the aid of the rope we could gain the top of the timber with less expenditure of force. We made several attempts in vain to gain the ledge, each time being obliged to come down to rest; but at last my companion, whose arms and legs were of long reach, after removing much dust and debris, was able to get a hand-hold, and clambered up. I followed him; and, calling to our friends, they sent up the spade and camera, then mounted after us, and we entered the mysterious rooms.

How long since human foot had trodden this sandstone floor? Surely not since the forgotten prehistoric race had deserted the caves. Certainly no white man had ever entered these walls before, and the superstitious Ute would not dare to venture under the shadow of the cliff. After our difficult tussle in scaling the wall, we thought we might be rewarded by finding some rare specimen of the skill in ceramic art known to the dwellers among the caves,—perhaps a graceful pitcher, or a water-jar, standing on a shelf waiting to be called for, but on the contrary there was an air of desolation around the vacated quarters. It was cleaner than the ruin below, and showed no signs of being a burial-place, or ground in which it would be profitable to dig. Undoubtedly the best places for such examination are in the lower ruins.

But we found the little abode of a bygone people unique and interesting. We now made some photographs of the strange structures. The outer walls had been built upon the edge of the ledge, and to investigate the different rooms we were obliged to bend or crawl back of them, for the cliff was very low in the rear. In one of the rooms we dug a little, but found nothing. The door to this room is of peculiar shape, being wider at the bottom than at the top, we could see no reason for it. The floor of the ledge was covered with fine dust, when disturbed by the spade it raised a choking cloud, that forced the would-be excavator to beat a retreat. On the south corner is a very funny little building, to which there is one entrance. See Plate III. This again, one would take for a window, but that when the whole wall was standing, no light could pass through it. The race of Cliff-dwellers were not liberal of space when they built

their doors, for we did not find one high enough to pass through without bending.

It was a fascinatingly queer place; but we must away, for time-consuming caution must be used in the retreat from our citadel. The rope made our descent comparatively easy. My friend and Richard went down first; then we lowered the plates and camera, threw the spade after them, and I followed. John, as the last man, looped the rope around a pile of masonry and let himself down. He reached out and got hold of the tree in safety; but by a little sliding of the cord a big rock was dislodged, which in falling crashed upon the package of dry plates, and I have two less pictures to show than would otherwise have been the case.

We now set to work to explore and photograph the lower structure. Many parts were in a good state of preservation; sticks and supports were still intact. Floors were made with sills of cedar; willow sticks were then laid over, and the whole was covered with plaster. In most cases the floors have fallen in. We noticed some peculiar arrangements: one such was a sort of low cubby-hole, outside of the main structure, which was eight feet front and five feet deep, with two little doors. This may have been used as a store-room. We found much broken pottery; among the rest fragments of large bowls, which it would be possible to partially restore. One very remarkable thing, which showed the eccentricity of the builders, was a room that appeared to have no entrance. In fact I walked around it once without discovering that I had passed a room. A little investigation revealed an entrance from the top. The enclosure was eight feet square; the entrance a hole with an aperture of seventeen and a half inches. The ceiling of wood was plastered over, and was very firm. Any photographers who may be looking for a dark room in which to change plates at mid-day when in this locality will find this room as good a place as could be desired. From its top I took a photograph of one end of the edifice, as it was a good view-point. Mr. Howard took advantage of this position to photograph some interesting grooves on a ledge of smooth sandstone, which is at the base of the walls. This he accomplished by placing the camera flat on the roof of the enclosed room, and letting the lens hang over. These holes in the rock were made by the natives in sharpening their tools; they were large and probably used for grinding axe-edges. On another ledge we observed smaller grooves, where awls, knives and needles were whetted. One of the central rooms is well plastered, smooth as a modern wall. A round room had piers below the ground floor. These piers are plastered also. In the sides of the walls were little recesses which may have been used as shelves. There is a door similar to the one that we saw and photographed in Mancos Canon. Above this door the walls are hollow.

We had not the time at our disposal to excavate among the rubbish, but we poked around enough to show that it would be easy work to unearth many relics. A little scraping away of the debris revealed human bones, cloths, matting, etc. In walking among these ruins, one passes over tumbled-down walls, and crosses remnants of shabby floors of charred cedar. My companion noticed fossil shell impressions on a stone which had been used in the building.\*

We left this interesting spot at 2:15 P. M., Mr. Howard and John returning to camp, while Richard and I started off on a tour of investigation. We discovered some houses in the fourth left-hand fork of Acowitz Canon, a place that has never been visited before. Here stands a good circular room, with two windows. On the sandstone plateau, near the brink of the gorge, is the most remarkable crack that I ever saw. I called Richard's attention to it, and I hope he will show it to people who may travel with him in the future. In a land where erosion has played such a part in modelling the face of the country, a crack is phenomenal. Unfortunately, I made no measurements and can not give a reliable description; but it was more than a hundred feet long and about a foot in width. It was inclined at a considerable angle, and the bottom could not be seen.

From this fork we went far up on the main Acowitz Canon, leaving our horses behind. From one of its pockets we had remarkable views down its whole length to the Mancos, and then through that depression to the magnificent mesa which stands above the river's place of exit. It was truly a sublime sight. The nearer scene is a wild one, quaking aspens grow in the upper part of the gorge, and in the bottom are tall, stately pines, which climb to the height of the top walls, and were even with our eyes as we looked across the canon.

I lost, from a stupid double-exposure, several very interesting negatives of a weird ruin, almost inaccessible, which occupies a secluded cavern in this canon. One single picture, however, is left to me, which shows the remarkable structure of the cliffs, and the beautiful curve which they make as they sweep around to the east. What a dark and gloomy place, too, did these people select for their home or fortress, whichever name we may give to it! A stronghold surely it was, impregnable to a foe armed only with arrows and clubs. The great cliff spanning over it shielded the inhabitants from all attack from the tableland over them, and the vertical cliffs below could not be scaled when rocks were being hurled from battlement and tower above. As the sun was sinking in the west we could not examine closer

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\*Hayden's Report, 1878, W. H. Holmes, "Ruins at Artoe Springs." "The stone used in building of the fossiliferous limestone that outcrops along the base of the Mesa Verde is a mile or more away, and its transportation to this place has doubtless been a great work for a people so totally without facilities."

this remote structure, but hurried back to our steeds, and reached our quarters long after dark.

The next morning we broke camp at nine o'clock and were *en route* for the mesa between Cliff and Navajo Canons, to explore this time a western tributary of the Mancos. We were minus the services of a valuable animal. The mule, though hobbled, had managed to escape, and was probably gathered into the Indians' drove. "Kaiser" must pack a double burden. After an hour's riding to the south, we came upon old Indian wickyups; in a few minutes more, we rode by some which were comparatively new; and at eleven o'clock the yelping of many curs announced our arrival at an encampment,—the temporary home of Tabayo, the Ute we had seen tending his horses the day before. After some vain negotiations for the privilege of photographing the family of this surly child of the wilderness, we rode on down the valley, and soon came to more mound ruins. Within a short distance of each other, two towers are standing, possibly the watch-towers of the early explorers. What remains of the higher one is twelve feet in diameter. There are ruins near the latter, which are thirty-six feet in diameter; the building does not show great skill, as the stones of the walls do not break joints.

After photographing the towers, we turned up a rocky path to climb the mesa. Far down the canon—which here was of wide expanse, and very level—we spied the smoke of a larger Indian encampment. Suddenly a mounted red-skin emerged from the group of wickyups, and galloped wildly over the plain. As we mounted higher he put spurs to his horse and soon overtook us. With only a glance at those of us who were behind he rode up to Richard and took his proffered hand; yet there was mischief in his look as he demanded our intentions. Our guide pointed out the direction of our journey over the mesa and home by a westward route, and added to his sign language the words "one sleep." The Ute observed our spade; he seemed dissatisfied. Then he expostulated in Ute, Spanish, and English, so mixed up in vocabulary that it was difficult to comprehend; but out of the jargon I caught the following ideas: "White man rich; Indian poor. White man dig up Moquis, make Ute sick. Little Ute, big Ute, all heap sick.\*" He made a motion indicative of the process of excavation, and with a threatening, superstitious look seemed bound to prevent any such sacrilege of the graves of the departed tribes. Richard insisted that we did not intend to disturb the bones of the Moquis, but were to photograph them. This latter operation he explained by pointing to our apparatus, and going through the motions of looking through glass. Wap (for such was his name) now

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\*This reference of Wap to the Moquis shows that the Utes have a tradition that the Moquis are the descendants of the Cliff-dwellers.



made a demand for toll, for the privilege of going over the mesa; but Richard, pointing to the high-climbing sun, answered, "Ken [Quien] sabe." As we turned away, Wap exclaimed, "no money, Richard no come back in Canon." The Ute stood motionless, regarding us till we were high among the upper cliffs of canon, when he turned wrathfully away and galloped to the north toward Tabayo's wickyups. I must confess that I watched these tents till they were well out of sight, for I feared to see Wap and Tabayo mount their ponies and gallop down toward the lower encampment, where generally a dozen or more braves are to be found. Such a force, if gathered, could have compelled us to return to Mancos, thus frustrating the important plan of our expedition. We were not even armed to show bluster if threatened, a rickety revolver in Richard's belt being the only weapon in the outfit.

After a long ride we reached a camping-ground at the head of a branch of the left-hand fork of Cliff Canon. Hurriedly unpacking, we hobbled the horses that were most likely to stray far, and taking along our photographic kit, wended our way on foot toward that remarkable group of ruins of which I have already spoken, and which Richard has called "the Cliff-Palace."\* At about three o'clock we reached the brink of the canon opposite the wonderful structure. Surely its discoverer had not overstated the beauty and magnitude of this strange ruin. There it was, occupying a great oval space under a grand cliff wonderful to behold, appearing like an immense ruined castle with dismantled towers. The stones in front were broken away, but behind them rose the walls of a second story; and in the rear of these, in under the dark cavern, stood the third tier of masonry. Still farther back in the gloomy recess, little houses rested on upper ledges. A short distance down the canon are cosy buildings perched in utterly inaccessible nooks. The neighboring scenery is marvellous, the view down the canon to the Mancos is alone worth the journey to see. See frontispiece.

We stopped to take a few views, and then commenced the descent into the gulf below. What would otherwise have been a hazardous proceeding, was rendered easy by using the steps which had been cut in the wall by the builders of the fortress. There are fifteen of these scooped-out hollows in the rock, which covered perhaps half of the distance down the precipice. At that point the cliff had probably fallen away, but luckily for our purpose, a dead tree leaned against the wall, and descending into its branches we reached the base of the parapet. In the bed of the canon is a secondary gulch, which required care in descending. We hung a rope or lasso over some steep, smooth ledges, and let ourselves down by it. We left it hanging there and used it to ascend by on our return.

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\*Investigation shows that it was a communalistic dwelling.

Nearer approach increased our interest in the marvel. From the south end of the ruin, which we first attained, trees hide the northern walls, yet the view is beautiful. We remained long, and ransacked the structure from one end to the other. According to Richard's measurements, the space covered by the building is 425 feet long, 80 feet high in front, and 80 feet deep in the centre. One hundred and twenty-four rooms have been traced on the ground floor, and a thousand people may have lived within its confines. See Plate IV.

So many walls have fallen that it is difficult to reconstruct the building in imagination; but the photographs show that there must have been many stories. There are towers and circular rooms, square and rectangular enclosures; yet all with a seeming symmetry, though in some places the walls look as if they were put up as additions in later periods. One of the towers is barrel-shaped; other circles are true. The diameter of one circular room, or *estufa*, is sixteen feet and six inches. There are six piers, which are well plastered. There are five recess-holes, which appear as if constructed for shelves. In several rooms we observed good fireplaces.\* In another room, where the outer walls have fallen away, we found that an attempt had been made at ornamentation; a broad band had been painted across the wall, and above it is a peculiar decoration which shows in one of our photographs. The lines were similar to embellishment on pottery which we found.† We observed in one place corn-cobs imbedded in the plaster in the walls, showing that the cob is as old as that portion of the dwelling. The cobs, as well as kernels of corn‡ which we found, are of small size, similar to what the Ute squaws raise now without irrigation. We found a large stone mortar, which may have been used to grind the corn. Broken pottery was everywhere; like specimens in the other cliff-houses, it was similar in design to that which we picked up in the valley ruins near Wetherill's ranch, convincing us of the identity of the builders of the two classes of ruins. We also found parts of skulls and bones, fragments of weapons, and pieces of cloth. One nearly complete skeleton lies on a wall waiting for some future antiquarian. The burial-place of the clan was down under the rear of the cave.

While among these ruins one is led to speculate upon their age. It is a question difficult to decide, or to give an opinion upon. Located in a dry climate, protected from all aerial forces, there is no reason why, if unmolested, the walls should not stand

\*Fireplaces have been rarely observed among the cliff-dwellings. Mr. Holmes writes of one in Mancos Canon; in "Hayden's Report," 1876. See illustration, pl. xxxiii, fig. 6.

†The pottery is either indented or ornamented with lines or scrolls. Figures of animals or men have never been found.

‡Besides corn it is known that the race of Cliff-dwellers raised beans and squash; we frequently picked up stems of the latter. For domestic animals they owned turkeys.

a thousand years essentially as we now see them; and there is no reason to doubt that they may have stood a thousand years in the past. The valley ruins have gone a long way farther toward complete destruction than the cliff-dwellings. This has led one authority to suggest that the cliff-houses "owe their construction to events that immediately preceded the expulsion of the pueblo tribes from this district." The same authority also states that "the final abandonment of the cliff and cave dwellings has occurred at a comparatively recent date, certainly subsequent to the Spanish conquest."\* But allowing that the cliff-houses were deserted only three hundred years ago, this would not help us to assign a date for the building of some of the larger structures, which, from what we know of the tools employed, must have been the work of time. Not a scrap of metal has been found in the debris which rest upon and among the tumbled-down walls. Most of the stones that were employed in the rearing of the great edifice must have been laboriously shaped by an almost shapeless stone axe. Such work, carried on under so great difficulties, did not allow of villages being constructed in a day.

One fact which has been investigated by that eminent archaeologist, Mr. A. F. Bandelier, would seem to throw some light upon the subject. According to this authority, "it does not appear that the sedentary Indians of New Mexico ever made, within traditional and documentary times, any other than the painted pottery in greater or less degree of perfection"† This would prove that the specimens of indented ware which we have found cannot be less than four hundred years old; how old the painted pottery is, we know not.

The builders—who were they, and where did they come from? Surely I would not venture to theorize from the small collection of facts which we have obtained, but I will state a few probable facts of history. From the seventh to the twelfth century the Toltecs invaded Mexico from the north; following them, came the Aztecs. It is possible that Colorado and New Mexico may have been the former dwelling-place of these migratory nations; or if they came from the northwest, straggling bands may have strolled into the lands we are describing. Yet all connection between the people of the north and those of Mexico had probably been lost long before the year 1530. It is not even probable that either knew of the existence of the other, though a belief has been current that those people worshipped Montezuma;‡ As for the state of the civilization of the ancient people, it could not have been very advanced. A community who could huddle together in such small, close, unventilated quarters, who buried

\*Hayden's Report, W. H. Holmes, p. 66.

†Report on the Ruins of the Pueblo of Pecos, published in the "Papers of the Archaeological Institute of America," p. 105.

‡A belief that has been exploded by Mr. Bandelier.



PLATE IV.—RUIN IN CLIFF CANYON. FROM THE NORTH END.  
From a Photograph by Frederick H. Tappin





PLATE IV.—RUIN IN CLIFF CANYON, FROM THE NORTH END.  
From a Photograph by Frederick H. Chapin.



their dead under their floors and under the rear of cliffs back of their mightiest houses, could not have reached a very high ideal of refinement. Yet, perhaps, we are too hasty. Perchance these remote fortresses were subjected to a long state of siege by crafty Ute or fiery Apache, wherein the heroic defenders stood out to the last; and as man after man fell at his post, his body was hastily imbedded in debris at the rear.

Naturally this huge ruin interested us more than anything else that we met with in our trip. It deserves study by competent archaeologists. Thorough and careful excavation would perhaps reveal relics which would throw light on the early history of the primitive inhabitants. It is to be hoped, however, that any work which may be done here in the future will be carried on under competent supervision, and that the walls will not be damaged in any way. With a suitable appropriation, this structure could be converted into a museum\* and filled with relics of the lost people, and become one of the attractions of southern Colorado.

We returned to camp at dark, and after the usual hard riding after horses, got everything to rights and whiled away the evening hours by a huge fire. Such a blaze as the juniper and pinions make—a fire easy to build, and of lasting brilliancy!

The next morning dawned warm and bright, with a pleasant light breeze. We were up at sunrise, and off at eight o'clock. We had intended going to some cliff-houses in Navajo Canon,† but our time would not allow it. Our route lay to the north, along the mesa and between Cliff and Navajo Canons, which here run nearly parallel with the main one. We passed near the ends of many tributaries of these gorges, which showed that while it was a comparatively easy matter to get out of this country to the north, to come to any given point from that direction would be impossible to any one not familiar with all the arms of the different canons.

We observed no traces of ancient roads on the mesa, nor of irrigating ditches; but at half-past nine we passed the ruins of what appears to have been a great reservoir. At about ten o'clock we were at the heads of Navajo and Cliff Canons, and soon we were so near the west end of the mesa that we caught a glimpse of the broad Montezuma valley. All the morning we followed trails leading through extensive forests of juniper and pinion trees, but composed of trees of small size. The pinions were loaded with nuts, which are good eating. The Indians make flour from them, on which they subsist during certain seasons. Flying about were many pinion birds. The trails

\*Possibly grander structures may yet be discovered; for the Indians tell of large cliff houses in a canon south of Navajo Canon, on the west side of the Mancos River. This gorge has never been explored.

†Wetherill states that these structures are well built, though not very large.



were made by Indians, deer, or cattle. We caught sight of three deer in the morning; and our dog brought a wild steer to bay, which threatened at one time to run us down.

At 11:15 we reached the summit of the mesa, at a point about an hour south of the promontory which marks the entrance to Mancos Canon. A most remarkable view was unfolded. Over the pastoral scenes of the valley of Mancos, beyond the deep canons of the Dolores River, far away in the north, loomed the snowy crests of San Juan Mountains, Lone Cone, and the San Miguel Mountains on the left, then the Ouray group, with the grand peak which we had climbed, flanked on the southeast by the mountains of Silverton and the needles of the Rio de las Animas. Far away in the east rose range upon range, which we could not name with certainty. In the west were the Blue Mountains of Utah, Sierra Abajo and Sierra le Sal. Beyond, to the south and southwest, stretched the great system of labyrinthine canons to the Rio San Juan, and far beyond were the Carisso Mountains of New Mexico.

Resting on this summit during the mid-day hours, it was interesting to recall many incidents of our trip, and to return to a discussion of the former population. Something we had just observed, helped us to a theory. Looking over the wide stretch of country, we recalled the fact that to the early explorers this land seemed a desert. Over the wide, arid plains stretch miles of waste acres, covered with sage brush and grease-wood. Yet all along the tops of the great mesa, over which we had been riding, pottery is strewn, and signs of a primitive race are found. Their numbers must have been large, or the period of their stay prolonged. Perhaps it may be necessary to suppose some change of climate, to conceive how such a population could have supported themselves by agricultural employment. What the farmers of Mancos and Montezuma valleys are doing, shows what the low lands are capable of producing with irrigation; but we find no vestiges of ditches on the mesa, and there is not much water to turn into such channels if they did exist. Yet, beside such forests of cedar and pinon as thrive here, grass grows enough to support much game and many cattle, and the time may come when the land, grasped by the oncoming mightier race, will be overturned and tilled, and all along the broad tableland we shall see the tasseled maize bend, and fields of wheat move to the breeze. Then we shall not be surprised when we read that the country once supported a great population, of a people well advanced in many arts, and who conceived of certain forms of beauty, even though they had not the ability to give their ideas expression. Meanwhile, may we not imagine them a race who loved peace rather than war, but, hard-pressed by savage foe, fought stubbornly and long, and died rather than desert their romantic fortresses among the canon cliffs?

## THE GREAT SERPENT AND OTHER EFFIGIES.

BY STEPHEN D. PERT.

One of the most interesting questions in connection with the effigy mounds is the one which concerns their origin. There are two theories in reference to this. First, that they were the embodiment of the totem system of some wild tribe of hunters, and that they were altogether of native origin, purely aboriginal. The second is, that there is embodied in them a system of serpent worship which was introduced from some other continent, but which became mingled with the native totem system, and was here placed in permanent earth form, the two systems—the native and the foreign—being closely associated. The latter is the opinion which has been reached by the writer, after close investigation and long hesitation. The present paper is designed to show the reasons for adopting this conclusion. Let us, however, be understood. We have held all along that the Winnebagoes, a branch of the Dakotas, may have been the effigy builders. We still hold this opinion, but the Winnebagoes, or Dakotas, as a whole, seem to have possessed traditions and symbols which would indicate that a system which was foreign to this country generally was held by them and carried with them in all their migrations. This system was very common in Europe at an early day, and has left the impress of itself upon very many of the monuments there. To some it would seem to be a system which was peculiar to the Indo-European race, and was identical with what is called the Druidic faith, belonging to the Celts, who were a purely historic race. To others, however, it seems to be a system which was older than the Celts, and is regarded as a gift of the prehistoric times to the historic, the chief embodiment being in those works which have been ascribed to the Druids, but the origin of which is still very uncertain. We put the two systems together. The effigy mounds in Ohio and Wisconsin are prehistoric. They have no evidence of contact with what are called historic races, certainly not with any races which were familiar with the Christian system, for there are no symbols of Christianity in them. If the symbolism which is embodied in them was in any sense historic, it was introduced before the time of Christianity. It is the same system which would be called native, whether found in Wisconsin, Ohio, Great Britain, France, Scandinavia, Hindostan, or any other part of

the globe. This is an important conclusion, for it carries back the age of some of the Mound-builders much farther than some are prepared to admit, and at the same time it accounts for many things which have been regarded as mysterious, and as difficult of explanation. The discussion of the subject will follow the line of a comparison between the works of Ohio, Wisconsin, Dakota and other states, bringing in, however, frequent reference to the symbolism of Great Britain, especially that symbolism which connects itself with serpent worship.

I. First we shall refer to the traditions. It is well known that Catlin, the celebrated painter, maintained that the Mandans, who were a branch of the Dakotas, originally were located in Ohio, the very region in which the great serpent is found, but that they migrated from that region, passing down the Ohio River and up the Missouri, and that they became nearly extinct by the time they reached the head waters of the Missouri. He has given the map, with the route of the migration laid down on it, and the various stopping places designated. He states that he also visited certain deserted village sites, and that he was able thus to trace back their route toward St. Louis by the village sites, and especially by the depressions in the soil which had been made by their lodges, the Mandans always having a custom of excavating the soil to the depth of about two feet before they erected their earth huts. These lodge circles, or excavations, have also been recognized among the effigy mounds. The ancient city of Aztlan was found by Dr. Lapham to have contained many of them. He calls them cellars. Prof. A. W. Williamson asserts that there was a tradition among the Dakotas that their original home was upon the Ohio River, and he believes that the ancestors of the Dakotas were the original Mound-builders of Ohio. Rev. A. L. Riggs concurred in this opinion. The date of this migration is not known, but it is supposed to have been before the advent of the white man. Rev. Mr. Williamson and Mr. Riggs both state that there was a tradition among the people that they came from the far east, and were familiar with the sea; and Catlin claims that the Mandans not only came from the east, but that they were originally from beyond the sea, that they were the descendents of the former celebrated band of white men which came to this country under the lead of Prince Madoc, the rejected Welsh prince, and refers to the white skin, peculiar form, and remarkable costumes of this people as proof. This theory does not seem to have gained credence, and yet there is interest in it because of its leading one to consider the European origin of the Dakotas.

If there are resemblances in the languages there are also resemblances in the earth-works and effigies. We have already referred to the great system of works at Portsmouth, Ohio, and have shown that these resemble in their general shape the stand-



**THE GREAT SERPENT IN ADAMS COUNTY, OHIO.**



ing stones at Avebury and Stone Henge. The resemblance may be recognized in the bone paths of Dakota, the serpentine line in the bone path being seen here and the eminences in the centre and at either end being also plainly intended. See Plate. Of course there is an inferiority in the later formed avenue, but this is what might be expected. It is the conception which we wonder at more than the execution. In this case the sun circle is lacking. There is no horse shoe to be recognized, and yet the serpent symbol seems to have continued. A feature of this effigy was that the hill and the serpent had the same shape, the peculiar cult of serpent worship being embodied in the hill. This same peculiarity is to be recognized in several places in this country. 1. In the great serpent mound in Adams County, Ohio. 2. In the serpent of standing stones which has been described by several persons as existing in Dakota. 3. The various serpent effigies surmounting serpentine hills, namely, at Mayville, at Green Lake, at Madison, at Potosi, Wis. 4. A serpent effigy has been discovered in Adams County, Illinois, which shows this peculiarity. The bluff is tortuous and the effigy is about 1500 feet long, and is conformed to the shape of the bluff.

One of the most remarkable prehistoric monuments in America is the great serpent mound in Ohio. This mound was surveyed and described by the authors of "Ancient Monuments" as early as 1845. It has been frequently visited and described since then. The last survey was that made by Prof. Putnam in the year 1889. His description was published in *The Century* magazine for that year. Prof. Putnam, it would seem, has taken the same position as did Squier and Davis, and advocates the theory of an European or Asiatic origin. The following is his description: "Approaching the serpent cliff by fording Brush Creek, our attention was suddenly arrested by the rugged overhanging rocks above our heads, and we knew that we were near the object of our search. Leaving the wagon we scrambled up the steep hill, and pushing on through brush and briar, were soon following the folds of the great serpent along the hilltop. The most singular sensation of awe and admiration overwhelmed me, for here before me was the mysterious work of an unknown people, whose seemingly most sacred place we had invaded. Was this a symbol of the old serpent faith here on the western continent, which from the earliest time in the religions of the East, held so many people enthralled? Following the ridge of the hill northerly one is forced again to pause and admire the scene—the beautiful hill-girt valley, the silvery line of the river, the vistas opening here and there, where are the broader and deeper portions of the river, etc. Turning from this view, and ascending the knoll, one sees before him, eighty feet from the edge of the cliff, the western end of the oval figure in front of the serpent's jaws.

The oval is one hundred and twenty feet long and sixty feet in breadth. Near the center is a small mound of stone, which was formerly much larger. Many of the stones show signs of fire. Prof. Putnam says: "A careful examination of sections through the oval shows that both parts of the earth-work were outlined upon a smooth surface, clay mixed with ashes being used in some places, but a pavement of stone to prevent washing used in other places. The whole structure was carefully planned and thoroughly built." Prof. Putnam speaks also of the crescent shaped bank between the jaws of the serpent, the extremities being seventy-five feet apart, but the bank being seventeen feet wide. This crescent is worthy of notice. The head of the serpent is thirty feet wide and five feet high. The serpent itself is 1,254 feet in length, measured from the tip of the jaw to the end of the tail. The average width is twenty feet, and the height from four to five feet. The tail decreases where it begins to coil, and is at the end about a foot high and two feet wide. "The graceful curves throughout the whole length of this singular effigy give it a strange lifelike appearance, as if a huge serpent slowly uncoiling itself and creeping silently and stealthily along the crest of the hill, was about to seize the oval within its extended jaws. In the oval embankment, with its central pile of burnt stones in combination with the serpent, we have the three symbols everywhere regarded in the old world as emblems of primitive faith. Here we find the Linga in Yoni of India, or the reciprocal principle of nature guarded by the serpent, or life, power, knowledge and eternity. Moreover its position—east and west—indicates the nourishing source of fertility, the great sun god whose first rays fall upon the altar of stones in the centre of the oval."

Prof. Putnam also refers to the remarkable serpent effigy which was discovered by Dr. J. W. Phene in Argyleshire, Scotland, and quotes a description of this, written by Miss Gordon-Cummings. The following is the quotation:

"The tail of the serpent rests near the shore of Loch Nell, and the ground gradually rises seventeen to twenty feet in height, and is continued for three hundred feet, forming a double curve, like a huge letter S, and wonderfully perfect in outline. The head formed a circular cairn, on which there still remains some trace of an altar. Dr. Phene excavated the circular cairn, or circle of stones, and found three large stones, forming a megalithic chamber. From the ridge of the serpent's back, it was found that the whole length of the spine was constructed with stones, regularly and systematically placed at such an angle as to throw off the rain. The spine is, in fact, a long narrow causeway, made of large stones, set like the vertebrae of some huge animal, the ridge sloping off at each side is continued downward with an arrangement of smaller stones, suggestive of

ribs. The mound has been formed in such a position that the worshipers, standing at the altar, would naturally look eastward, directly along the whole length of the great reptile, and across the dark lane, to the tripple peaks of Ben Cruachan." Prof. Putnam says: "Is there not something more than a mere coincidence in the resemblances between the Loch Nell and the Ohio serpent. Each has the head pointing west, each terminates with a circular enclosure containing an altar, from each, looking along the most prominent portion of the serpent, the rising sun may be seen. If the serpent of Scotland is a symbol of an ancient faith, surely that of Ohio is the same." Here then we have the full committal of the professor of archæology in Harvard College to this theory of the foreign origin of the great serpent.

II. The position which we take is, that the system of symbolism which was contained in the great serpent was also extended over the entire region which was occupied by the effigies, and thus proves that the people who built the effigies were serpent worshipers. We have discovered the serpent effigy in many places, and find that it always embodies the same elements, and seems to have been used to serve the same effigies, and is generally connected with the same symbolism. One thing, however, is to be noticed, that the symbolism was more elaborate in Ohio. If the great serpent was erected by the Dakotas, they must have in the course of their migrations, lost much of the symbolism which they then possessed. In fact, they degenerated. The symbolism of Ohio was that of sun worship, as well as serpent worship. In Wisconsin and Dakota, serpent worship seems to have continued, but the emblems of sun worship are by no means numerous. Totemism here gained the ascendancy. Sun worship almost disappeared. Serpent worship, however, retained its original power.

How this superstition arose is unknown. It may have been introduced from the far east, but there is an uncertainty as to the date and means. Serpent worship has prevailed in all parts of the globe. It was formerly very extensive in India, and became incorporated into the Buddhistic faith, though it is supposed to be derived from the aboriginal tribes. The Hindoos tell the story of the great serpent which served as the embodiment of the evil principle, Vishnu, the destroyer. There is a sculptured figure in one of the oldest pagodas, which represents Orishna trampling on the crushed head of the serpent—the Creator trampling on the Destroyer. The classical Hercules is represented as contending with a serpent, the head placed under his foot. The gardens of Hesperides is a classical myth in which was the tree with the golden fruit, which tree was guarded by the hydra-headed serpent. In the Egyptian mythology the monster Typhon is represented as a combination of two immense serpents. In the Scandinavian mythology there is the story of the tree with



the serpent at its root. This is the Tree of Life, the Ash tree. The great serpent Midgard is said to have been precipitated by Woden to the bottom of the ocean, but he wound himself around the whole globe and became the serpent of the sea. The Chinese have as a common myth the story of the dragon which threw the universe into confusion. It was born out of an egg that floated on the waters of the great abyss. The Persian Mithras was depicted with a human body, a lion's head, wings of a bird, with the tail of a snake, all of the orders of creation being combined into one. Some suppose these to be derived from the scripture account of the creation, of the Garden of Eden and of the cherubim which guarded the gate. Others would consider that the Scripture account had only preserved the aboriginal myths and given them a new interpretation, making the serpent the embodiment of evil, winged figures the embodiment of good. The Egyptian conception was just the opposite. The serpent Neph was the creator of the world and the source of good. The Phœnicians also considered the winged snake as a symbol of the good Agatho-demon. Among the Hindoos Twashta was the great artificer of the universe and was supposed to bear the form of a serpent. The worship of the serpent was prevalent among the Babylonians. The apochryhal story of Bell and the dragon shows that it was a well known superstition of the Chaldeans. In the mystic theology of the Druids the serpent was venerated as the symbol of the Deity and was the sovereign dragon of Britain. It was typified in various forms and was described as moving around the huge stones of Gaer-Sidi or Stone Henge and as pursuing a fleeting Goddess, who is styled the Fair One, a myth nearly allied to the legend of Jupiter under the form of a serpent violating Proserpine. Among the Syrians the Great Mother was typified as a serpent as well as a ship. According to the Hindoos an enormous snake is seen opening its jaws, and the god Vishnu is seen driving into its mouth a herd of cattle, the story being that he was in imminent danger from the rage of his enemies, but found shelter for his flocks in this way. Fohi, the reputed first emperor of China, is fabled to have had the body of a man with the tail of a serpent. Vishnu also floats upon the sea, borne upon the body of an immense serpent.

The serpent, twisted in the form of a circle, was a familiar symbol among the Hindoos, Persians, Phœnicians, Egyptians, Britains and the Greeks. The caduceus of Hermes exhibited two serpents wound around a staff, a globe, and wings at the top of the staff. The Phœnician symbol was a serpent coiled around an egg, a symbol which is found in some of the altar stones of Mexico. The Assyrian symbol was a man rising out of a circle formed by a serpent, with a bow and arrow in his hands. In Mexico the serpent is a common symbol. It guards

THE GREAT SERPENT IN ADAMS COUNTY, OHIO.





1. The oval embankment in front of the serpent's mouth. In this enclosure is a small mound of stones. 2. The Serpent. A low artificial mound near the head of the serpent. 3. S. 19, 20, 21, 22, 23, 24, 18, 17, 16, 15. Sites of Ancient Habitations. 4. Recent Indian graves. 5. Indian graves with two skeletons. 6. Grave with skeleton overlaid and crushed. 7. Pile of large gray Pot. 8. Two small graves. 9. Site of a wall found to extend 200 feet east and south of 2. 10. The large conical Mound, a remnant of the ancient city. 11, 12, 13, 14. Remnant of a wall. 15, 16, 17, 18, 19. Very Ancient graves. 20, 21, 22, 23, 24. Small Mounds of four ancient graves. 25, 26, 27, 28, 29, 30, 31, 32. Present habitations.

the temples, forms the balustrades to the stairways of the pyramids, surmounts the walls which surround the temples, and is incorporated into the form of their divinities. The shrines in which the Mexican divinities were contained were in the shape of serpents, with mouths open, the fire lighting up the interior and giving them a ghastly appearance. The altar temples or adoratorios at Palenque and Uxmal had the symbols of the winged serpent covering the facade and surmounting the doorways. In Benares, the great temples have circular domes which cover the sacred piles, and the image of the god stands upon a raised platform or high place beneath the dome.

The figure of the cross is sometimes associated with that of the serpent. It is a cross, however, which has a circle surrounding it, showing that it was associated with sun worship, but at times the figure is also associated with serpent figures.

There are many strange myths associated with serpent-worship. In India the myth of the churning of the sea; in Britain the myth of the island in the lake; in China the myth concerning Fohi and the mountain, typhoon, etc; in Greece the myth concerning Hercules; in Egypt the myth of Osiris. The following is the story of the churning of the ocean as related by Sir William Jones: Vishnu directed the king of serpents to appear. Then Ananta bore the king of the mountains, with all its forests, into the presence of the ocean. So the mountain was set upon the back of the tortoise. Eendra began to whirl it about as if it were a machine (a fire generator), the mountain Mandar served as a churn and the serpent Vasooke for the rope. The Dewtahs, Assoors and Danous began to stir up the waters for the discovery of Amrita, or the essence of immortality. The mighty Assoors were employed at the serpent's head, the Soors at his tail. They pulled forth the serpent's head repeatedly and let it go until there issued from his mouth a stream of fire, smoke and wind which ascended in thick clouds, replete with lightning, when it began to rain down upon the heavenly bands. A raging fire was produced, involving the mountain with smoke and flame which spread destruction upon all sides. The forest trees were dashed against each other, the inhabitants of the great abyss were annihilated, a raging fire was produced involving the whole mountain with smoke and flame. Every vital being was consumed in the conflagration. The raging flames spread destruction on all sides, but were at length quenched by a shower,—a cloud-bourne water poured down by the immortal Eendra. The end was that there arose from the troubled deep, first the moon with ten thousand gleams of light, next the jewel Kowstooch, a glorious gem worn by Narayan on his breast. Then the tree of plenty, also the horse, as swift as thought; the cow that granted every heart's desire; the goddess of fortune, whose seat is the white lily. In Great Britain the legend assumes a different

shape. A holy sanctuary was on the surface of the ocean, a floating island on the seventh wave, a holy sanctuary surrounded by the sea, a sanctuary with an iron door (a type of the ark), and a city not protected with walls. The divinity entered his earthly cell in the border of the circle. Disturbed is the Island of Hu; deplorable is the fate of the ark of Aeddon. The goddess of the silver wheel in behalf of the Britains threw around the sanctuary of the rainbow a stream which scares away violence from the earth and causes the bane of the former state around the circle of the world to subside. Then the masters of the magic wand set the elements at large. The dragon chief was the rightful claimant in Britain. He was seated on his chair in the midst of the island. His belt a rainbow; a protector of the sanctuary.

The legend assumes an historical form in the legend of St. Cuthbert; of Merlin, also of King Arthur and the round table, and forms a very interesting department of mythical literature. He was said to have held the strong beamed plow; he sailed in a wonderful ship; he presided over a stupendous temple which is called the great stone fence, the circle of the world, the mundane circle of stones, the mound constructed of stone work typifying the world, the mundane rampart. The stall of the cow, the ark of the world, the common sanctuary. He places his chair upon the mystic island. He is able to protect his chair in the midst of a general flood.

Many of the stone monuments of Britain were associated with these characters. Each kistvaen was regarded as the mystic stone cell of Ceridwen. The slab in the center of Stone Henge, which has often been taken for an altar, was the mystic tomb of Twain, or the Solar Hu, just as a similar stone in the midst of the Egyptian temple of Nuphis was a sepulchre of Osiris. The symbols which are connected with serpent worship are numerous. Among them are the circle, signifying the sun; the horse shoe, signifying the principle of life, the trident signifying the same; the crescent, signifying the moon and the boat; a crescent with three points, one signifying the prow, another the stern, and another the mast of the boat. They were regarded by some as the symbol of the ark. The cross is also a common symbol. This assumes the shape of the suastika, or the fire generator, the ends signifying the points of the compass. The cross has the circle adjoining the arms, signifying the circle of the sun and the motion of the heavenly bodies. These symbols are repeated over and over again in all parts of the old world, and are all very significant. Many of them are found in this country, though they are not as elaborate, nor are they as closely associated as they were in the old world. Still we have the suastika or fire generator, the crescent, circle, the horse-shoe, as well as the serpent, all of them very significant.

Now our point is that we have all of these symbols in America, the effigy mounds perpetuating most of them; the two, the the relics from the earth-works also containing the same symbols. The strange thing about all of these symbols, the cross, the serpent, the circle, the crescent, the bird contained in the circle, the serpent and the horse shoe, are found in the State of Ohio, the very place from which the Dakotas, according to traditions extant among them, are supposed to have migrated, the only exception being that of the bird in the circle, which is located in Georgia, in the very spot where the Tuteloes, a branch of the Dakotas, are known to have dwelt at one time. We can not help, then, associating these symbols with this tribe and concluding that the same tribe when they migrated to the west carried some of these symbols with them. We might go even further and say that the Mound-builders brought into this coun-



*Fig. 1.—Serpent Pipe from Altar in Ohio.*

try that form of symbolism which prevailed in Great Britain, and which belong to the Indo-European race, though they themselves were not of that stock, but were of the Turanian. Still they may have received from some stray member of the Indo-European race that symbolism which is supposed to have been Turanian, but which were introduced into Great Britain by the Druids. There is a mystery about this whole subject, but there are enough facts constantly coming to light to keep our curiosity constantly awake and to set new inquiries at work. We may call it all visionary and ascribe the theory to credulity, but the opposite theory—that is, the theory of the autochthonous origin—may lead to equal or even greater credulity. We have, at least, the relics and the earth-works, which bear a symbolism which resembles that of Great Britain, and explain it as we will the relics are substantial and genuine. They have never been disputed.

Let us take the figure given above: It is a carved stone which was taken out of one of the mounds in the enclosure on the north fork of Paint Creek. It represents the serpent twined about the bowl of a pipe. Other sculptures of the serpent coiled

in like manner have been found. This represents a variety not recognized. It has a broad flat head and a body singularly marked. Now we think that no one can look at this figure without being reminded of the Mahadeo of India, a figure which was very significant, and was often seen in connection with the phallic worship of that country. Dr. Charles Rau says of this: "Mahadeo is worshipped by the Hindoo sect under the form of a phallis, represented by an upright stone pillar, sometimes in conjunction with the Yoni in the shape of a jewsharp." Dr. Rau thinks that the same symbols are found in some of the cup-shaped markings of this country, especially in that found on Bald Friar's rock in West Virginia. Here the serpent's head has the shape of the jewsharp, and above it is the symbol of the concentric circle, the concentric circle being emblematic of sun worship. Prof. Simpson says: Much evidence has been gradually accumulating of

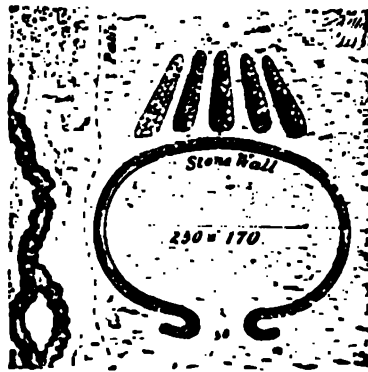
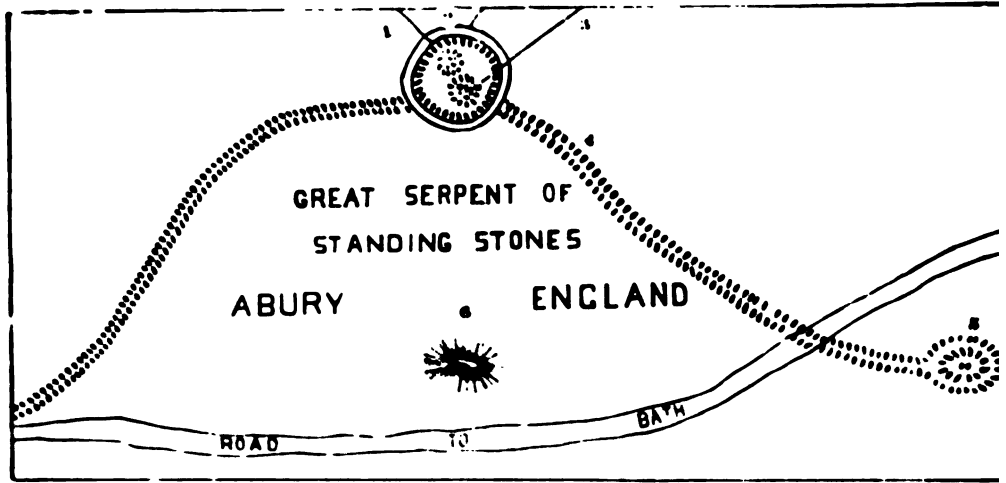
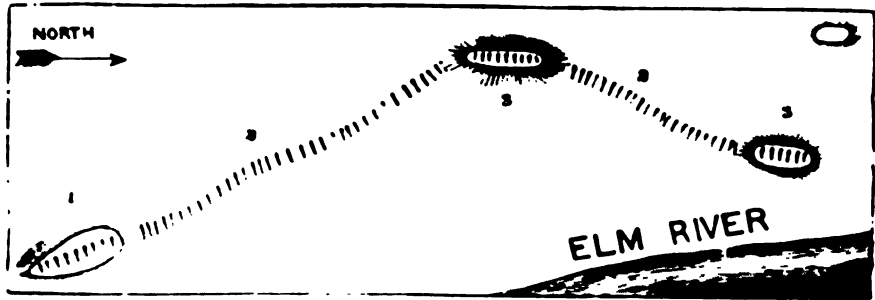


Fig. 1. Serpent Symbol showing Rattles.

late years to prove that there existed pre-Celtic races in Britain, that the race preceded the megalithic builders. But Mr. Tate says of the cup and circle carvings in Great Britain that at the period in which they were made the whole of Britain was peopled with tribes of one race, who were imbued with the same superstitions and expressed them by the same symbols. He seems to have a leaning toward the belief that they originated with the Druids and were connected with the rites of the priesthood. The concentric circles show the motion of the heavenly bodies. It is remarkable that these cup marks are very common in Ohio, though they are not generally regarded as symbolic, a more practical use being assigned to them—rests for drills or holes for of nut cracking. The horse shoe, however, is found in the earthworks at Portsmouth, the concentric circles at one end and the serpent effigy at the other. The carved specimens of shell gorges found in Tennessee contain figures of the serpent. These serpents are generally represented with their mouths wide open, their tails twisted around, and rings placed at intervals in the bodies. It sometimes seems as if there was a conception of the dragon contained in them, the rings being the place where the legs joined the body, though there are no clearly defined dragons among the mounds. The dragon was a symbol among the Mexicans; it represented the motion of the heavenly bodies, and was used in connection with their chronology. The mounds of Ohio contained no such shells as are found in Tennessee and the

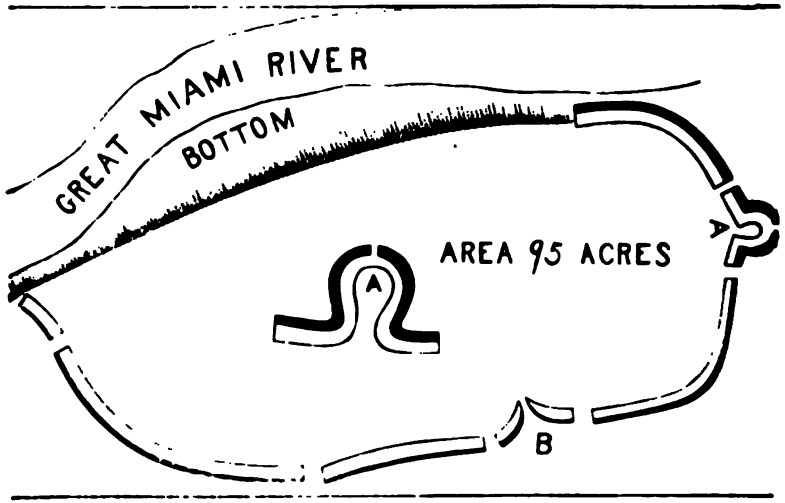


1—Reckhampton Hill. 2—Wall and Ditch. 3—Circle of Stones. 4—Avenue. 5—Bennet Hill. 6—Wibury Hill  
**AVENUE MADE FROM STANDING STONES IN ENGLAND.**



1—High hill. 2—Bone Paths. 3—Hill.  
**PATH MADE FROM BUFFALO BONES IN DAKOTA.**





A - Gateway closed, heads of serpents. B - Gateway, tails of serpents.  
**FORT GUARDED BY WALLS IN THE SHAPE OF SERPENTS.**

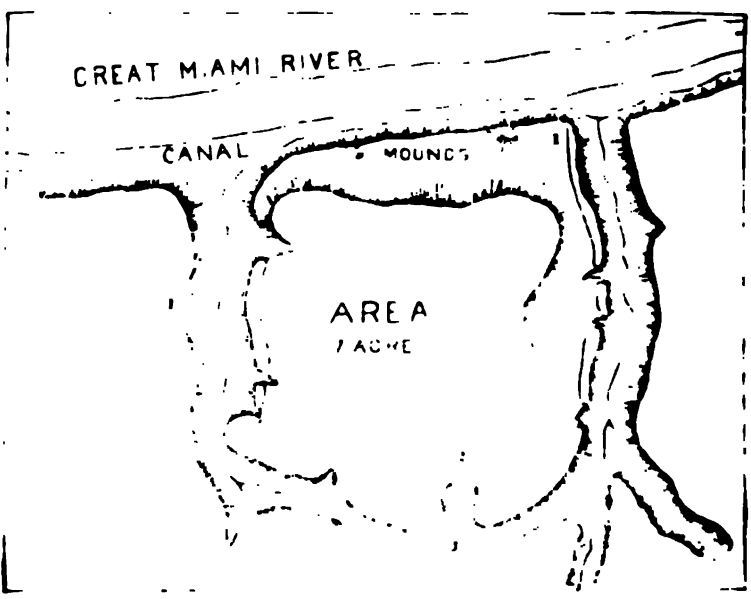


FIG. 1. MOUND 1, showing the location of the gateway.  
 WORKS AT HAMILTON, OHIO. (See page 100.)

Southern States. We conclude from this that they were built by a different tribe. Still the mounds of Ohio are, many of them, built in the shape of circles and crescents, and have the same symbols which are found in the shell gorgets.

III. There is a distinction between the relics of the different localities, and yet it would seem as if serpent worship existed all over the localities. Let us take the relics which have been discovered in the altars near Chillicothe. Squier and Davis have described these altars. There are twenty-four mounds, all of them altar or burial mounds, or places of sacrifice, in one enclosure. The enclosure contained thirteen acres. There was no exterior ditch, no elaborate gateway. It was merely enclosed by a wall, but it was designed as a burial place. One of the mounds was seventeen feet high and one hundred feet in diameter, but mounds that yielded the most relics were comparatively small. It would seem to be a place for successive burials, as some of the mounds contained two altars, a large one and a smaller one, the large one being about sixty feet in length and forty five feet across the top, the other one being fifteen feet in length and eight feet square at the top. A basin eighteen inches in depth was found in the altar. It was burned to the depth of two feet, one altar having been built upon the first, both having been used and subjected to heat, one after the other. The contents of this altar consisted of copper and stone implements, spear-heads made of quartz and garnet, arrow-heads of obsidian and quartz, copper gravers or chisels, twenty or more copper tubes, a large quantity of pottery, two vases nearly complete. Another contained an altar which is only six feet long and four feet wide. On this altar was a deposit of two hundred pipes, carved in stone, many pearl and shell beads, numerous disks and tubes of copper, and other ornaments of copper, covered with silver. The pipes were made of red pipestone, had been exposed to the heat, and were many of them broken. They were carved with miniature figures of animals, birds, reptiles, all of them true to nature, and with exquisite skill, representing the peculiarities and habits of the animals. The otter is in a characteristic attitude, holding a fish in his mouth. The heron also holds a fish. The hawk grasps a small bird in its talons, which it tears with its beak. The panther, bear, wolf, beaver, otter, squirrel, raccoon, hawk, heron, crow, swallow, buzzard, paroquet, toucan, turtle, frog, toad, rattlesnake, are recognized at first glance. The most interesting and valuable in the list are a number of sculptured human heads, no doubt faithfully representing the predominant physical features of the ancient people by whom they were made. Another mound in the same enclosure contained a skeleton and skull of one of the Mound-builders.

Thus we have from this one locality not only the shapes of the animals which were carved upon the pipe and which remind

us of the animal effigies and the skill of this people in imitating animal figures, but we have the portraits of the people themselves, and to confirm it the skull of one of the persons that may have been the skillful worker whose hands wrought the relics. One remarkable circumstance connected with one of the portrait pipes is that it very strongly resembles the portraits of one of the Mandan chiefs which Catlin painted when he was among that people and learned from them the traditions concerning their migration. We present the figure of this pipe and a portrait of a living chief, the grandson of the one which Catlin painted. It will be noticed that the last surviving chiefs had features almost exactly like those which are contained in the pipe. This may be by some regarded as a mere coincidence and not as a proof. If it is a coincidence, it is a very remarkable one. We are ready to acknowledge that the other pipes contained portraits which are very unlike this. And yet one of them, the one with the remarkable head dress, has features which we think are very like the features of Dakota women we have seen. Taking this evidence with that which has already been given, we consider that there is pretty good proof that the Dakotas built the effigies of Wisconsin and the altar mounds of Ohio.

Of course we shall need to connect serpent worship with the altars in Ohio to prove that they belonged to the effigy builders in both states, but we have the animal figures in the pipes to suggest this point, and at the same time we have the serpent effigy, the aligator effigy, the bird effigy, all of them containing altars, thus showing that the practice of building altars and offering sacrifices was common with the effigy builders of Ohio. The serpent worship was attended with sacrifices. Another argument is found in the fact that altar mounds are not confined to this one locality of Mound City, but they are quite common throughout this district; another locality, that of Clark's Works, being very remarkable for the richness of its deposits. In this place were found several pipes, one of which we have described above. Another remarkable circumstance is that the altars contained such a variety of deposits. The mounds differed in the number and relative position of the sand strata, as well as of the size and shape of the altars and the character of the deposits made in them. The altars were somewhat alike, but the deposits were entirely different. One mound covered a deposit of pipes, another a deposit of spear heads, another a deposit of galena, or calcine shells, another of mica plates. Some of the mounds containing relics had no altars. This was the case with the one which contained the coiled serpent. In place of the altar a level area, ten or fifteen feet broad, was found, much burned, on which the relics had been placed. Hundreds of relics, many of them most interesting and valuable, were

found, among which were several coiled serpents, carved in stone, and carefully enveloped in sheet mica and copper; also several fragments of ivory and a large number of fossil teeth and numerous fine sculptured stones. Another mound contained six hundred disks of horn and stone in two layers. Another contained a layer of silvery mica in round sheets, ten inches or a foot in diameter, overlapping each other like the scales of a fish, the whole forming the shape of a mica crescent, giving the idea that the worship of the moon was symbolized both by the crescent and by the glistening color of the mica itself. Traces of cloth, several scrolls from thin sheets of mica, instruments of obsidian, and a large quantity of pearl beads were taken from the mounds at Clark's works. Copper bracelets were taken from another mound in the same locality. This contained an altar which was paved with small round stone laid with the utmost precision. The copper bracelets encircled calcined bones, showing that human sacrifices had been offered.

IV. The following are the elements which we have recognized in connection with serpent worship wherever it is found. These elements are very apparent in the great serpent; but they are also perceptible in other localities.

1st. The serpent effigy always corresponds to the shape of the ground on which it is placed. This is a very remarkable circumstance, the natural and the artificial being always associated. It is perceptible in all localities. The great serpent in Ohio is on a cliff which resembles a serpent in its shape, the very end of the cliff representing the nose, the limestone representing the white throat, the tortuous line of the cliff representing the motion of the serpent, the very shadow on its side making the resemblance all the more striking. The stone serpent in Dakota is on a ridge which resembles a great serpent. It is a ridge which overlooks the prairie on all sides. The stones of which the serpent is composed brings out the resemblance, the two stones in the head of the serpent being very expressive. The two serpents near Potosi, Wisconsin, are situated upon a ridge which, in its shape, is suggestive. Here the two serpents correspond with the shape of the cliff, every bend in the cliff being followed by the effigy, and the line which constitutes the summit being transformed by artificial means into the shape of serpents. It is quite wonderful, for the resemblance is so close that one is left in uncertainty after he has visited the locality whether he has not been deceived. The author, in examining these was accompanied by Mr. R. S. Foster, who is a graduate of Beloit College and a close observer, being a student of natural science. A gentleman, also, who owns lead mines and who has been familiar with the entire region for many years, was consulted. He seemed to have recognized the serpent shape on the summit of the bluff.

Dr. Lapham has described a row of mounds near Burlington,

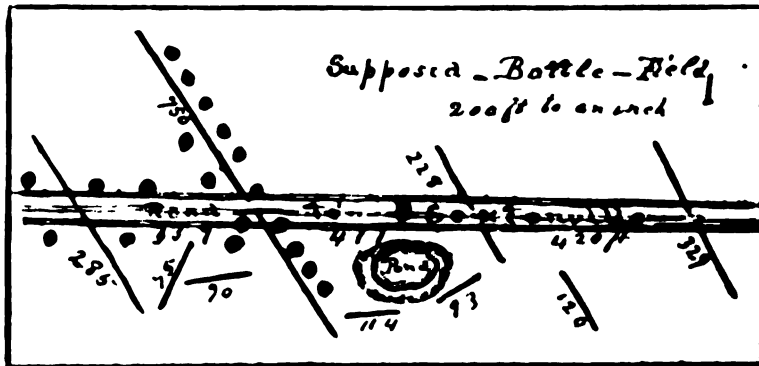
Wisconsin, which was so arranged as to resemble a crooked snake. What is remarkable at this locality is, that the line of the mounds follows the line of the stream—the Fox River—every turn of the stream being followed by the row of mounds. There are also three oblong mounds near the head of the snake, though it is uncertain whether these were intended to bring out the symbols of the three peaks which are always associated with the serpent effigies in the old world.

The serpent effigy discovered by the author a few miles from his home in Adams County, Illinois, is also contorted to the tortuous shape of the cliff. This effigy is in a very conspicuous place. It overlooks the bottom lands of the Mississippi River for many miles. The effigy itself is a striking object. The head of the serpent rests on the south end of the bluff. The bend of the neck follows the line of the bluff for 600 feet. The roll of the body extends 300 feet further, but is brought out more fully by four high conical mounds. The effigy then follows the line of the bluff for 600 feet more, the rattles of the snake being plainly visible at the northern extremity of the bluff.

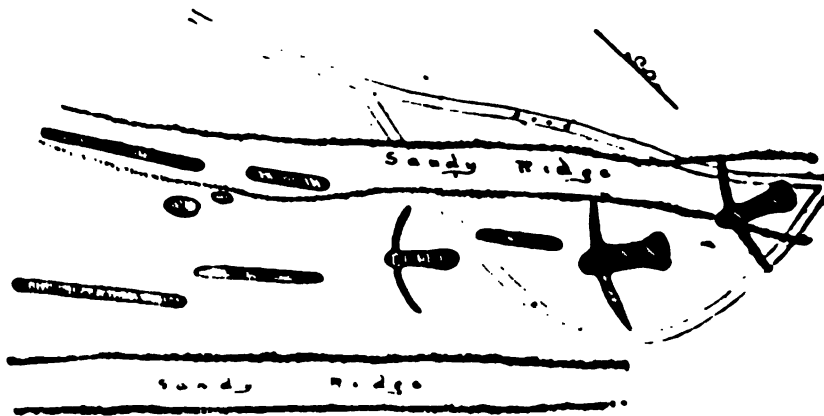
2d. Another element of serpent worship is that it was a source of protection to the people. This is seen in the serpent in Ohio. Prof. Putnam discovered an old village site, and lookout and burial mounds in the immediate vicinity. He does not say that the serpent has any protective power here, but merely refers to the burial mounds and their contents. The spot seems, however, to have been occupied for a long time. Evidence of the former existence of habitations was shown by the burnt places and ash-beds marking the sites of dwellings. But the dwellings and burials were of different times. He asks the question: "Does not this burial show that the spot was revered as the home of ancestors, or from its vicinity to the sacred shrine, about which traditions may well have been preserved long after the immediate descendants of the builders had disappeared from the region?" Prof. Putnam mentions a grave containing a pavement of flat stones. He says: "Pages could be filled with instructive details relating to the burial place and village site." He mentions graves which have an antiquity as great as that of the serpent itself, and says we have every reason to believe that the bodies buried at this spot were of the people who worshiped at the serpent shrine. This idea of protection given by the serpent to a village is, we think, embodied more fully in the forts to which we have referred—Fort Ancient, Hamilton, Colerain. It is also brought out in the stone work near Bourneville. Here the serpent is double, the two bodies forming a circle, the necks coming together forming the entrance, but the heads turning away, the same as they do at Colerain and at Fort Ancient. The tapering piles of stone adorning this work are symbolic of the rattles of the serpent, but they are doubled. In this we have



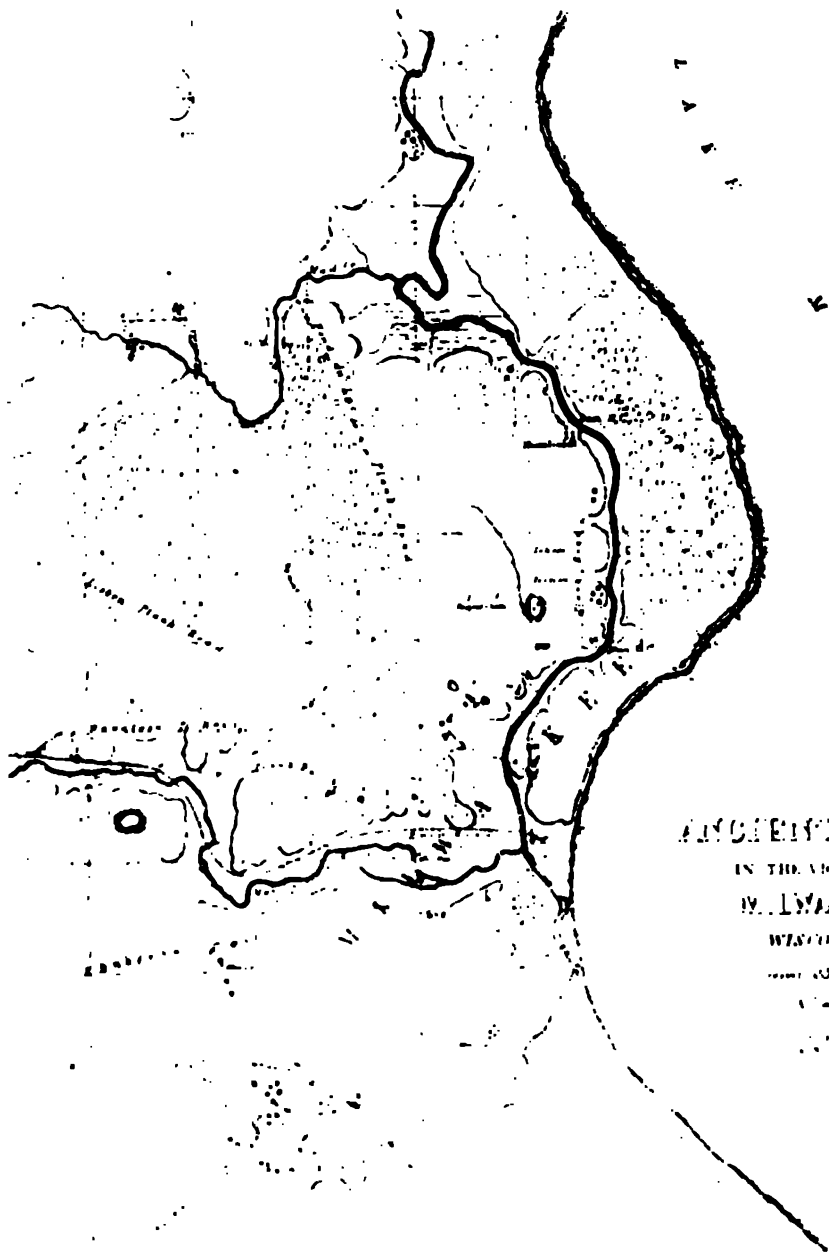
EFFIGIES ON MILWAUKEE RIVER.



BURIAL MOUNDS NEAR SEXTONVILLE.



PIGEON EFFIGIES ON THE LEMONWEIR RIVER.



**ANCIENT WORKS**

IN THE VICINITY OF  
**MILWAUKEE,**  
WISCONSIN.

PREPARED BY  
A. C. COOK  
1882

MILWAUKEE  
RIVER

the same symbolism which is common in Mexico, the tails oftentimes being double.\* The cross at Teotihuacan illustrates this. In Wisconsin the serpent guards a series of garden beds. Another serpent guards a small council house. The serpent here is very tortuous, the head and the tail coming very near together, and forming the opening to the council house. The peculiarity of this effigy is that it corresponds to the shape of the bluff on which it is placed, every bend of the serpent representing a bend of the bluff, the whole forming an isolated spot on which the council house stood. Squier and Davis have described the works at Portsmouth as having a circle in an isolated spot, surrounded by two small streams, guarded by the parallel walls. The wall of this circle, according to Mr. T. H. Lewis, is in the shape of a crooked serpent, the head and tail coming together, so as to constitute the opening. It may have been a council house.

3d. The accompaniment of a "High place" is a frequent feature of the serpent effigies. We find this in Ohio. According to Mr. T. W. Kinney there was an altar at Portsmouth, Ohio. It was contained within an artificial mound, which had the shape of a serpent. This mound has been destroyed, as it is the site of an orphan asylum. It was, however, but a short distance from the horse shoe enclosure. Mr. Kinney supposes that there were sacrifices offered on this altar. He says that it shows evidence of heat. A channel also leads from the altar to the edge of the mound, which he thinks was a channel for blood.

The "High place" occupied by the oval near the serpent has been described. It is supposed that this was a spot where sacrifices were frequently offered. The eminence is one which can be seen for many miles. The fires lighted here would at night cover the whole valley with a peculiar glare. It is evident that it was the spot where mysterious ceremonies took place.

The serpent effigy at Madison, Wis., attends a "High place." This altar was also situated on an eminence that could be seen for a long distance from all sides. It is a very peculiar ridge, and one which attracts attention. The lakes are on all sides of it. At present the ridge is unoccupied. It can be seen from the capitol, and from the university, and constitutes the third eminence which marks the site of the city. Fires lighted upon this altar could be seen from all the points where effigy mounds are at present located. There are many burial mounds in the immediate vicinity, but this altar mound is on the highest point, and is very conspicuous. Here we have the same element which was an important feature of the ancient works in Great Britain. The circle at Avebury and the horse shoes at Stone

\*See *Explorations*, p. 17; *Proc. A. S. N. E.* and *XIV.*

†See *Ann. A. S. N. E.*, vol. 3, No. 1, page 7.



Henge surrounded an altar, the serpent at Avebury forming the passage ways to the altars. This is very suggestive, though there is a great variation in the different localities. This "High place" at Portsmouth is very remarkable. It is near the horse shoe and is on the bluff which overlooks the city. Avenues lead from this bluff in three directions. At the east end of the avenue are the four concentric circles, with four passage ways in the shape of a cross, with a terraced mound in the centre, the whole making a remarkable sun symbol. At the west end is a large square enclosure, with the avenue extending in both directions from it, one of them resembling the head of a serpent, the other the tail, the enclosure giving the impression that it may have been used as a pen in which prisoners were confined and kept for sacrifice. At the great ceremonial day the heights may have been lighted with sacrificial fire, the one where is the altar and horse shoe enclosure being the place of sacrifice, the one where is the square enclosure being the place in which the victims were taken; the other, where the sun symbol is seen, being the place where the offerings to the sun were made, the avenues being in the shape of a great serpent, the whole picture being the scene where processions passed in great solemnity. The river flowing between the place of the sacrifice, and the final place of the offering, the very bend of the river suggesting the shape of a great serpent.

4th. In reference to sacrifices, it should be said that nearly all the effigies in Ohio have altars connected with them. The alligator mound, near Newark, overlooked the site where there were villages around which the works were erected. The fires could be seen from both villages. It had an altar near. There was also an altar inside of the circle which is called the old fort. This altar was covered with the bird effigy. An altar also attended the cross near Tarleton, Ohio. See Fig. 10. Immediately back of it is a small circular elevation of stone and earth, resembling that in connection with the Granville effigy. Squier and Davis say of the cross that it corresponds in position with the oval at the head of the great serpent. Here then we have all of the symbols of the old serpent worship embodied in the different effigies of Ohio, all of them attended also by an altar, showing that they were evidently used in connection with sacrifices. Whether they were human sacrifices or not is uncertain. The altar mounds in Wisconsin have only the serpent effigy in connection with them. Much of the symbolism seems to have been lost. Altar mounds are, however, in Ohio associated with the sun symbol, and it may be that the sun worshipers were the people who erected the great serpent, and that they passed

— See Faber's History of Idolatry, Maurer's History of India, Sir William Jones' Asiatic Researches, Davies' Mythology of the Druids, Farrington's Rivers of Life, Purgess's Serpent Worship, Squier's Serpent Worship, Isidore's Origin of Superstition, Mallet's Northern Antiquities.

off in another direction, possibly to the southwest, the Natchez being their descendents. We are ready to acknowledge that the comparison can not be carried out in the case of the effigies of Wisconsin. In Ohio we have the circle, cross, crescent, horse shoe accompanying the altars. In Wisconsin we have only the serpent effigies. Was it because the people degenerated, or was it because they were of different stock?

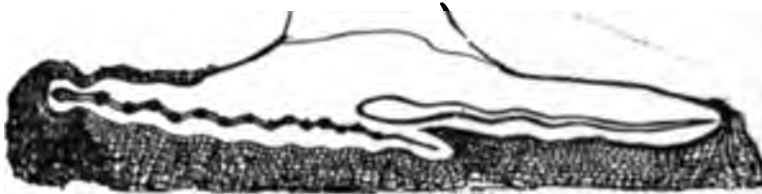


Fig. 3.—Serpent Effigy near Puton, Wisconsin.

5th. The prevalence of forts guarded by serpent effigies is another point. We have referred to the Fort Ancient, and have said that it contained the shape of a serpent embodied in its walls. The same is true of the forts at Colerain and near Hamilton. In both of these forts there are walls which resemble serpents. See Plates. In one case the heads of the serpents formed a gateway which was afterwards closed, the tails forming the guards to two other gateways, which were the regular entrances. In the Colerain works the heads formed the main entrance, and a mound near the heads formed the lookout for

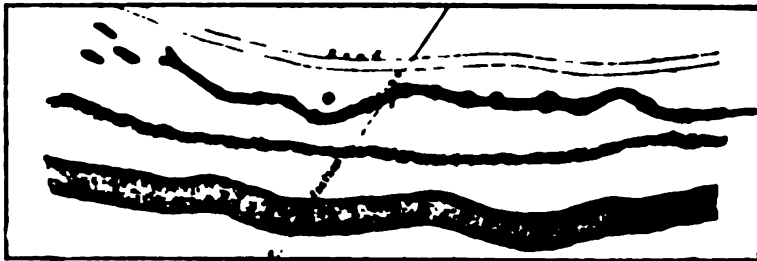


Fig. 4.—Serpent Effigy near Burlington, Wisconsin.

the fort and at the same time served as an out-work or protection to the gateways. The question is whether there are any forts in Wisconsin, Illinois, Dakota or Minnesota which have this peculiarity of the serpent embodied in the walls, or guarding the gateways. In reference to this there is some uncertainty, and yet there were at Aztlan certain peculiarly shaped walls built outside and inside of the enclosure which might be taken to be serpent effigies, though their shape has so far been obliterated.

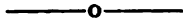
6th. A remarkable coincidence has been mentioned. Mr. Wm. McAdams has described the paths of buffalo bones which were

discovered on the prairies of Dakota, and has given a cut which shows the shape which the paths assume, and which brings out the resemblance of the paths to a great serpent, a mound being in the centre of the body, a smaller mound at the head, and a tapering mound at the tail. It may be a mere coincidence, and may seem visionary that we should mention this, and yet there is a resemblance between this modern serpentine path made out of buffalo bones and the remarkable stone path guarded by the double lines of standing stones, which is a peculiar feature of the works at Avebury, England. We place the two pictures side by side to show this. The centre of this path is a high hill called Silbury Hill, the largest artificial mound in Great Britain, measuring no less than 170 feet in height. Here was the great circle, containing two smaller circles and the embankment with the ditch inside of it. At the end of this avenue was another double circle, which was also upon an eminence, called Bennet Hill. The tail of the serpent went in the direction of Beckhampton. The resemblance between the two structures, the one in Dakota and the other in Great Britain, is certainly remarkable, but the tradition which Catlin repeated long before the path of buffalo bones was known, is even more remarkable. It has been a question who built the works at Stone Henge and at Avebury, and it is still uncertain, some ascribing them to the Druids, others to the Phœnicians, and still others to the early Britains. The Celts could not have come to this country, for there are no signs that the Celtic, Saxon, or any of the branches of the Indo-European languages were ever introduced here, the students of the aboriginal languages all being agreed on this point. In reference to the Britains and the Basques the linguists are not so sure. In fact, some of them, Mr. Horatio Haic among them, have claimed that there were many resemblances to these in the Indian languages. We would refer to the connecting link between the peculiar structures in Great Britain and the effigies in Wisconsin and Dakota.

## FABLE ABOUT CREATING THE ANIMALS.

A great many hundred snows ago, Kareya, sitting on the Sacred Stool, created the world: First, he made the fishes in the big water, then the animals on the green land, and last of all, The Man. But the animals were all alike yet in power, and it was not yet ordained which should be for food for others, and which should be food for The Man. Then Kareya bade them all assemble together in a certain place, that The Man might give each his power and his rank. So the animals all met together, a great many hundred snows ago, on an evening when the sun was set that they might wait for the coming of The Man on the morrow. Now, Kareya commanded The Man to make bows and arrows, as many as there were animals, and to give the longest to the one that should have the most power, and the shortest to the one who should have the least. So he did, and after nine sleeps his work was ended, and the bows and arrows which he made were very many. Now, the animals being gathered together in one place, went to sleep, that they might rise on the morrow and go forth to meet The Man. But the coyote was exceedingly cunning, above all the beasts that were, he was so cunning. So he considered within himself how he might get the longest bow and so have the greatest power, and have all animals for his meat. He determined to stay awake all night, while the others slept and so go forth first in the morning and get the longest bow. This he devised within his cunning mind, and then he laughed to himself, and stretched out his snout on his fore-paws, and pretended to sleep like the others. But about midnight he began to get sleepy, and he had to walk around camp and scratch his eyes a considerable time to keep them open. But still he grew more sleepy, and he had to skip and jump about like a good one to keep awake. He made so much noise this way that he woke up some of the other animals and he had to think of another plan. About the time the morning star came up he was so sleepy that he couldn't keep his eyes open any longer. Then he took two little sticks and sharpened them at the ends, and propped open his eyelids, whereupon he thought he was safe, and he concluded he would take just a little nap, with his eyes open, watching the morning star. But in a few minutes he was sound asleep and the sharp sticks pierced through his eyelids and pinned them fast together. So the morning star mounted up very swiftly and then there came a peep of day-break and the birds began to sing, and the animals began to

rise and stretch themselves, but still the coyote lay fast asleep. At last it was broad daylight, and then the sun rose and all the animals went forth to meet The Man. He gave the longest bow to the cougar, so that he had the greatest power of all ; and the second longest to the bear, and so on, giving the next to the last to the poor frog. But he still had the shortest one left, and he cried out, "What animal have I missed?" Then the animals began to look about and they soon spied the coyote lying fast asleep with the sharp sticks pinning his eyes together. Upon that, all the animals set up a great laugh.



## Correspondence.

### MECHANIC ART IN THE STONE AGE.

*Editor American Antiquarian.*

I have before me some hundreds of fragments of broken flint which are, for the most part, so rude and unshapely as not to be distinguishable by casual or unskilled observation, from those which are commonly found on the hillsides and in the beds of streams in this country. They bear no traces of human handiwork which are discernible to the unpracticed eye. They have been walked over for years, many of them lying on the surface in a thickly settled district, without its being discovered that they differed, in any material respect, from the other fragments of flint with which they were associated. Yet every one of these rude and uncouth fragments has, in truth, been dextrously shaped, in some part, by skillful human hands, guided by intelligent design, in order to conform it, as nearly as possible, to a preconceived ideal in the mind of the artificer, and adapt it to some valuable mechanical use. Taken altogether, these pieces of flint comprise a complete system of mechanical implements covering a wide range of form and utility and embracing, as nearly as possible to the material of which they are composed, all the best forms and mechanical principles employed in the most perfect metallic implements now in use; and show, in almost every part of this system, the process of formation of the more elaborate and complex from the ruder and simpler forms, and the gradual emergence and establishment of distinct and fixed types, from forms which are, at first, nascent and variable.

Comparison of the most perfect forms attained in these implements with the most perfect and useful metallic implements now in use leaves room for doubt whether it were extravagant

to assert that these implements represent the highest possibilities of ingenuity and skill in the particular department of mechanical art to which they belong, and the material of which they are composed.

They are, doubtless, the only remaining vestiges of a people or succession of races who have, long since, vanished from the face of the earth, and convey in the delicate tracery of light and shade on their surfaces, much more of the genius and aspirations of the people or races who made them than is at first apparent. They clearly evince the conception in the minds of their fabricators of very perfect ideals of the best forms, and an energetic striving to overcome the obstacles presented by the imperfect material of which they are composed, to the complete attainment of the ideal toward which their efforts were directed.

Though of rude workmanship, except comparatively a few, being formed by a few well directed fractures, they evince great ingenuity in adapting natural or accidental forms to the various mechanical uses. In some instances, an implement of good form, often approximating very nearly some established type now in use, with an efficient point or edge and a convenient handle, is produced, by one or two well directed cleavages, from a very favorable natural or accidental form.

Each type or class of these implements is, nevertheless, represented by thoroughly elaborated and typical forms, which afford safe and satisfactory standards of comparison and classification. Between these extremes there are, in most instances, many intermediate gradations showing unmistakable traces of a process of development, having its inception in the simplest recognizable forms, and its gradual advancement, by slight gradations, to more perfect and finished results. The first step in this gradation or series consists, in each case, in the adaptation of a natural or accidental form to some simple use by slight modification, as by making or shaping a process or projection which would answer for a handle on a fragment which had a sharp edge or point fitted for use in cutting or piercing, or in making an edge or point on a fragment so shaped as to furnish a convenient handle, or in breaking off from a larger mass, by a single cleavage, a spall which has a sharp edge or point suitable for use. Development of the art thus called into exercise would appear in the elaboration of the forms thus adopted, the selection and improvement of the best of them, thereby originating and perfecting new and improved forms and establishing distinct and fixed types. Even in the simplest adaptations some ideal of form would be dimly discernible, as is the case in these implements, which would become more clearly defined in the process of further elaboration and improvement. These would become fixed types, or pass into

other forms nearly related to them, which would be improved and become fixed types.

All the types or varieties thus originated, being generated under conditions differing slightly and by regular gradations, would form a system of transitional and graduated variation. Hence would result, not a group or congeries of groups, of distinct unrelated forms originating separately, but a system of types and varieties, every part of which would be related, in its form, to every other part; and which, taken together, would embrace all its variations and differences in a complete unity.

While the varieties of forms among these implements are numerous, many of them transitional or intermediate, the several types which have been generated in the process of their development, are, nevertheless, clearly defined and permanent to a much greater degree than would seem possible. They indicate a much higher degree of inventive ingenuity and skill and a much greater knowledge and use of mechanical principles than could be thought possible from the use of such a material as flint. They embrace all the common mechanical uses of cutting, piercing, boring, scraping, smoothing, or planing, excavating, etc.; and it may be said in every instance, that the very best mechanical principles available are brought into exercise with reference to the end to be accomplished and the peculiarities of the material employed.

It is evident that, although the fundamental mechanical principles involved are substantially identical, differing only in their application in so far as modified by the peculiarities of the material used, anything like a near approach to the forms of the most perfect metallic implements would not be possible in the use of so refractory a material as flint.

The manufacturer of metallic implements, by dint of molding, hammering, grinding and the many other agencies employed, can shape his work to correspond precisely with the model before him or the ideal in his mind. Therefore types in metallic implements may become perfectly definite and permanent.

But the maker of flint implements, on the contrary, could, under no number of favorable circumstances, but remotely approximate any existing model or type received from of form. He could have, at best, but crude and imperfect models to follow, and these could but imperfectly correct.

Considering these implements, it is a remarkable fact that there have been developed from these implements, crude and transitional, as they are, to every one of the best mechanical principles now employed in doing the work to be done, and the manner of doing it, as now done, and which can be done as nearly as it can be under the circumstances, with those of the best metallic implements now known. So close is this correspondence that it would not be practicable to accept any other classification or nomenclature for them which would be so

appropriate and useful as those applied to the metallic implements to which they correspond, or, indeed, any other which would at all subserve the required purpose. The same nomenclature and classification will, therefore, be employed in describing these implements, as is applied to metallic implements of the same sort or analogous kinds.

In metallic implements, where the adherence to typical forms is more rigid, the nominal definition of the types and varieties implied in the mere classification and nomenclature would be sufficient. But in these implements, where the typical form is more vaguely expressed and the range of variation is wide, and when the intervals between the distinct types are occupied by intermediate forms, so that they may be said to pass, by insensible gradation, from one to another, some further definition will be necessary to separate and define the several classes or types into which they are divided.

Such definition will, of necessity, have to be made by means of the leading characteristics which are common to both the flints and metallic implements, characteristics separating both of these classes into what may be fitly termed two varieties. This peculiarity in the mode of operating them is, in each instance, the leading, if not the only characteristic by virtue of which the entire class coheres.

In like manner, while the classes designated as axes and hoes are each represented by thoroughly differentiated and typical forms, the boundary between the classes cannot be defined by reference to form alone. It is necessary, in this case also, to distinguish them by differences in the modes of using them. Both these classes are operated by impacts, and a part of each are used in the hand without handles. The ultimate and controlling distinction, which will serve to completely define the boundary between them, lies in the fact that the axes are used with the cutting edge in line with or parallel to the axis of the arm in using them; while the hoes are used with the edge at right angles with the line or axis of the arm. While this distinction may seem, at first, too fine-drawn and remote for such use, it is, nevertheless, accurate and effectual, and the only one available for the purpose.

So, too, all forms which, under this classification, must be included with the augurs, could not be well identified as such by their forms alone. A special reason for this exists in the fact that the mechanical principles which are employed in the augur are extensively used for excavating, as contradistinguished from boring, without any clear line of demarcation between these two sub-classes. But, in this case, the distinguishing characteristic of rotary movement in the augur which sufficiently identifies all that need be included under that designation is so obvious and discriminative that the further definition required may be made without difficulty.



All excavating and boring implements which are operated by rotation may be appropriately classified as augurs. This definition will be found accurate and sufficient in every respect.

Under the designation of planes may properly be included all forms of scrapers which are operated by being moved over the surface to be smoothed, in the manner of the carpenters' plane, however they may vary in other respects.

The chisels are, perhaps, sufficiently distinguishable by their forms. They include all narrow bladed cutting tools which are operated either by impact of the implement itself, (which will be found to be a peculiar feature of a part of these chisels) or by impact of some other body, or by pressure merely. Their character is really determined by the form of their blades and edges.

The gouges, which are numerous and variant in form, may be taken to include all implements, with curved or angular edges, used in excavating concave surfaces in wood or other substances, except earth. This form, so far as used in excavating earth, would more properly fall under other designations. They are more clearly separable from other implements of similar form than in the case of the augurs before referred to. In the latter case there is no other class to which those larger implements used in excavating earth could be assigned.

GEORGE W. HAYES.

Chicago, Ill.



#### "WHO FIRST MADE MAPLE SUGAR."

*Editor American Antiquarian:*

Mr. William Wye Smith will find a little earlier date for "Maple Sugar" than any he gives in his communication in the May number, in Baron Lahontan's "New Voyages to North America," 2 vols., London, 1703. Vol. 1, page 249, he says, writing of the maple tree: "It yields a sap, which has a much pleasanter taste than the best lemonade or cherry-water, and makes the wholesomest drink in the world." Then after describing the mode of collecting the sap, he adds: "Of this sap they make sugar and syrup, which is so valuable, that there can't be a better remedy for fortifying the stomach." R. C.

CINCINNATI, O.

## RELICS, COMMON AND UNCOMMON, FROM OHIO.

*Editor American Antiquarian.*

Allow me to call attention to the following relics in my collection:

1. Spindle Rests.—These objects are sandstone boulders of various forms and sizes. They appear to be, with some exceptions, of nature's fashioning: But a large percentage of them are of a form and size convenient for grasping with the hands. They are characterized by a depression—centrally located—about one inch in diameter, and from one-fourth to one-half inch in depth.

Their Probable Application—Assuming that those ancient artisans understood the use of the bow-string in the process of drilling, these "rests" may have been very efficient. The perfect drill, for perforating tubes, is a slender and delicate object, with a T shaped base neatly chipped to a sharp edge for insertion in a cleft stick. Securely attached to a shaft of convenient length, it is in position for service. In operating it the spindle rest is held in one hand, with the depression resting upon the upper end of the shaft, while the motion is applied with the other. Of course, stability is essential.

2. Lap-Stones—These objects are distinguished by a smooth level surface, and very closely resemble the shoemaker's "lap-stone." Hence the name. The specimen in my collection is of the green stone variety, highly polished, apparently, from persistent handling. With a smooth-faced quartz hammer, copper may have been beaten into thin sheets and then rooled into a compact cylinder for bracelets, or more loosely for beads or other trinkets.

3. Bed Stone, or Nether Mill-stone, and Roller.—This process for pulverizing grain is still in use in Africa, according to Livingstone.

4. Mace and Banner Stone.—I applied the term "mace" to a long cylindrical stone, with a knob on the smaller end, from its close resemblance to a police officer's club. I think, however, that they were not symbolical, but used with terrible effect in battle. They were, probably, used by those in authority, and hence may be suggestive.

5. A grooved hammer, as its name implies, is partially encircled by a groove for the attachment of a handle. In some examples they are provided with a perpendicular groove for wedging. Some of them approach the axe in form and may be termed axe-hammers. One end is, very commonly, larger than the

other. The hand-hammer is distinguished by the bruised spots on the sides, by its symmetry, and by the absence of a groove. This object is the *primitive* hammer, and is still occasionally used. The "shuttle stone" was thus named from its fancied resemblance to that appendage of the loom, but could not be applied with any more success than a ram's horn.

Besides these relics, there are several uncommon specimens concerning which I have no opinion to offer as to their use. The following is the description:

Figure 1 was found on the surface near the village of Woodbourne,—the site of an ancient village. Its length is 4 3/8 inches. Greatest width, namely at the angle, is 1 1/4 inches. Cross section at the same point, 3/4 of an inch. The sides are beveled down to a tolerably sharp edge, resembling the bit of an axe. The upper side, or edge, is grooved from a to b nearly 1/2 of an inch in diameter, and about the same in depth; decreasing in depth to the point b, whence, to the end, it is slightly concave. The incised lines, c d, extend to the top of the opposite side, possibly with the view of attaching it to a staff. I have no conjecture to offer as to its application. Material, light-colored ribboned shale. It is highly polished.

Figure 2 was found near Bravertown, four miles southeast of Dayton,—pierced at a b for suspension, or, more probably, for a staff. The aperture is oblong or elliptical, 3/8 by 5/8 of an inch. The chissel marks are plainly visible. Material, dark, ribboned shale. The horn was emblematical of power.

Figures 3 and 4, The "Gorget". Material, sienite. From the Dodp's locality. I have a piece of a perforated plate or slab, covered on both sides with numerous lines. On first view it looks like child's play, but a close inspection reveals regularity and order. Many of these lines radiate from the perforations; others cross at right angle, forming numerous squares. In some of these squares are minute dots or punctures.

Fig. 3.—This specimen was found in Miammsburg by a Mr. Weaver, while digging a cellar, which was on the circumvallation of an ancient enclosure. Its position was three feet from the surface, or at the point of contact between the clay and underlying gravel. A large portion of these ancient walls was utilized by the early citizens in the manufacture of brick, grading, filing, etc. The question as to whether the position of the specimen was the result of a fill at that particular spot is of deep interest. For, if not, then the inference is clear that the wall was built over it, and therefore we are justified in claiming for it a very considerable degree of antiquity.

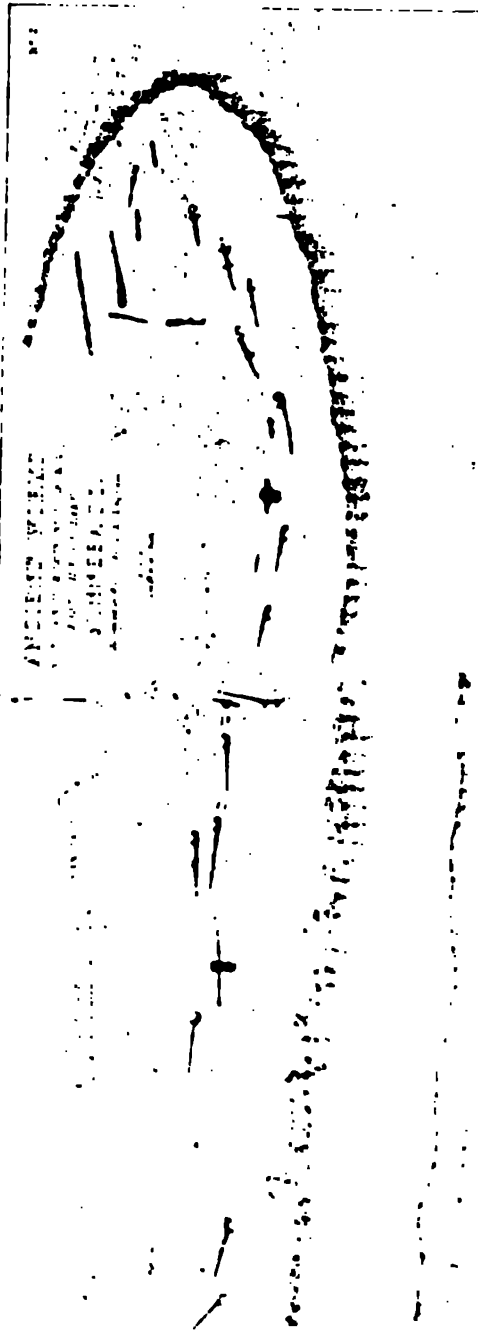
S. H. BRINKLEY.

Alexandria, Ohio.

## Editorial.

## THE SNAKE CLAN AMONG THE DAKOTAS.

The comparison of the effigies of Wisconsin with the totems of the Dakotas will be of interest to our readers in view of our recent find of a serpent effigy in Illinois. The correspondence is very remarkable. This correspondence appeared in taboos which were placed upon the different kinds of animals, the clans never being allowed to eat the flesh of the animal whose totem they bore. To illustrate: The elk clan are forbidden elk; the buffalo clan, buffalo; the hanga clan forbidden geese, swans and cranes; the turtle clan, turtle. The deer clans could not wear deer skins for moccasins. Another clan was forbidden to touch snakes, toads or frogs, and hence they are called reptile people. The Dakotas also have peculiar superstitions about their totems. They believe that the animal spirit possesses them, that the animal whose totem they bear is within them. The Minnetarees dress in wolf skins when they go to war, the skin and tail hanging down the back. The Tetons have raven skins fixed to the back of the girdle, with the tail sticking out behind, and the raven upon the head with the beak projecting from the forehead. The Iowa clans have a peculiar way of dressing the hair, the hair of the children, especially of the Buffalo clan, wearing two locks of hair in imitation of horns. The hanga clan wear a crest of hair to imitate the back of a buffalo. The turtle clan cut off all the hair except six locks, which represent the legs, head and tail of the turtle. The bird clan leave a little hair in front for the bill, and some at the back of the head for the tail, and locks over each ear for the wings. Before hunting, the Dakotas act a bear pantomime. The medicine man dresses in the skin of a bear; all wear masks consisting of the bear's head, and all of them imitate bears. When buffalo are scarce, the Mandans wear masks of buffalo heads with horns on them and imitate the buffalo in the dance. There were associations or societies which were based upon this totemism, being imitations of the attitudes of the animals whose totems they bore. The encampment of the Dakotas was according to their totem, each clan having its particular place in the encampment or the village, and oftentimes had the figures of the clans painted on the tents. In the Ottawa village the different clans had separate wards, at the gates of which were posts bearing the figures of the clan totems. Sometimes the



skin was stuffed and stuck on a pole before the door. It was painted on the tomb or grave post, but generally reversed, with the head down. Some times the skin of the animal hung over the grave.

Now we have only to put these clan totems into the shape of an effigy or emblematic mound to find an explanation which is very satisfactory. Of course this might be done by any other tribe as well as by the Winnebagoes, but as a matter of fact the Dakotas were in the habit of embodying their totems in this way, as no other tribes did. They not only painted them upon the tents, inscribed them up on the rocks, but built stone effigies which should represent them, and we suppose that in Wisconsin they used the earth to perpetuate their totem system.

The names of the clans also correspond to the clan emblems found among the effigies. There are many interesting facts to illustrate this. The Dakotas have the names of different animals which they give to their clans. These names corre-

spond to a certain degree with the clan emblems which we have recognized in the effigy mounds of Wisconsin. The following are the clan emblems which we have discovered among the effigy mounds. 1. The panther; this was situated at Big Bend and at Racine, two villages, including one village at Milwaukee. 2. The wolf; this was located at Waukesha, but possibly extended as far north as West Bend. 3. The raccoon; this had its habitat on the lake shore, extending from Milwaukee to Sheboygan, with a village at both places. 4. The turtle clan; this has been identified as the emblem prevalent at Beloit. 5. The fox; probably located at Horicon, Mayville and Fox Lake, the chief center at Horicon. 6. The squirrel; this is a very common emblem at Green Lake, but is also seen on the east side of Lake Winnebago. 7. The mink; is an emblem which is found at Baraboo and Buffalo Lake; it may have been a clan emblem or it may have embodied some other superstition. 8. The pigeon was the clan emblem on the Lemonweir River; it is about the only emblem at Mauston. 9. The eagle; this clan had its habitat on the Wisconsin River, which extended from The Dells to the neighborhood of Muscoda. 10. The swallow was the clan emblem at the mouth of the Wisconsin River; it is a very common effigy in Crawford County, the first group being found at Port Andrew, near Bosconck, and the last being found near Prairie du Chemin. 11. The buffalo was a common effigy in Grant County. 12. The bear seems to have been the clan emblem at Blue Mounds, its habitat extending from the Blue Mounds to Madison. 13. The clan emblem at Madison is uncertain; there is a great variety of effigies in this region. We fix with a considerable degree of certainty upon the panther, the wolf, the bear, the pigeon, the eagle, and the mink clan as having been visitors at Madison.

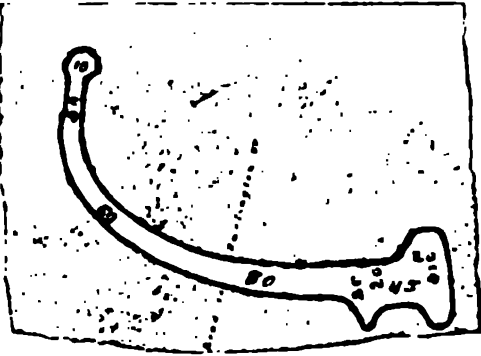


Fig. 11 - Panther

These clan emblems may be recognized in the different localities. In most of the

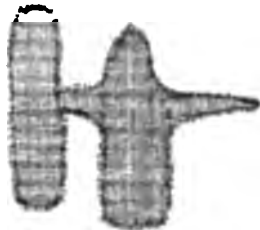


Fig. 10 - Swallow

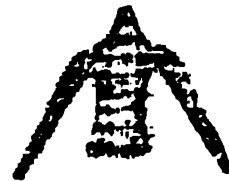


Fig. 8 - Pigeon

localities, the boundaries of the clan can be recognized and the different features of the clan life identified—the village site, the game drives, the burial places, the sacrificial places. With some of the clans, however, the boundaries are uncertain, as the effigies which are regarded as the clan emblems are spread over a considerable amount of territory, different centers appearing in the same clan. Illustrations of this are seen in the case of the squirrel clan, as the squirrel effigies are very numerous on Green Lake and again on Lake Winnebago, making two separate centers. The panther effigy is also seen at Big Bend, at Racine, at Milwaukee and at Burlington, making four centers and four village sites. The turtle clan had its chief center at Beloit, but the turtle is a very common effigy at Pewaukee, which is some fifty or sixty miles away. The eagle clan has its chief center in Eagle Township, but there are eagle effigies at The Dölles, on the Wisconsin River, and at Sauk Prairie, and other places, showing several centers for this clan. The same is the case with the bear—one center being at Blue Mound, another at Nine-mound Prairie, another at Madison.



Fig. 257.—Panthers.



Fig. 258.—Turtle.

The wolf is found at Waukesha, and again at West Bend, two centers. The raccoon is found at Milwaukee and again at Sheboygan, two separate centers. This circumstance, however, proves either that all belonged to one tribe or that there were phratries in the different tribes, the phratries always having the same emblem as the mark of their social or totemic affinity. We have enough evidence from the effigies, however, to enable us to fix upon the names of the clans, and we may well compare them with the names of the Winnebago and other Dakota tribes. We shall not find any one tribe which contains all of the clan emblems exactly as they are given by the effigies, and yet if we take all of the Dakota tribes we may be able to pick out emblems which are exactly the same as those found in the effigies.

We find that the Kaws have the nearest approach to the clan emblems in the effigies, but the Winnebagoes are the people who are supposed to have been the builders of the effigies. The following is the list of clan emblems as presented by the different Dakota tribes: (1). The Winnebagoes have the *wolf, bear, buffalo, eagle, elk, deer, Snake, thunder*,—only four of them found among the effigies. (2). The Omahas have the *deer, bird, turtle, buffalo, bear, medicine, kaw, head, red, thunder*,—only three of them among the effigies. (3). The Pankas have

the bear, elk, skunk, buffalo, Snake, medicine,—only two found among the effigies. The Iowas have the wolf, bear, buffalo, elk, eagle, pigeon, Snake, owl,—five found among the effigies. (5). The Sioux have the tortoise, Snake, squirrel, wolf, buffalo—four among the effigies. (6). The Kaws have the deer, bear, buffalo, white eagle and black eagle, duck, elk, raccoon, prairie wolf, turtle, earth, deer—tail, tent, thunder,—six of them among the effigies. (7). The Mandans have the wolf, bear, prairie chicken, knife, eagle, flat head, high village,—three of them among the effigies. Out of the entire list we find the following emblems contained in the effigies used as clan emblems: The bear and buffalo in six tribes, the eagle in five tribes, the wolf in four tribes, the turtle in two tribes, the pigeon in one tribe, but we do not find the squirrel, swallow, the panther or mink, in any of the tribes. It is difficult to account for the absence of these totems, for they are prominent among the effigies. It should be said that both these animals, the panther and squirrel, are rarely found among any of the tribes, whether Algonquins or Dakotas. In fact the Sioux is the only one of all the northern tribes which has the squirrel as a clan emblem at all, and the Chickasaw is the only one of the southern tribes. The Miamis and Shawnees are the only tribes among the Algonquins which have the panther. The Dakotas do not have the panther at all. This discrepancy between the effigies and the clan emblems of the Dakotas is to be recognized, for it may be that the effigy builders were not Winnebagoes, but Mascoutens, or possibly Ojibwas, or some other of the

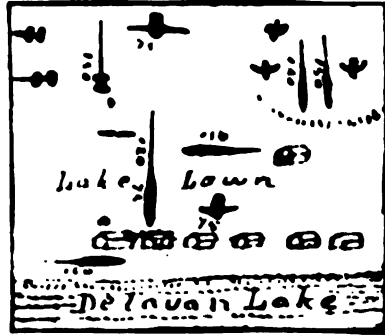


Fig. 26.—Fish near Delavan Lake.

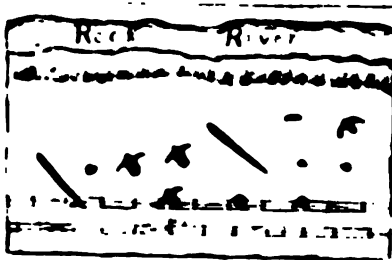


Fig. 27.—Birds near Rockton, Ill.

Algonquin tribes,—possibly the Foxes, Menominees, Kickapoos or Pottawattamies.

The following are the Algonquin tribes which have clan emblems corresponding with the effigies: Ojibwas, Pottawattamies, Ottawas, Miamis, Shawnees, Sacs and Foxes, Menominees and Kickapoos. All of these have resided at one time in Wisconsin. No one of them, however, has all the emblems which are contained in the effigies, though they come as near as do the Dakotas. The following is the list of clan emblems of the



Algonquins which are found in the effigies: The Ojibwas have four, which correspond, the wolf, bear, turtle, eagle. The Potawattamies have the wolf, bear, eagle, fox. The Miamis have the wolf, eagle, panther, raccoon. The Shawnees had the wolf, bear, panther, raccoon, turtle. The Sacs and Foxes had the wolf, bear, eagle, buffalo, fox, five that are found among the effigies. There is about the same correspondence between the Algonquin totems and the effigies as between the Dakota totems and the effigies. While we have the panther and the turtle among the Algonquins corresponding to the emblems in the effigies, we find that the mink, squirrel and swallow are absent from the Algonquins. If the argument in reference to the Dakotas or the Winnebagoes having been the effigy builders rested upon the resemblance between the effigies and the totems, we should be at a loss to choose between the Algonquins and the Dakotas. It does not rest on this, but it rests upon the prevalence of the snake totems among the Dakota tribes, five of the tribes having snake clans among them—the Winnebagoes, the Pankas, the Iowas and the Sioux. This may be said to turn the scale. In fact, we depend upon this to determine the starting point of the Dakotas, the line along which they migrated, and the points at which the tribes settled. It is a singular circumstance that serpent effigies are found only in the territory which was once occupied by the Dakotas. They are not found in the region where the Algonquins lived. The Mascoutens or Kickapoos have been by some regarded as the earliest tribe in Wisconsin, and the effigies have been ascribed to them. But there are no serpent effigies in any locality where the Kickapoos lived. The Sacs and Foxes were at one time in the territory where the effigies are found, but so far as the villages of the Sacs and Foxes are concerned they contain no serpent effigies. The localities which have been studied, and near which serpent effigies have been discovered are not villages which tradition fixes upon as having been occupied by the Sacs. In fact the altars and the cremation places of the two races which built their villages along the Mississippi River and in Wisconsin confirm the theory that the Dakotas were the people who built the effigies, rather than any other known tribe.

## ARCHAEOLOGICAL NOTES.

**THE SKELETON OF A SNAKE IN ILLINOIS.**—The editor of this journal has recently made a discovery which is somewhat startling and revolutionary. In fact, it may set back the tide of opinion which has been so strongly drifting toward the theory of the mound builders having been all Indians, and may re-establish the old theory as to the mound builders having had a cultus which is unknown to some of the Indians, and which was the same as that which was common in Europe.

1. A large serpent effigy was found 1150 feet long, divided into three parts: the neck 600 feet long, the body with coils 300 feet long, the tail 450 feet long, the kinks in the tail 100 feet long. The whole effigy conforms to the ball-in-shape, in bend, in roll and in coils; the bluff from one end to the other having been crowned with this remarkable serpent shape.

2. The effigy is situated near a stream, but beyond the stream to the north are three prominent hilltops, each one of them crowned with mounds. The shape or relative position of the hills very strangely resemble that given to by Dr. J. W. Phine in Argyleshire, Scotland.

3. The four prominent mounds which constitute the hump of the body, and which bring out the roll and twist of the serpent in a very striking manner in themselves symbolic. The distance between them is 100 feet. The situation upon the spurs of the bluff being very remarkable, was such as to give the roll of the snake.

4. The contents of the largest mound was the most remarkable of all. The mound is 11 feet high, 70 feet in diameter, and is constructed of two kinds of earth. It was occupied by two or three different tribes or races, but was built by a people who worshiped serpents. The upper burials were within two feet of the surface, and were those of later Indians. A second layer of burials was also probably by later Indians. A third layer, four feet below the top of the mound, may have been the burials of the race of people who erected the effigy, but at a time subsequent to the erection of the effigy. The lowest layer of burials was by the founders of the effigy, and gave evidence of the symbolism which has generally attended serpent worship, whether in this country, in Europe, or in India.

5. The contents of the find we cannot now give, but shall only say that the serpent body was placed in a saucerlike fire bed, and was cremated. Saucerlike beds were placed on the same saucerlike bed at distances varying from three to ten feet apart, to the first body. The skull of the lower part of the serpent.

6. The most striking feature of the find is one that is entirely new. The serpent's head was discovered upon the secret parts of the chief, for which the serpent had been erected. The snake skeleton was taken out and placed in a position of this skeleton proves that phallic worship, as well as the serpent worship, prevailed at the time the burial was made. Other burials were found with other snakes, but none so marked as this. The witnesses to the peculiarity of the find are honorable gentlemen, who can testify as to the position of the buried snake. The cremation of the body was carried to a leaner extent than the black soil was turned to a fatty appear,

ance, for ten inches below the body. The body itself, that is, the bones of the body, were badly burned; but not so badly charred but that a picture of it could be taken, the position of the hands and the place of the fingers with the coil of the serpent being plainly visible. The method of cremation is unknown; but a white substance resembling chalk or burned limestone covers the entire surface of the saucer, and beneath the white lime was a reddish substance, which, at first appearance, resembled fine plasterer's hair, but which proved to be burned material, though whether it was animal or vegetable substance has not yet been ascertained. There was no hair about it, but it had that appearance when first seen. The size of the saucer was twelve feet across; depression of it three feet. The foundation for the fire bed was of black earth, the covering over the fire bed was solid yellow sand, eight feet deep. The burials in the sand, all of them, having been on the outside of the mound; nothing was above the original body. Four of the burials, those nearest the body, were at the points of the compass, and were attended with skeletons of snakes, though the position of the snakes was not definitely marked. The positions of the central body, and of the accompanying bodies, in the saucerlike altar or fire bed were photographed.

A party of professional gentlemen from Quincy were present at the final exhumation. Honorable W. H. Collins, Mr. Wheeler, the editor of *The Journal*, Mr. Grant M. Curtis, one of the staff of *The Journal*, Mr. W. H. McMein, of the firm of Volk, Jones & McMein, who are the printers of *THE ANTIQUARIAN*, Mr. Wells, from the School of Technology, in Boston, and his brother, and several other persons. Dean Leman and his surpliced choir of the Cathedral, in Quincy, were camping near by. They were also present and examined the effigy during the day. Mr. Collins took the skeleton of the snake from among the finger-bones of the body, and also opened, with his hands, the place in which the skull of this serpent worshipper was resting, and the party witnessed the position before the skull was taken out. The witnesses were summoned and very kindly responded, and their testimony will form an interesting feature of the tale. It is a remarkable confirmation of the theory which has been held by the editor, and the witnesses are qualified in every way to substantiate the facts and details.

CONGRATULATIONS TO THE EDITOR.—This discovery of an effigy belonging to serpent worshipers suggests a connection with the great serpent effigy in the P. of Putnam, and a study of this. His article, published in *The Quarterly* for April 1890, brings out some interesting facts. It accounts for the presence of the effigy, its general location, and that this mound contained a large quantity of tools and material for burial place, which was afterwards the site of a village, a series of ancient habitations, burnt places, and other things, under the site of the graves, and a number of such burials, as well as graves with interred skeletons of modern Indians. The excavations contain a number of burnt stones, showing that special religious rites had been conducted there. Prof. Putnam says: "We naturally give to the mound of a religious shrine. It is probable that in later times the shrine was a place of resort, possibly as one held sacred in myths and legends." Excavation has shown that this serpent was built on a terrace. Now the sacred site, the center of a great importance have taken place. It is to have been that of a connection with ceremonies

of fire, and in two instances, at least, accompanied by the burning of human bodies—possibly human sacrifice, that constant accessory of many ancient faiths.”

We find then a resemblance between this serpent effigy and those that are found in Wisconsin and Illinois, though there is more similarity between it and the serpent effigy just found. The very fact, however, that there are traces of an ancient village and of ancient habitations near the Ohio serpent makes us realize that serpent effigies were frequently used as a sort of protection to villages, as well as a shrine where religious services should be conducted. We have shown this in the case of the serpent effigy near Mayville, Wis., near which we discovered a large number of garden beds. The same fact comes out in the peculiar circle near Merrill Springs. The serpent effigies near Potosi do not seem to have this for their object, for there is no village near it, and yet possibly it was intended as a guard to the burial mounds which are scattered at intervals along the body of most of the effigies. Dr. Lapham has spoken of burial mounds being arranged in the form of a serpent near Burlington, Wisconsin, thus showing that this superstition prevailed extensively among the effigy builders. The discovery of this serpent effigy near Quincy, Illinois, is important. The serpent is quite marked, and is quite easily recognized, as the natural and the artificial are so strangely blended. There are so many points where the ancient symbolism, which is only found in oriental countries, was embodied in this society that the locality becomes very significant. It has required the close study of the blind to recognize the horse-shoe, the three peaks, the curve of the snastika or fire-generator, but they are all here.

We now come to the particulars. In the first place, the large conical mound resembles the conical mound near the serpent effigy in Ohio. Second, the presence of burial mounds in the immediate vicinity is suggestive. A few years ago the citizens, while grading the road below this serpent effigy, plowed out a large quantity of bones, showing that it was a burying place. We have examined bones from mounds in the immediate vicinity, and have ascertained that there was a succession of burials there, as there was near the serpent effigy in Ohio. Third, according to the report furnished by Prof. Putnam, there is a lookout mound on the bluff opposite the serpent effigy, northwest from the serpent effigy, and it seems probable that the conical mound, No. 26, excavated by Prof. Putnam, was a lookout mound as well as burial mound. There is a striking resemblance to the situation in the burial place of the serpent worshippers in Illinois, as there are lookout mounds on the effigy and other outlook mounds on the effigy in Illinois. Fourth, the relics which have been discovered by Prof. Putnam are not such relics as are found over the entire region and are not within the territory of the effigy builders. They consist of stone axes, arrowheads, flint knives, grooved stone implements, arrowheads, and other relics of various kinds. The relics also are not scattered all over, and we are not sure but that the bones and remains of the former races of mound builders, which we have discovered in Adams County, Illinois, would be crossed as belonging to the same race with those in the ash beds at the bottom of the conical mounds near the great serpent in Adams County, Ohio. Fifth, there is one circumstance which is peculiar. Mound builders' pipes have been found in Ohio, and

near Davenport, Iowa. There is a striking resemblance between these pipes. Thus far, to be sure, no such pipes have been found in connection with any of the effigies, certainly not with any serpent effigy. Still, the serpent effigy and the pipes of the two regions should be compared. There are, to be sure, a few pipes which have serpents inscribed upon them. One such is described by Squier and Davis, though they do not say where it was found, (see *Ancient Monuments*, p. 268, fig. 186) and another sculptured stone having the form of a serpent is described by the same author, (see p. 276, fig. 126). This was found in the great enclosure on the north fork of Paint Creek, which is at quite a distance from the great serpent, and is an entirely different structure from any found near the serpent effigy. The coiled serpent from Ohio reminds us of the naga or symbolic serpent of India, and we notice that Prof. Putnam in his article quotes Gen. Furlong and Dr. Phene and other authors who have held to the theory that serpent-worship all originated in one place, and spread over the entire globe from one centre. Sixth. The double curve like a huge letter S is the most noticeable thing in connection with the serpent effigy. Seventh, The conformity of the serpent to the shape of the bluff is even more marked in this serpent in Illinois than in the Ohio serpent. Every spur of the bluff is surmounted by a low mound, which makes a swell in the body of the snake. At the center of the effigy there are four spurs in the bluff. These were taken advantage of and high conical mounds were placed on them so as to make the roll or contortion of the snake all the more impressive.

**THE BIRD MOUND.** We have been seeking for the connecting links between the effigies in various parts of Georgia and Ohio, and those in Wisconsin and Dakota. We have found that all of these effigies are situated in a line of the migration of the different branches of the Dakota race. The more we study the subject the more we become convinced that the Dakotas were the builders. The bird effigy furnishes an additional proof of this point. We have spoken of the bird effigy at Fort Andrew, have stated that there were conical mounds near the wings of this bird—that the shape of the swallow was recognized in the isolated knoll on which it was placed. We have said that it was surrounded by mounds so as to make a sort of sacred enclosure which resembled those found near Muscoda as well as that on effigy ridge near Madison. This effigy has not been excavated and it is not known that it contains an altar, and yet there is a resemblance between it and the bird effigy at Newark, and the altar effigies found elsewhere.

One of the most interesting effigies found in the United States is the celebrated bird mound or bird track. This is situated in the centre of the great circle or old fort at Newark, but it has some striking resemblances to certain effigies which have been found in Wisconsin, and seems to have been used for the same purposes as these. Squier and Davis say of this mound effigy: "It much resembles some of the animal shaped mounds of Wisconsin, and was probably designed to represent a bird with extended wings. It can hardly be called a single mound, but is rather a group of four mounds, so arranged and connected as to constitute an unbroken outline. The dimensions are as follows: Length of body 185 feet; of each wing 210 feet; between the tips of the wings 240 feet; width of body 63 feet; height of mounds composing the body 7 feet; height of mounds composing the wings 5 feet. The long mound composing the head con-

tained an altar. This feature, in connection with others, seems to point out a religious design to the effigy, and perhaps to the whole structure within which the effigy was placed." The same authors classed this bird with the great serpent mound in Adams county, the alligator mound near Granville, and the animal mound in Scioto county, near Portsmouth. They speak of the altar mound which had been found within the oval near the great serpent, and near the alligator mound, near Newark, and another in connection with the cross near Earlton, Ohio. We should judge from these circumstances that all of the effigies in Ohio had altars connected with them, and that they possessed a symbolical meaning.

**SAINTS AND SCIENTISTS.** Col. Garrick Mallory, who is regarded as one of the best archaeologists in this country, and who is distinguished for his affability and courtesy, seems to be strangely departing from his usual bearing. In the last number of *The Anthropologist*, while reviewing a book prepared by the Marquis de Nadaillac, he winds up with a burlesque remark on the orthodox religion, which is unbecoming to him, as follows: "It recalls the Puritan pronouncement—Resolved, first, the earth belongs to the Saints—resolved, second, we are the Saints." Now we would ask Col. Mallory to change that expression and make it read—"The earth belongs to the Scientists—we are the Scientists," would be like the insinuation. While speaking on this subject, we beg leave to say that there has been altogether too much of this disposition to foist religious questions into the midst of scientific discussions, and to go out of the way to lug in secret attacks on the faith of orthodox Christians. This was manifest at the meeting of the American Association, held at New York, when Prof. E. S. Morse, so far lost the sense of propriety as to introduce into his address, as President of the Association, several most uncalled-for slurs on the church, and that, too, when the Association was a guest in a manner of church people, or at least when many church people were paying them every attention possible. The same want of courtesy is manifested by gentlemen who take for their addresses a line of thought which under the guise of science, might be regarded as covert attacks on the Christian religion. If the effort is to make science the means of leading off a crusade against faith, then the more occasions there are the better. But if, on the other hand, the object is to "advance science," let religious questions alone. It always seems an uncourteous and unfair thing to bring religious subjects into scientific associations, where scientific subjects are expected and would be more appropriate. We say these things because we know the attacks have not been brought in by religious people. It seems useless for scientists to keep up a warfare which will result in no good to themselves or others and may make people feel uncomfortable generally.

**DE BAY.** This famous author has been so often quoted as authority on the subject of the mounds that it seems important we should know something of him. The first volume of "The Narrative and Critical History" has a very good sketch of him, accompanied by a likeness, and we draw from it the following facts. He was never in this country, but was so fortunate as to be familiar with the early pictures and maps which were drawn, and for this reason was able to embody them in his celebrated publication, which is now so scarce. He was an engraver at Frankfort, but after the publication of Hakluyt's voyages he undertook a similar task, but published his

work in Latin, French and German. He died in 1598, but his widow continued the work. The task was not finished until 1634, soon after the landing of the Pilgrim Fathers. Mr. Justin Winsor's criticism of his works is that while there is distinctive merit in it, yet meretricious reputation has been given to it on account of the scarcity of the work, and especially because it is expensively illustrated. The engravings, however, which form so attractive a feature, are of uneven merit, some of them being honest rendering of the genuine sketches, but not a few the merest fancy of some designer.



#### BOOK REVIEWS.

*Live Questions: Including our Penal Machinery and its Victims.* By John Altgeld. Donahue and Henneberry, Chicago.

The chapters of this book have the following titles: Arbitration of Strikes. Pensions for Soldiers. Justice in Chicago. The Fee System. The Rich Man's Bread and the Poor. Slave Girls of Chicago. Anonymous Journalism. Eight-hour Movement, Etc. The book is a series of articles published in the newspapers. It is not a book in any ordinary sense of the word, for there is no unity to it, any farther than that the articles were written by one man and contain the opinions. The facts are, however, valuable, and the title a taking one. The social questions are now engaging attention.

*Gems and Precious Stones of North America.* George Frederick Kunz. Illustrated. New York: Scientific Pub. Co.

The author of this book has had excellent opportunities for becoming familiar with the gems and precious stones of America, as he is connected with Tiffany's large establishment in New York. He was attendant upon the great exposition at Paris. He is a member of the American Association, and has written a number of articles for the *AMERICAN ANTIQUARIAN*, and is well known to our readers as an accomplished archaeologist as well as mineralogist. The book is a sumptuous one, elegantly bound, well illustrated with colored plates. Mr. Kunz has given a description of many valuable archaeological relics, among them several made from the jade, and from rock crystal. He has given, also, the description of the method of drilling hard stone and of cupping that relic. The book contains cuts representing pearls from Little Miami mound, opened by Prof. Putnam; also the red and Jasper beads in the Valley of Mexico, polished figurines of obsidian from Mexico. Large obsidian knife, obsidian mirror, iron pyrites mirror from Mexico, and flint dagger points of the same. Another plate represents the Chalchicomula Park and the agatized trees that are there found. One plate has the beautiful amethyst, with the color very closely imitated. Another has emerald, beryl, and nephelite, very true to nature. Another has turquoise and turquoise. Another has the skull and dagger encrusted with turquoise for the curiosity collection, but without the colors. Another represents the Heq, that of the Zunis encrusted with turquoise. Another has turquoise, garnet, beads and ornaments, made by the Navajo Indians. Another plate has the cut sapphire from Montana, and the dewey diamond from Virginia. It is a book in which archaeologists and mineralogists will be interested.

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THE DIFFERENCE BETWEEN INDIAN AND MOUND-  
BUILDERS' RELICS.

BY STEPHEN D. PEEL.

The study of the archaeological relics of the Mississippi Valley furnishes to us a very interesting field, and brings before us many points of inquiry; but no one of them is more interesting than the one set before us in the title of this paper. There are, to be sure, a few relics which remind us of the distinction between the palæolithic and the neolithic ages; relics which have been recently discovered and which require us to modify the position which was taken in a previous paper. The majority of the relics, however, are those which belong to the neolithic age, though, perhaps, if we were to make the distinction between the stone age and the copper age, we might say that the relics belong to this rather than the former age. The enquiry as to whether there is a difference between the Mound-builders' and the Indian relics is an old one. Opinions upon it have drifted from one side to the other, the pendulum vibrating to either extreme. Just at present the opinion seems to be setting toward the removal of the distinction. At the next turn, however, it may be that the distinction will be the more clearly brought out, and the differences between the two be more striking than ever. Even if we call them all Indians, we shall by and by see that the Indians themselves differed radically, and therefore may well be called by different names.

I. Our first point will be that the terms Indian and Mound-builders are correct, and may properly be used. The following arguments, we think, will show that the terms are correct.

1. It will be acknowledged by all that there was a time when mound-building was a common custom, and that there came a time when the custom ceased. This fact, we maintain, establishes



a mound-building period. The question we ask is whether the existence of such a period is not sufficient reason for us to use two terms, namely, the Mound-builders and the Indians, making the first significant of the people who lived during the mound-building period, but the last significant of the people who lived after that period. This may be a new use for the term Indian, and yet if the term Mound-builders should be made definitive, we see no reason why the last term should not also, especially as the time of the cessation of mound-building is not taken into the account, the only point being the use of the terms. There are, to be sure, other terms which might be used to express the same fact, yet these terms are also very suggestive. We fix upon the date of the discovery as the time when the prehistoric age ceased and the historic began; there was a time, however, which intervened between these two, or which overlapped the two, to which we give the name protohistoric. This makes three terms, each of which is expressive of periods as well as of people who lived during these periods. The Mound-builders we may regard as the people who lived during the prehistoric period; the Indians the people who lived during the protohistoric age; the whites the historic people. These three terms we consider appropriate as indicating the periods, two of which have been freely ascribed to distinct people, namely, the Mound-builders and the whites. The question we ask is, Is it not as correct to ascribe the middle period to the Indians, and to say that they were also a distinct people.

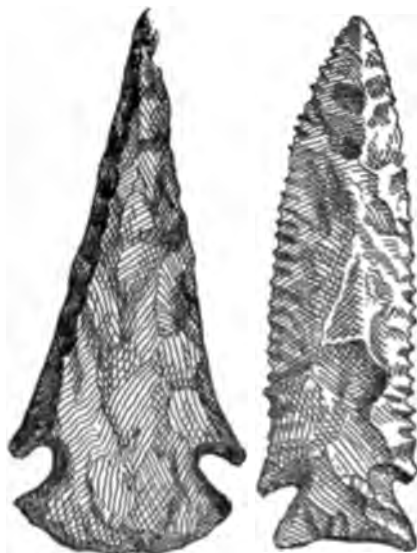
2. The contrast between the protohistoric relics and the prehistoric will be brought out more fully if we apply the term "Mound-builder" to one and "Indian" to the other. The absence of the white man's influence would be distinctive of the first, and the increasing evidence of it would be distinctive of the second class. This line has not always been drawn. With some there is a tendency to carry the white man's history as far back as possible, and to trace the evidence of the white man's touch into the earliest part of the Mound builders' period, the effort apparently being to prove that many of the mounds were built after the time of the discovery. The truth is, however, that in nearly all parts of the country, the line which divides the white man's work from the aboriginal, is the line which separates the protohistoric from the prehistoric, and should be so recognized. That line may be at times found deeply embedded in some of the mounds, one portion of the mound having been built after the time of the white man, and another portion before that time; but the fact that there are so many relics discovered in the mounds which bear the traces of the touch of the white man, proves that the period we are erecting was an important one. If the white man's history is recorded in the protohistoric tokens, the history of the Mound-builders is recorded in the prehistoric tokens

which preceded them, the border line between the historic and the pre-historic being Indian. It may be very indefinite and shadowy, yet we may take the ground before hand that there was a Mound-builders' period and what might be called a modern Indian period.

3. The fact that the Indian was associated with the white man during a large portion of the protohistoric period, we think, is enough to prove that the terms "Mound-builder" and "Indian" are appropriate. The Mound builder had a history which was unique, but the Indian, so-called, also has a history, notwithstanding the presence of the white man. The character of the art which was introduced at an early date and copied by the aborigines and embodied in their relics was, to be sure, very rude compared with that which had existed earlier, but the very advance of the white man's art had a tendency to overshadow and supplant the aboriginal art. Now we have only to apply the term Indian to this deteriorated art, as we do Mound-builder to the art before it had deteriorated, and we shall at once notice a marked distinction between them. The Mound-builder changed to Indian merely by contact with the white man. Still, his art would be different from that of the Indian. Even if it was the presence of the white man that dismissed the Mound-builder's art and the same presence that made the Indian art what it was and is, still, the distinction is plain. The Mound-builders, technically speaking, were unacquainted with the white man, the Indians, as we understand them, were well acquainted with him. This distinction can be recognized. The natives seized the inventions of the civilized races and adapted them to their own uses, covering them with their own barbaric imagery and giving to them that rude shape which was the result of their own native cultus, but which could not hide the evidence of the intruded cultus of the white man. There was a symbolism among the native race which did not immediately pass away. Some of it was unconsciously mingled with the art forms which were introduced. The mingling of this earlier symbolism with a symbolism which was introduced has brought much confusion into the archaeology of the period. Yet this of itself constitutes a history, as it shows how the Mound builder system became merged into the Indian.

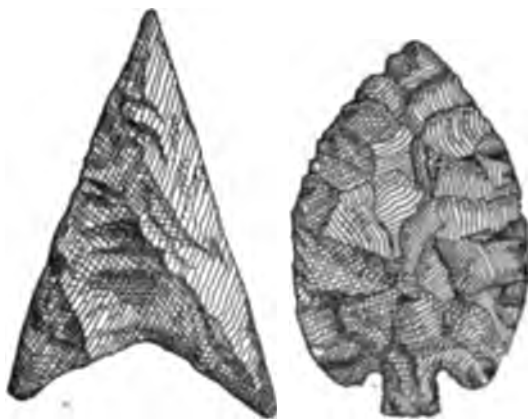
4. The history of this country has been written from the side of the white man—a history of the civilized races, but the relics bring us into contact with the history as recorded by the "red man," the relics being the archives in which those records were kept. The Europeans who came to this continent at an early day were not like the Europeans of the present day, nor were the works of art or industry which they introduced be regarded as equal to those which we are accustomed to call modern inventions. These rude and antiquated relics which we call proto-

historic are, however, different from the prehistoric, and so we have the three records contained in the relics, the Mound-builders' record being contained in the prehistoric, the record of the modern Indian and early settlers in the protohistoric, and the record of modern civilization in the historic.



*Figs. 1 and 2.—Indian Arrow Heads.*

5. The degrees of culture which have prevailed in prehistoric times are brought out by acknowledging the distinction. We find that the prehistoric races were not improved by their contact with the white man. Their native art rapidly declined, and the borrowed art did not seem to improve it. The natives chose only the rude specimens, and made these a substitute for the better specimens of their own work, and so took the poorest and left out the best. The archaeologist who gathers relics is oftentimes very much puzzled by this means. He recognizes the native handiwork; he also recognizes the intruded cultus; and yet the combination of the two presents to him a mongrel lot of relics which are of little value for the study of prehistoric archaeology, and of still less value for the study of early history; and yet it seems important that these relics should be gathered. The lesson is plain. The red man has declined, and the white man has advanced.



*Figs. 3 and 4.—Indian Arrow Heads.*

6. This contrast between the Indian relics and the Mound-builders reveals the history of the lost arts. The reason they were lost was because of the change from the prehistoric to the historic period. The motive, spirit, form, execu-

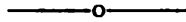
tion, of prehistoric relics were all different from anything which can be called historic. If we would understand the lost arts we must go to those relics which are purely prehistoric. Changes may, to be sure, have occurred during prehistoric times, but greater changes occurred during the protohistoric. This may be seen by comparing the Indian relics with those which have come from the mounds. The Indian relics are inferior to the Mound-builder's. This may be owing to the incursion of savage hunters, who drove off the sedentary population and took possession of their works, or it may be owing to the intrusion of white men, who came in and transformed the entire life of the aborigines. The history of the lost arts is contained in both periods.



*Fig. 5.—European Portrait Pipe.*

Deterioration is strangely stamped on all the works of the red Indian. The hunters deteriorated in their skill as hunters. They abandoned their game-drives, which were built of earth and took to constructing temporary screens made from brush and the branches of trees. They exchanged the bow and arrow for the rifle; no longer hunted on foot, but went with their ponies, moving their villages with them. Their stone relics gradually disappeared, and iron weapons which they borrowed from the white man took their place. The agriculture deteriorated. The large fields which formerly surrounded their villages were reduced to small patches of corn. Their garden beds, which were so regular and covered such large plats of ground, were reduced to mere hills of beans and squashes. The large hoes and spades which, as agricultural tools, are regarded as interesting works of

work in Latin, French and German. He died in 1598, but his widow continued the work. The task was not finished until 1634, soon after the landing of the Pilgrim Fathers. Mr. Justin Winsor's criticism of his works is that while there is distinctive merit in it, yet meretricious reputation has been given to it on account of the scarcity of the work, and especially because it is expensively illustrated. The engravings, however, which form so attractive a feature, are of uneven merit, some of them being honest rendering of the genuine sketches, but not a few the merest fancy of some designer.



#### BOOK REVIEWS.

*Live Questions: Including our Penal Machinery and its Victims.* By John Altgeld. Donahue and Henneberry, Chicago.

The chapters of this book have the following titles: Arbitration of Strikes. Pensions for Soldiers. Justice in Chicago. The Fee System. The Rich Man's Bread and the Poor. Slave Girls of Chicago. Anonymous Journalism. Eight-hour Movement, Etc. The book is a series of articles published in the newspapers. It is not a book in any ordinary sense of the word, for there is no unity to it, any farther than that the articles were written by one man and contain the opinions. The facts are, however, valuable, and the title a taking one. The social questions are now engaging attention.

*Gems and Precious Stones of North America.* George Frederick Kunz. Illustrated. New York: Scientific Pub. Co.

The author of this book has had excellent opportunities for becoming familiar with the gems and precious stones of America, as he is connected with Tiffany's large establishment in New York. He was attendant upon the great exposition at Paris. He is a member of the American Association, and has written a number of articles for the *AMERICAN ANTIQUARIAN*, and is well known to our readers as an accomplished archaeologist as well as mineralogist. The book is a sumptuous one, elegantly bound, well illustrated with colored plates. Mr. Kunz has given a description of many valuable archaeological relics, among them several made from the jade, and from rock crystal. He has given, also, the description of the method of drilling hard stone and of cupping flint relics. The book contains cuts representing pearls from Little Mananacunel, created by Prof. Putnam; also the jadeite Jasper beads in the Valley of Mexico, polished figurines of obsidian from Mexico, large obsidian knife, obsidian mirror, iron pyrites mirror from Mexico, and tal dagger pieces of the same. Another plate represents the Chalcedony Park and the agatized trees that are there found. One plate has the beautiful amethyst, with the color very closely imitated. Another is one of beryl and malachite, very true to nature. Another has tourmaline and topaz. Another has the skull and dagger encrusted with turquoise for the curious collection, but without the colors. Another represents the Holy sandals of the Zunis encrusted with turquoise. Another has turquoise flat heads and ornaments, made by the Navajo Indians. Another plate has the cut sapphire from Montana, and the dewey diamond from Virginia. It is a book in which archaeologists and mineralogists will be interested.

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THE DIFFERENCE BETWEEN INDIAN AND MOUND-  
BUILDERS' RELICS.

BY STEPHEN D. PELL.

The study of the archaeological relics of the Mississippi Valley furnishes to us a very interesting field, and brings before us many points of inquiry; but no one of them is more interesting than the one set before us in the title of this paper. There are, to be sure, a few relics which remind us of the distinction between the paleolithic and the neolithic ages; relics which have been recently discovered and which require us to modify the position which was taken in a previous paper. The majority of the relics, however, are those which belong to the neolithic age, though, perhaps, if we were to make the distinction between the stone age and the copper age, we might say that the relics belong to this rather than the former age. The enquiry as to whether there is a difference between the Mound-builders' and the Indian relics is an old one. Opinions upon it have drifted from one side to the other, the pendulum vibrating to either extreme. Just at present the opinion seems to be setting toward the removal of the distinction. At the next turn, however, it may be that the distinction will be the more clearly brought out, and the differences between the two be more striking than ever. Even if we call them all Indians, we shall by and by see that the Indians themselves differed radically, and therefore may well be called by different names.

I. Our first point will be that the terms Indian and Mound-builders are correct, and may properly be used. The following arguments, we think, will show that the terms are correct.

1. It will be acknowledged by all that there was a time when mound-building was a common custom, and that there came a time when the custom ceased. This fact, we maintain, establishes

a mound-building period. The question we ask is whether the existence of such a period is not sufficient reason for us to use two terms, namely, the Mound-builders and the Indians, making the first significant of the people who lived during the mound-building period, but the last significant of the people who lived after that period. This may be a new use for the term Indian, and yet if the term Mound-builders should be made definitive, we see no reason why the last term should not also, especially as the time of the cessation of mound-building is not taken into the account, the only point being the use of the terms. There are, to be sure, other terms which might be used to express the same fact, yet these terms are also very suggestive. We fix upon the date of the discovery as the time when the prehistoric age ceased and the historic began; there was a time, however, which intervened between these two, or which overlapped the two, to which we give the name protohistoric. This makes three terms, each of which is expressive of periods as well as of people who lived during these periods. The Mound-builders we may regard as the people who lived during the prehistoric period; the Indians the people who lived during the protohistoric age; the whites the historic people. These three terms we consider appropriate as indicating the periods, two of which have been freely ascribed to distinct people, namely, the Mound-builders and the whites. The question we ask is, Is it not as correct to ascribe the middle period to the Indians, and to say that they were also a distinct people.

2. The contrast between the protohistoric relics and the prehistoric will be brought out more fully if we apply the term "Mound-builder" to one and "Indian" to the other. The absence of the white man's influence would be distinctive of the first, and the increasing evidence of it would be distinctive of the second class. This line has not always been drawn. With some there is a tendency to carry the white man's history as far back as possible, and to trace the evidence of the white man's touch into the earliest part of the Mound-builders' period, the effort apparently being to prove that many of the mounds were built after the time of the discovery. The truth is, however, that in nearly all parts of the country, the line which divides the white man's work from the aboriginal, is the line which separates the protohistoric from the prehistoric, and should be so recognized. That line may be at times found deeply embedded in some of the mounds, one portion of the mound having been built after the time of the white man, and another portion before that time; but the fact that there are so many relics discovered in the mounds which bear the traces of the touch of the white man, proves that the period we are erecting was an important one. If the white man's history is recorded in the protohistoric tokens, the history of the Mound-builders is recorded in the prehistoric tokens

which preceded them, the border line between the historic and the pre-historic being Indian. It may be very indefinite and shadowy, yet we may take the ground before hand that there was a Mound-builders' period and what might be called a modern Indian period.

3. The fact that the Indian was associated with the white man during a large portion of the protohistoric period, we think, is enough to prove that the terms "Mound-builder" and "Indian" are appropriate. The Mound-builder had a history which was unique, but the Indian, so-called, also has a history, notwithstanding the presence of the white man. The character of the art which was introduced at an early date and copied by the aborigines and embodied in their relics was, to be sure, very rude compared with that which had existed earlier; but the very advance of the white man's art had a tendency to overshadow and supplant the aboriginal art. Now we have only to apply the term Indian to this deteriorated art, as we do Mound-builder to the art before it had deteriorated, and we shall at once notice a marked distinction between them. The Mound-builder changed to Indian merely by contact with the white man. Still, his art would be different from that of the Indian. Even if it was the presence of the white man that dismissed the Mound-builder's art and the same presence that made the Indian art what it was and is, still, the distinction is plain. The Mound-builders, technically speaking, were unacquainted with the white man, the Indians, as we understand them, were well acquainted with him. This distinction can be recognized. The natives seized the inventions of the civilized races and adapted them to their own uses, covering them with their own barbaric imagery and giving to them that rude shape which was the result of their own native cultus, but which could not hide the evidence of the intruded cultus of the white man. There was a symbolism among the native race which did not immediately pass away. Some of it was unconsciously mingled with the art forms which were introduced. The mingling of this earlier symbolism with a symbolism which was introduced has brought much confusion into the archaeology of the period. Yet this of itself constitutes a history, as it shows how the Mound-builder system became merged into the Indian.

4. The history of this country has been written from the side of the white man—a history of the civilized races, but the relics bring us into contact with the history as recorded by the "red man," the relics being the archives in which those records were kept. The Europeans who came to this continent at an early day were not like the Europeans of the present day, nor would the works of art or industry which they introduced be regarded as equal to those which we are accustomed to call modern inventions. These rude and antiquated relics which we call proto-



proof that the Indians of this region were always different from the Mound-builders of the region to the west of it, the two collections showing a great contrast. With reference to the Mound-builders' region the same can not be said. If we take the locality where Mound-builders have prevailed, we find a great contrast between the earlier and the later relics, the earlier relics being supposed to belong to the Mound-builders, but the later relics to the Indians. This subject of the sequence of history has been referred to by other writers. To some, it seems to prove that there was a great difference between the races; to others it seems that there was no difference whatever; but in our opinion the study of the relics will prove the correctness of the position which we have taken,—the differences depend altogether upon the locality we are studying.



Fig. 15.—Portrait.



Fig. 16.—Glass Stopper.



Fig. 17.—Glass Stopper.

Sir William Dawson has spoken of the village of Hochelaga. He gives the history of the village and an account of its discovery by Jacques Cartier in the year 1534. Sometime in the interval between 1535 and 1642 Hochelaga was utterly destroyed and the encroachments of the warlike Iroquois made the island a sort of frontier or debatable land, on which no man lived. The Hochelagans were not precisely either of the Iroquois or Algonquin stock, but a remnant of an ancient and decaying nation, to which the Eries and some other tribes belonged, and which had historical relations originally with the now extinct Alleghans or Mound-builders. Dr. Dawson draws the line between the Alleghans and the Hochelagans, and says that they were bounded on the north by the Algonquins, but thinks that there was a belt of semi-Alleghan and semi-Algonquin territory along the great lakes and the St. Lawrence, the people inhabiting which had borrowed some of the habits, arts and modes of life of the Alleghans or Mound-builders. To this probably belong such nations of Agricultural and village-dwelling Indians as the Eries, the

Neutrais, the Hochelagans. This distinction is one which perhaps will aid us in our study of the relics. We take these traditional tribes and find that their relics give no trace of contact with the white man. They were "Hochelagans". By placing them between the Indians that are known to history and the Mound-builders, who are unknown except by name, we may be able to distinguish three races one from another. The affinities of the Alleghans or Mound-builders have been studied by Sir William Dawson. They have been pronounced to be Toltecan. They resemble, however, modern Indian as much as they do the Toltecan races. The relics of the Alleghans or

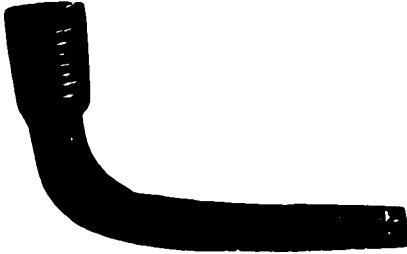


FIG. 1. Trumpet Shaped Pipe.

Mound-builders differ very much from the relics of the Toltecs. The pottery of the Hochelagans is certainly superior to that of the modern Indians, but it does not equal that of the "Alleghans". The pipes of the Hochelagans were generally earthen and have a peculiar shape—generally trumpet shape. The Mound-builders' pipes were very different from these. The copper axes, spears, and knives of the Alleghans or Mound-builders are certainly very different from the stone knives of the Hochelagans. The badges, maces, and other ornaments of the Mound-builders are certainly superior to any of those which are found near Hochelaga.



FIG. 2. Trumpet Shaped Pipe.

We maintain that there is a history of the Indians and the Mound-builders, and that this history is seen in the relics as well as in the portraits. Let us take the different relics for our illustrations. There are very many relics found upon the surface. The majority of these probably belong to the later Indians. There are also many relics found in graves. We ascribe the graves to the wandering tribes of Indians, some of them to tribes who have just disappeared. The relics found in the graves are fre-

quently mingled with historic articles, showing that the graves were subsequent to historic times. There are many relics found in bone pits. We ascribe the bone pits generally to Indians. The Iroquois, we know, buried in bone pits. There are relics found in stone cists. These stone cists or graves are widely scattered; they have been generally assigned to the Shawnees; we may safely say that the stone graves belonged to modern Indians. There are many relics found in the top of mounds. These are generally supposed to belong also to modern Indians. It is a mistake to suppose that the mounds were all built at one time, or that any one mound was finished with one burial; there were many burials in the mounds, and each burial furnished a new record to the mound, several burials having been made before the final record was completed. The burial mounds along the Mississippi River, which have been examined by the author, have all of them contained several burials. The bones and the



Fig. 20.—*Trumpet Pipe.*

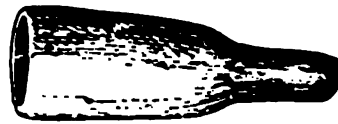


Fig. 21.—*Tube Pipe.*

relics contained in these mounds were evidently deposited at different periods and belonged to different tribes of Indians. There is a history of the country contained in the mounds, the history of the tribes which formerly inhabited the country. The author imagines he has discovered the bones of several different tribes of Indians—Sacs and Foxes, Illinois, and Dakotas, all of them tribes whose names are known to history. The original Mound-builders' bones were, however, lower down than any of these burials, and the bones found in this lowest layer have seemed to be different from those found in the upper layer. In some cases the upper layer belonged to the historic period, the lower layer belonged to the prehistoric. The difference in the bones and relics of the prehistoric and historic periods would seem to indicate that the Mound-builders and the Indians belonged to different races.

III. The character of the relics in the different districts may well be considered.

First, the material. In the Montreal district a large majority are made of pottery. In Ohio the pipes are mainly of steatite. There are very few pottery pipes in the Mound-builders' collection. In the Davenport district, pipes are mainly of steatite or of catlinite, and in this respect the Davenport collection resembles the Ohio much more than it does the Montreal district.

The modern semblances are recognized in the portrait pipes more than in any other. We find them, however, in the Toronto collection. We call attention to the modern European faces in the New York pipes. Some of these faces resemble French, Spanish, some English types (Figs. 5, 6), though it is a question whether this was intended. In two of the cuts the Indian faces may be recognized. In the relics from the mounds of Ohio there are no modern portraits, at least no portraits of the white man, though the Mound-builder's face in one may be said to resemble the Dakota Indians and in the other the face of a Shawnee. This would indicate that the Mound-builder tribes may have been followed by modern tribes, the features of original races having been perpetuated even to the present day. If we grant this, we must acknowledge that they were different tribes from the Eastern Indians. See Fig. 10.



Fig. 22.—Tube Pipe.



Fig. 23.—Flat Pipe.

The grotesque qualities which are found in the modern Indian are noticeable. Very few such grotesque images are found in the Mound-builders' relics. The sportive element was evidently in the ascendancy when these pipes were made. The artist took a nodule of stone, and, finding a resemblance to a face in it, he turned it into a grotesque image. In one case he used the mouth as the bowl of the pipe, filled it with tobacco, and smoked it out of the back of the head. See Fig. 8. In another case he made a caricature of the eye (see Fig. 9), and used the pipe with its comic features out of mere wantonness or sport. A third pipe had its portrait toward the smoker (see Fig. 5), but its semblance can not be easily recognized. It may have been either a native American or European. The square form of one pipe would indicate that it was a modern product. The spike in the center of the pipe would suggest the phallic symbol, but in a modern pipe would be without significance. The grotesque pipes have been described by Mr. E. A. Barber. The most of these are modern Indian, New York State being the source of the majority of them.

Two more portrait pipes are given. One is a pottery pipe, with a face resembling a white man's. Another is a carved specimen, and looks like a Chinese with a turban. This last was from a piece of limestone, and is almost black. The head-

dress is quite unlike any Indian. The specimen is as beautiful as it is remarkable, so says the curator. See Fig. 7.

2. We take up the animal pipes. The contrast here is very marked. We find that the Mound-builders were very skillful in imitating the shape of animals. The collection which is now in the Blackmore Museum of England has many pipes representing animals. These pipes are well wrought, and contain excellent imitations of the animal figures. The habits of the animals are brought out as well as the shapes. The Davenport collection has many animal-shaped pipes. The animals represented in the Mound-builders' relics are, some of them, extralimital, toucans, manitees, showing that they

were familiar with birds and animals found only in Mexico and the Gulf States. The majority of the animals are those which were common in the valley of the Ohio and Mississippi—turtle, frog, toad, otter, lynx, bear, beaver, hawk, cherry bird, wood-pecker,



Fig. 6.—Flat Pipe.

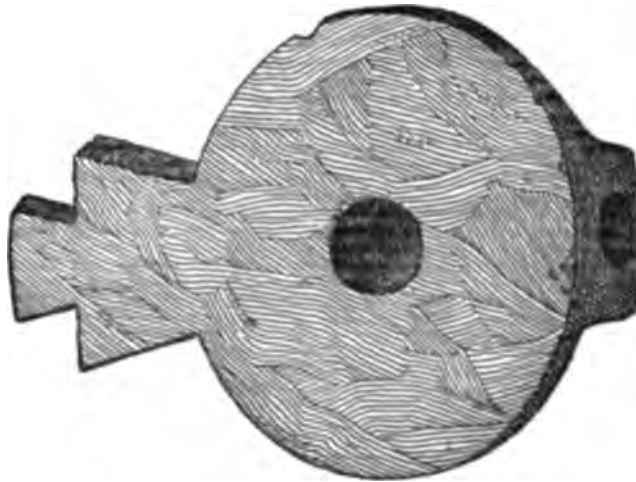


Fig. 7.—Flat Pipe.

duck, swallow, heron, fish-hawk, rabbit, wild cat, squirrel, owl, alligator. The pipes from New York and Ontario are, some of them, imitative of animals, but they are generally poor imitations. We have three imitative relics before us. It is almost impossible to recognize the creature represented. In one case we have

the short bill of the bird, in the other we have the tail of the bird and a rude imitation of the bill. In the third we have the neck, head and eye of the bird, but a poor imitation of both. This last is a pottery pipe, and is very rude. See Figs. 11 and 13. They show the imitative skill of the Indians of this region. The wood-pecker and the cherry bird, which are from the mounds of Ohio, will show the contrast. See Fig. 12. It is evident that the Mound-builder's skill was much greater than that of the Canada Indians.



*Fig. 6. — Brooding Ornament.*

3. The shape of the pipes is next to be considered. There are various shaped pipes, which may be recognized as modern by the shape. As a general thing, a pipe which has straight sides, sharp angles, looking as if they were sawed, like the one given in Fig. 5, will be regarded as a modern pipe. There are many such pipes throughout the country. Some of them have panels, and some have plain sides. Squier and Davis have described a few, but they were pipes which were known to belong to certain historic Indians. The pipe of Keokuk is depicted in this book. Mr. E. A. Barber has described other pipes from Lake Superior, and Mr. Catlin has described many others. These were the pipes of Mandan chiefs. All of them had straight sides and a bowl at one end; the material was catlinite. A pipe which has



*Fig. 7. — Brooding Ornament.*

the shape of a glass stopper seems to be common. Figs. 16, 17. These are evidently modern, and have the appearance of having been turned in a lathe, as the bands are all parallel, and the bowl is divided into different parts. No such pipe was ever found among genuine Mound-builders' relics. It can not be called a prehistoric specimen.

The trumpet-shaped pipe: This is a shape which may be

either modern or ancient. We present two specimens from the collection. See Figs. 18 and 19. The first has ornaments and bands on it, and was evidently made by some Indian. The shape of the pipe was, however, so much like the common clay pipe of the white man that we place it among the modern semblances. A pipe from a mound in Sullivan County, Tennessee, has, however, been described by Dr. Cyrus Thomas, which has a bowl like this one from Ontario, but its stem has flanges or wings on



Fig. 18. - *Subtilly Shaped Stone.*

either side, making it resemble both the Mound-builder's pipe and the white man's pipe. This was discovered in the midst of the stone heaps which have been ascribed to the Cherokees, and was undoubtedly a Cherokee pipe; possibly was made after the advent of the white man. Mr. A. E. Douglass has also described a trumpet-shaped pipe from Mexico, though it is uncertain whether it is prehistoric or historic. The trumpet-shaped pipe which is next given is perhaps typical of these. See Fig. 18. Sir William Dawson has described a number of these. He says that the highest skill of the Hochelaga potters was bestowed on their tobacco pipes. They possessed pipes of steatite or soapstone, but none of elaborate form have been found. One example of a trumpet pipe, made of catlinite, is given. See Fig. 19. A great number of fragments of clay pipes bearing the trumpet shape show that this was a common form. See Fig. 20.

It will be noticed that the pipe has the shape of a war club, the bowl constituting the head of the club, the stem the handle. Two tube pipes are represented. They were probably the pipes of Indians and not of Mound builders. See Figs. 21 and 22. Another shape is very common among the Indians. It is a pipe



Fig. 19. - *Clay Pipe.*

which has a flat platform as a substitute for a bowl, the orifice of the pipe being in the center of the plate. Such a pipe as this was regarded in a measure as sacred. See Figs. 23, 24 and 25. The tobacco was placed upon the flat surface, lighted, and the pipe was passed around the circle, for the warriors or council men to blow the smoke out, as a sign of good faith and worship. Such pipes belong to the modern Indians, either to the Algonquians or the Iroquois. They are quite widely distributed. We

have seen one in the collection at Potosi, Wisconsin. Catlin has pictured one in his book on the Mandan Indians and the Smithsonian Reports speak of other pipes of a similar shape.

We have dwelt upon the description of these relics for the reason that they are supposed to have been typical specimens. The execution of the cuts is, to be sure, somewhat imperfect,



Fig. 30.—Indian Mace.

and yet the shape of the relics will be easily seen from them. We take the position that the collection as a whole illustrates the peculiarities of the Indian art, peculiarities which are not recognized in the Mound-

builders' art. These peculiarities seem to have been derived from prehistoric times, and to indicate that the Indians of this region at least were always different, or, at least, had different types of art, from the Mound-builders. Certainly, so far as the relics can show it, we should say that there was a wide difference between the two classes of people, and that this difference existed in prehistoric times as well as in historic. We might here draw upon history to show the same fact. It is well known that the region we have been describing, and from which these relics were gathered, was the one which was first occupied by the white man. It is the region in which the protohistoric period was most prolonged. There have been, to be sure, a few other localities in which this period was equally protracted, but in none was it likely that so many protohistoric relics would be left as here.

4 There are certain relics which seem to have been widely distributed, but they are at the same time regarded as Mound-builders' relics,

for they are sometimes found in mounds and have all of the finish which characterizes the Mound-builders' art. We refer to the saddle-shaped specimens. These are sometimes called brooding ornaments, as the supposition is that they represented birds as brooding, and at the same time were worn as signs of maternity. There is one thing to favor this view of the relics. The head-dress of the Egyptian goddess Neith, who was



Fig. 31.—Mound-BUILDER'S Mace.



the goddess of maternity, was in the shape of a vulture, the wings resting down over the ears, but the head and tail projecting above the head, forming a sort of crown. It is possible that the bird ornament, or brooding ornament, as it is called, was used in the same way. There are portrait pipes which have horns projecting above the head, drapery thrown over the horns and falling down at the side of the head. The question is whether the horns which furnish the support for the drapery were not formed by a brooding ornament, the head and tail of the bird projecting above the head upward, the body of the bird forming the support for the drapery. This may have been one use. Another way of wearing the ornament would be to fasten it on the top of the head, making projections over at the side, as well as above the head, a cord passing around under the chin and over



Fig. 31. Monitor Pipe, Indian.

the head. Another way of wearing the ornament would be to place it on top of the head, where it would make a single horn, the three ways of wearing the ornament requiring three different shapes. As an argument in favor of this view, we would mention the fact that brooding ornaments have three shapes, one being in the shape of a saddle, with two projections, but with no bird shape in it, a second would be the bird-shaped ornament, the length and the size varying according to circumstances, but with tail and head both elevated, making two horns; the third case is an imitation of the bird, but the head alone is elevated, making a single horn instead of a double one. We give the following cuts to illustrate these points. We have the bird-shaped amulet in Figs. 24, 25, 26; we have the portraits which show the possible use of these ornaments in Figs. 27, 28, 29. The three shapes of the brooding ornaments are given in the cuts, and the three ways of wearing them can be seen in the portrait pipes. As an additional argument, we would refer to the method of wearing the hair which was common among the Pueblo women. There is a roll above or over the ears, which resembles the projections at the side of the bird's head, and at the same time resembles the spool ornaments which are so common in the mountains. These spool ornaments are remarkable relics. There was evidently a symbolism about them, a symbolism which was very widespread. We

take the spool ornaments, the brooding ornament, and compare them with the Egyptian head dress. We then take the Pueblo manner of wearing the hair, and the various pictures, and place them together, and ask whether there was not a symbolism in all this, a symbolism which possibly had a common source in some historic ancestry. This explanation may not be accepted by all. A few bird amulets have been found which in shape contradict it. There is a bird amulet in the possession of Mr. L. O. Bliss, of Iowa Falls. It consisted originally of three pieces, the top piece being in the shape of a duck with a flat back, the middle piece being a mere flat tablet, resembling the perforated tablets, the lower piece being boat-shaped, resembling the boat-shaped relics which are so common. The explanation of this remarkable relic is that a duck was placed upon the boat-shaped relic, and



*Fig. 32.—Monitor Pipe, Indian.*

could be rocked in a way to resemble the floating of a duck on the water. The relic, remarkable as it is, does not in reality contradict the explanation which we have given. The duck might be taken as a symbol of maternity; it is a very common symbol, not only among the Indians and Mound-builders, but among the Peruvians. It would seem as if this idea of representing maternity by the brooding ornament or bird-shaped head-dress was very widespread.

The question arises whether these were Mound-builders' or Indian relics. In answer to this we would suggest that if they were Mound-builders they are very interesting specimens, since those which are undoubtedly Indian are much ruder than those which were Mound-builders'. We call attention to the brooding ornaments from the Canadian Institute at Toronto as compared with the ornaments in the Blackmore Museum, described by E. G. Squier in "Ancient Monuments."\* Still, we would say

\*Page 230.

that Dr. C. C. Abbott has mentioned the prevalence of these brooding ornaments in New Jersey, found on the sites of the ancient Indian villages in New Jersey.† Mr. Henry Gilman also says of these bird-shaped stones: "I have learned through an aged Indian that in olden times these ornaments were worn on the heads of the Indian women, but only after marriage; the figure of a brooding bird was a familiar sight to the children of the forest." Dr. Edward Sterling, of Cleveland, says: "Such bird effigies made of wood have been noticed among the Ottawas of Grand Traverse Bay, Michigan, fastened on the top of the head of the women as an indication of maternity." Wm. Penn says: "When the young women are fit for marriage, they wear something on their heads for an advertisement, so that their faces are hardly to be seen, except when they please." Dr. Abbott speaks of one bird-shaped stone found in Vermont, another found near Trenton, New Jersey, another in Cumberland County, New Jersey. This was intended to represent a diver or duck with a long neck. A very beautiful specimen was recently dis-



Fig. 5.—Mortar Pipe, Indian.

covered by Mr. Thompson in Michigan. After considering the great number of these relics, and the fact that they are found upon the surface, we should say that they belong to the modern Indian rather than to the Mound-builder.

5. The next class of relics about which there might be a contention as to whether they were Mound-builders' or Indians, is that class which might be called maces or banner stones. These are perforated, and have flanges or wings, but vary in shape, size and finish. They are very widely distributed. Some of them are found in Canada, others in Florida. In fact, they are common all over the Mound-builders' district. It would seem as if some of them were made by modern Indians, but that in making them they only perpetuated a native symbol, or ensign of office, without preserving the skill which formerly had been exercised in finishing them. We call attention to the specimens which are furnished by the Canadian Institute as compared

† See Abbott's *Primitive Industry*, pp. 572-574.

with those described by Mr. A. E. Douglass. It will be seen that the Toronto specimens are much ruder than the Florida specimens. The contrast might possibly be owing partly to the engraver, but not altogether. Of one of the specimens furnished by the Toronto Institute, Mr. Boyle says: "It is an unfinished specimen and is valuable chiefly as another proof that the Indians did not perforate their work until it was almost or wholly finished. This specimen came from Kentucky. Other unfinished specimens have been described by Col. Charles Whittlesey. They were specimens from Ohio. Many broken specimens have been found in various parts of the country. One is in possession of the writer. It came from the region of the effigy mounds. It had been perforated in such a way as to show that it had been carried as a charm by some Indian, who was perhaps unconscious that it had been once used as an emblem of honor or as a badge or mace. These relics have evidently come down to us through the hands of modern Indians from the Mound-builders' period. They illustrate very clearly the point which we have in mind. The Mound-builders' period was distinguished for the superiority of the native art. The modern period is distinguished for the decline of the native art. We may call the Mound-builders Indians, but the difference between the specimens of art which have come down to us from the Mound-builders and those which have been found in the hands of modern Indians prove the position which we have taken. The term "Mound-builders" is an appropriate one, for it suggests a stage of art which was much superior in prehistoric times to that stage which is exhibited by the historic or protohistoric times. One of two things is proved by them. Either the hunter Indians who have come in and taken the place of the preceding tribes were a much ruder class of people than those whom we call Mound-builders, or the Mound-builders have very much degenerated and are not properly represented by their descendants, whom we call modern Indians. This is all that we care to substantiate. We think that the difference between the modern Indians and the Mound-builders is plainly exhibited. We do not claim for the Mound-builders any high degree of civilization, nor do we claim for them



Fig. 35.—Mound-builder's.

any radical race distinction, but we claim for them a superiority in all that constitutes aboriginal art, and so maintain that the term Mound-builder is to be continued.

6. We now come to the monitor pipe. The difference between the Indian and the Mound-builders' relics will be more fully seen in these than in any other. We furnish several specimens of the pipes (see Figs. 32, 33, 34, 35), which may be said to be imitations or attempts at the monitor pipe, from the Canadian collection. It will be noticed that they are exceedingly rude. The peculiarity of the monitor pipe is that it is composed of one single stone, and was smoked without the addition of a stem; it was a simple specimen, and is contrasted with the compound specimens which were common among the Indians. The advantage of having a simple pipe was that it was easily placed in the medicine bag, where it was out of the way and yet was conveniently present. There was a sacredness about the pipe which made it important to preserve it. The pipes of the modern Indians do not seem to have had the same sacredness; they were commonly carried suspended to the belt, and were often in plain sight. The pipes of the Eastern Indians seem to have been, many of them, simple specimens—that is, simple as contrasted with compound ones. They were, however, in great contrast with the Mound-builders' pipes, in that they were exceedingly rude. It is possible that some of these specimens are unfinished; that in course of time they would have been moulded into symmetrical shapes, and yet one of them seems to have been designed for the insertion of a stem, and so would be called compound; it was probably Indian. We present one specimen of the Mound-builders' pipe, to show the contrast. It is a portrait pipe, but has the typical monitor shape, the main difference being that the bowl is in the shape of a human head instead of a rimmed cylinder. Monitor pipes were very common among the Mound-builders, especially among the Mound-builders of Ohio. They are found in many parts of Illinois, and are numerous in the vicinity of Davenport, Iowa, though the characteristic pipe of that region is animal-shaped.

This closes the review. We think enough contrast between the Indian and the Mound-builders' relics has been shown to convince any one that two classes of people dwelt upon the continent, which were different enough in their art products for us to give to them different names, and so we cling to the terms Mound-builders and Indian.

SYMBOLISM AMONG THE DOLMENS AND STANDING  
STONES OF FRANCE.\*

BY PROFESSOR A. S. PACKARD.

Not far from the Land's End of France, and adjoining the picturesque coast of Finisterre, a favorite resort not only of French, but also of English and American artists, lie the barren and almost treeless plains of Morbihan, one of the eighty-six Departments into which the French Republic is now divided. Morbihan is Celtic for "The Little Sea," and the district is famous not for its scenery, for the landscape is tame, but for its impressive and mysterious so-called Celtic or Druidical ruins. These remains are mounds, tombs, and monoliths erected by a race whose remote descendants still occupy the soil, their farms and dwellings and hamlets bordering upon, and in part inclosing the tombs and lines of stone pillars which keep silent watch over the region. The most imposing and best known of these series of pillars or "menhirs" are the great "alignments" of Carnac, which have for centuries excited the curiosity and interest of travelers and antiquarians.

Such monuments, if they ever existed in so great perfection in other parts of France, have been removed by farmers in clearing their lands, or in building their own dwellings, as with us glacial boulders have been removed and used for building stone walls. On the remote coast of Morbihan, however, where the land is comparatively sterile and treeless, and the population is sparse, not only have the monuments been tolerably well preserved, but the Bretons themselves, perhaps speaking a language derived from their pre-Celtic ancestors of the later stone and early bronze age, have preserved in a degree the probable features, the folklore, and some of the customs of the times when these monuments were erected.

Hence a journey to Morbihan, with its weird, somber landscape, its cider-drinking, superstitious, Celt-speaking peasants, clad in their sober black garments, environed by the many mounds, tombs, and standing stones, rising as silent witnesses of the mysterious past, and becoming an integral part of the every

\*The quotations given herewith are taken from *The Independent*, August 7, 18 and 21, 1884, and are selections. They are reprinted for the purpose of showing the symbolism prevalent among the dolmens.

day life of the inhabitants—a journey among such scenes has a strange fascination.

There are in the single department of Morbihan 306 dolmens and throughout France 3,410. They are rarer in the north and east than in central, southern and western France. Beginning with the most eastern point at which dolmens occur, archaeologists have observed them in western India, where they have been used to the present. They are found in Palestine, near the Dead Sea, in the land of the Moabites. Going west we find them on the other side of the Caucasus Mountains in Circassia and the Crimea. Passing farther to the westward they occur in Central Europe, northeast of Dresden, from Mecklenburg through Denmark into southern Sweden, but none occur in Norway. Returning to Germany, many have been discovered in Hanover and the Low Country, as well as in Belgium, in Luxembourg and Switzerland. They also occur on the Channel Islands, in Cornwall, in the Isle of Man and of Anglesea, some in western and a few in the eastern counties of England, while many occur in Scotland and in Ireland. Turning to the Mediterranean region, there are the ruins of dolmens in Corsica, in northern Spain, in Andalusia, in Portugal, while in Northern Africa they are abundant from Morocco to Tripoli, especially in Algeria. Mortillet rejects the theory once held that the dolmens were constructed by a migratory people, maintaining that they were the work of a sedentary population and not of one and the same race, as skeletons of very different races have been found in them. At the same time, many facts tend to show that the dolmen-builders came from the East in the first place. Mortillet also states that dolmens were burial chambers used as places of sepulchre by families or by tribes. The menhirs were also quarried and erected by the designers and builders of the dolmens, who roughly hewed and chipped the monoliths into their present shapes with small axes of polished flint, jade, and the harder varieties of serpentine.

One should visit the excellent museum at Vannes before passing on to Carnac. The Musée Archeologique is situated in the third story of a very old, rambling, timbered building, with creaking oak stairs and ghostly corridors. The rooms are small, but the cases contain very rich collections taken from the dolmens and tumuli we were afterward to visit. Here were placed together in the case the relics excavated in 1892 from Mont St. Michel, at Carnac, the largest burial mound in France. It comprises a superb series of polished axes in jadeite, chloromelanite, fibrolite and chlorite, with a beautiful necklace of green turquoise. There was also a fine series from the tumulus of Mané-er-Hrock at Lockmariaquer, comprising besides six jadeite axes ninety-two of fibrolite, which is a dark variety of serpentine. The pottery of the mound was represented, and among

them were seen the rude, unfinished earthen-ware, precursors of our bowls, tumblers and cups and saucers. Some of the "green turquoise" beads were cylindrical, perforated, and exactly resembled, in shape and color, a jade bead we had obtained at Cholula from a Mexican Indian. The jadeite implements were illustrated by unworked specimens of jade from Thibet and of jade nephite from Siberia, as well as Jaussurite from the valley of the Saas.

Reluctantly leaving this quaint and attractive town we took the evening train for Plouharnel Carnac, reaching the Hotel du Commerce, kept by the two daughters of M. Félix Gaillard, to whom we took a card of introduction from Prof. Topinard, and from whom we received every kind of attention and aid, the learned archæologist freely giving us the benefit of his many years' exploration of neolithic menhirs and dolmens, as well as Gaulish burial-places. Part of the hotel is devoted to a very rich local museum, crowded with stone implements, ornaments and ornaments in bronze and gold, pottery, including funeral lamps with holes for the wick, and three graves removed with their contents from Quiberon, the whole illustrated by stone implements from North America and New Caledonia, with objects from the Swiss palafittes, or pile dwellings, which M. Gaillard told us are of the same age as the dolmens of France.

And now before we actually visit these strange memorials of past neolithic occupation, let us explain the meaning of the Celtic names applied to them. The megalithic monuments are rude monoliths of the granite of the Breton coast called *menhirs*, from two Breton or Celtic words, *men* a stone, and *hir* long; they are also called *penlans*. The menhirs are arranged in groups of from nine to thirteen rows, each row being called an alignment. The tomb-like structures called dolmens are so named from *men*, a stone, and *dol* table. They consist of a few large, broad, flat stones set up on edge so as to enclose a more or less oblong space, the larger ones are about six feet high and covered over by a single great slab (called table) or several flat stones. The smaller ones are said to resemble tables and altars. Many of those in the Morbihan are approached by covered galleries, which are generally straight, but at times curved; the main structure or chamber is sometimes wider than long. They, in nearly each case, face the east, and were places of sepulchre or tombs, being the precursors of the old-fashioned tombs of our cemeteries, and were covered by mounds of earth called *tumuli*. A tumulus sometimes enclosed a cairn or *galgal*, or heap of squarish stones six or eight inches or a foot in diameter, thrown or laid over the dolmen to protect it from wild beasts. A *cromlech* in France is a circle or semicircle of menhirs or upright stones. The stones composing a cromlech are usually smaller than the majority of the menhirs, and the stones touch each other, while in an alignment of menhirs, the individual stones are from two to several



feet apart. The word cromlech is from *kroumm*, curved, and *lec'h*, meaning sacred, or, according to some writers, smaller stones.

At the village of Lockmariaquer we engaged two fishermen, who took us in their boats to "Gavr' Inis," on which is perhaps the most interesting tumulus and best preserved sculptured dolmen in the Morbihan, and probably in Europe, which is a cairn twenty-six feet high.

The view from the summit of the mound, over the Gulf of Morbihan and its shores, is one of much interest, from the fact that some of the distant eminences are artificial mounds, and that on some of the islands there are dolmens.

Descending, we enter the gallery of the dolmen by a path walled in with the square porphyritic granite blocks taken from the sides of the gillgal, and passing through the low narrow gallery about twenty-five feet long (Cartailhac says thirteen meters) we enter the chamber, which runs east and west. About forty huge slabs form the pavement, the walls and the ceiling, one of the slabs in the ceiling is of quartz; and we judged the largest slab to be about eighteen feet square. But the distinguishing feature of this dolmen is the mysterious sculpturing on the slabs. All the granite wall-slabs are thus sculptured, the marks being cut in. And what was the nature of the tools? The quartz slabs alone had been untouched. Cartailhac argues with good reason, we think, that the implements could not have been of iron, as only the softer granite was grooved and engraved, and that the engravings were made with stone tools. It is also noticeable that in other dolmens we visited, symbolic stone axes, mounted on handles, are engraved on the slabs of the ceiling, while on a single upright slab in the dolmen we are now describing, there are eighteen such axes figured with others in the same gallery.

The marks themselves roughly resemble the tattoo marks of Pacific Islanders. As Cartailhac remarks in his "*La France Préhistorique*" (1889), they are diverse linear combinations, being straight, curved, waved lines, either isolated or parallel or ramified like fern leaves, or arranged in segments or concentric circles, either limited or not, and trimming certain compartments of spirals with short turns, recalling exactly the figures made by the wrinkles of the skin on the palms of the hands and finger-tips.

The last described marks are certainly the most typical and abundant, and perhaps were suggested to the proto-Celtic engraver by studying the lines on his hands. The artist was not hurried in his work, and as Cartailhac says, the sculptures must have been made before the stones were put in place.

But the tide was going out, and we must leave this fascinating ruin and return to Lockmariaquer, to visit other dolmens. One of the most notable, situated south of the town near the base of

an elliptical mound, 30 feet high, is the dolmen *Mané er-H'roeck* (the mountain of the fury). The opening to the gallery, as in all the other dolmens, faces to the east, and to enter it we pass by two enormous but prostrate menhirs, one 31 and the other 25 feet long. The walls of the dolmen are built in horizontal layers, and one of the stones raised on the right side of the entrance is ornamented with very beautiful and curious sculptures, some like escutcheons, besides ten figures of symbolic axes with handles. Thence walking across a potato-field, occasionally stopping to pick up fragments of Roman tiles, we approach the "king of the menhirs," called *Mané-ar-Groac'h*. His monolithic majesty is second in size and height to none in Europe, or any other country; the next largest one in Brittany being 37 feet high. It lay, however, prostrate, and broken into four pieces. When entire, it was 67 feet 6 inches long, 7 feet 6 inches thick in one diameter, and 13 feet 6 inches in the broadest portion. This colossal menhir, as usual, when one or two stand alone, served as a monument, and was evidently in direct relation to the tumulus and the inclosed dolmen, for we noticed one standing sentinel over a dolmen; and they are sometimes erected on the summit of a tumulus, as at *Ile de Sein*; in such case they may have been put up to indicate burials. The dolmen near the base of the *Mané-ar-Groac'h* is a famous one, and like many of the others has been purchased and restored by the Government. It is the *Dol-ar-Marc'hadourien*, or *Table of the Merchants*. On the under or inner side of the great table or covering slab, which is 20 feet long by 13 feet wide, was engraved a large stone symbolic hatchet with its handle. That these images are in reality rude representations of hatchets seems plausible. Stone axes, apparently made expressly for ceremonial use, are found in nearly all dolmens, having been placed there beside the dead, and they are in nearly all cases beautifully finished, with sharp, unbroken edges, and often of jade, which is only now to be found in Asia and Polynesia, being one of the rarest minerals in Europe. Some authors suppose that the ax was regarded by the people as the symbol of separation—an emblem of the end of life. However this may be, whether from its utility alone in every day life, or its use as a weapon of war, it must have been a highly prized and venerated instrument to be so often engraved on tombs, and so invariably buried with the dead.

This region is especially rich in dolmens as they are scattered all about *Lockmariaquer*; the dolmen of *Mané-Lud* being situated on one of the principal streets, next to a house, the tumulus once enclosing it rising behind.

A little way out from the town is the dolmen of *Kervress*, remarkable for the cup-shaped pits in the under side of the covering slab, and which, of course, must have been made before the stone was put in place. These cup-shaped hollows are

scattered irregularly over the surface, varying somewhat in size, the largest being about an inch and a half in diameter. They are a great puzzle to archaeologists, who can make nothing of them. Occurring in Germany, Switzerland, among the Alps and the Pyrenees, and in Portugal, both in dolmens and on menhirs, they had some meaning to the men of the stone and of the bronze age, after which they ceased to be formed. It is only to be said, with Cartailhac, that at the present day, Hindu women at the approach of maternity, may be seen carrying water from the Ganges, with which they sprinkle these symbolic cups in their temples, with prayers to the divinity indwelling. Such superstitions still prevail in France, and in the Pyrenees, and in Sweden, as well as in Switzerland, where they are either regarded as the work of elves, or visited by young girls or widows in the hope of getting husbands.

The great mound of St. Michel looms up as on return we approach the little village of Carnac. It is the largest tumulus in France, overlooking the rather flat surrounding country and the Atlantic. The tumulus is now sixty-five feet above the surrounding field, though originally it must have been considerably higher, its summit having been levelled by the Romans to build a temple upon. We ascend the tumulus by the fifty-two steps made of the small granite blocks taken from the cairn which protected the dolmen. The great elliptical mound of earth covering both dolmen and cairn is 400x200 feet in its greater and lesser diameters. Toward the north and northwest are plainly to be seen the famous alignments of Kerlescan, Kermario and Ménéac, which we were to visit. M. Gaillard was again our "guide, philosopher and friend," without whose intimate knowledge of the striking monuments we could not have seen or understood them. The next day, M. Gaillard wisely conducted us through Carnac, past mound St. Michel, to the easternmost point, and was to lead us three or four miles westward, so that we could review the ruins, one after another, beginning with the thirteen alignments of Kerlescan, and ending with those of Ménéac.

There are at Kerlescan thirteen rows or alignments, comprising 262 menhirs, and extending westward about 1,000 feet. At the western end is a cromlech now restored, which instead of being semicircular is somewhat square, inclosing a space about 300 feet in diameter. We then visited the interesting elliptical mound enclosing the dolmen of Kerlescan, lying just north of the middle of the group of menhirs, which is exceptional and indeed unique in Brittany, from having been surrounded by an elliptical cromlech, or circle of menhirs, some of which were six or seven feet high, and placed a few feet apart—not touching each other, as in those at the head of the alignment. Retracing our steps, picking our way back through masses of the prickly,

forbidding gorse, which bore an occasional yellow, pea-like flower, we examined the cromlech, and, taking to our cart, drove on to the next series of alignments, the larger one of Kermario.

The avenues of Kermario consist of 855 menhirs planted in ten rows, extending over the undulating heath for nearly a mile, or, to be exact, 4,037 feet. The standing stones are impressive for their size and height, some of them being twelve feet high. Moreover, an added interest are the traces of Roman occupation on the south side, near the western end; in fact, traces of the civilization of Rome of the period of the Gallic wars are scattered over Morbihan; and the peasants call the alignments Caesar's Camp. Indeed their explanation of these lines is that their patron Saint Corneille was pursued by the Roman army, which was, as a punishment, turned to stone, the taller pillars representing the officers.

After crossing another interval, we reach the eastern end of the alignment of Menec, whose cromlech, at its western end, encloses some of the farm-houses of the hamlet of Menec, which is not far from Carnac. The menhirs lie to the north of the road between Carnac and Plouharnel. The group is a little shorter than that of Kermario, being 3,376 feet long, and consists of eleven instead of ten lines, and the stones are not quite so high and imposing as those of the middle group. The stones or pillars vary much in shape; some are much rounded; many were, however, planted with the smaller end down; and whether it is a mere coincidence or not the highest stone is about 11 feet high, the number of rows is eleven, the alignments themselves are about eleven yards apart, while the spaces between the stones composing each line are often about ten or eleven feet apart. In this, as in the other groups of alignments, the rows are not mathematically straight, but more or less wavy, and the stones vary much in distance apart, all the way from perhaps three or four to ten or eleven feet. In general the stones decrease in height toward the end, where they are not much over four or five feet high. The groups follow the natural inequalities of the plain, whose surface is rolling, the country slightly descending from Menec toward Kerlescan.

The semicircle of stones or cromlech at the western end of the Menec group was enclosed by standing stones from about five to seven and even eight feet high, which touched each other. At present many are prostrate, and there are two or three small stone farmhouses within the circle. Fortunately the government purchased the entire group in 1888, and will raise and plant the fallen stones, and as the inhabitants of the houses die or remove, the buildings will be taken down. The restoration of the Kermario group is nearly accomplished, and is almost entirely enclosed by a low stone wall.

Returning to our hotel to breakfast, we spent the afternoon in

exploring the dolmens and alignments of the Quiberon peninsula, accompanied by M. Gaillard, who was so enthusiastic and interested in having us see everything of archaeological interest.

After visiting the dolmens and tumuli of Port Blanc on the west shore, near St. Pierre, gathering pieces of pottery, bones and flint chips, and seeing how the ocean has encroached on the slowly subsiding coast, so as to undermine the cliff and the tumulus, which must have been situated much farther inland in pre-Celtic times, we walked over the grassy, sandy wastes back to our cart, and drove past the village of Saint Pierre and its old windmill to the menhirs and cromlech on the shore. How long the rows of standing stones were originally it is difficult to say, because the coast has sunken and the waves have undermined and overturned the stones at the eastern end. Walking down across the field, where the men, and women, too, were digging potatoes, we stood on the edge of the *falaise*, or sandy cliff, and the tide being partly out we could trace some of the lines into the sea. A few of the stones were lying prostrate on the beach, while others beyond were overground with sea-weed, and still beyond lay some under the waves. There are in all five lines which extend in a southeasterly direction for 634 feet seaward.

At a distance of about 60 yards from the head stones of the rows, the highest menhirs being about 11 feet, is situated the ruined cromlech, which, according to Lukis, was 200 feet in diameter. We did not attempt to measure it. This group has not yet been restored, and only about a dozen of the stones are still upright.

M. Gaillard had brought his compass with him and now demonstrated a curious fact to us. He had already called our attention, while visiting the alignments of Kermario and of Menec, to the occurrence between certain of the rows of a single menhir, standing by itself, and which has been overlooked, he said, by all other archaeologists. In the alignments of Kerlescan this very curious odd stone is situated, we think, near the seventh or eighth space between the rows. It is about 11 feet high, and from 7 to 10 feet thick at its greatest diameter, which is not far from the top, the stone being smaller at its base. In the alignments of Menec the single menhir is in the third space from the northern side, namely, between the third and fourth rows of planted stones. In each group of alignments, at least in four of them, this odd menhir occurs, though varying in situation, depending apparently on the position of the rows, none of which are exactly in an east and west course, as their builders had no compass. They are all situated not many paces, perhaps fifty, more or less, from the cromlech.

Now our friend and guide took the greatest interest and satisfaction in placing his compass on one of the middle stones of the cromlech at St. Pierre and demonstrated to us that the line of 50° it varies from 45° to 50° in different groups of align-

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a little over a foot in diameter, too small for the passage of a body, and probably used for the deposit of food for the service of the departed in his wanderings in the other world. It is not improbable that our pre-Celtic, neolithic ancestors brought with them from their Eastern homes the observance of burial rites and very primitive religious ideas, involving some notion of a future life, besides the worship of their ancestors and of the sun.

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Rows of standing stones are not, however, confined to the Morbihan; the menhir-erecting and dolmen-building race, judging by the monuments it has left behind, existed in other parts of France and of the Old World. According to the latest and most trustworthy authority, M. Cartailhac, whose work entitled "La France Préhistorique" appeared in 1887, there are in Morbihan eight of these groups of alignments, including the cromlechs connected with them, and nine, far less important, in Finistère, five in the Department of Ille-et-Vilaine, and six or seven others of small size and slight importance in the rest of France, most of them only forming one or two short rows of standing stones. Mortillet says that there are in France fifty-six alignments in fifteen Departments. Analogous to the alignments of France are the Sarsden Stones in Berkshire, England, which is composed of 200 menhirs.

## GLOOSCAP, CUHKW AND COOLPURJOT.

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The tradition respecting Glooscap† is that he came to this country from the east, far across the great sea, that he was a divine being, though in the form of a man. *He was not far from any of the Indians.* (This is the identical rendering of the words used by my friend Stephen in relating the sketches of his history here given.) When Glooscap went away he went towards the west. There he is still tented, and two important personages are near him, who are called Kuhkw and Coolpūjot, of whom more anon. Glooscap was the friend and teacher of the Indians. All they knew of the arts he taught them. He taught them the names of the constellations and stars. He taught them how to hunt and fish, and cure what they took, and how to cultivate the ground as far as they were trained in husbandry. When he first came he brought a woman with him, whom he ever addressed as *Noygumec—grandmother*—a very general epithet for an old woman. She was not his wife, nor did he ever have a wife. He was always sober, grave and good. All that the Indians knew of what was wise and good he taught them. His canoe was a granite rock. On one occasion he put to sea on this craft and took a young woman with him as passenger. She proved to be a bad girl, and this was manifested by the troubles that ensued. A storm arose, and the waves dashed wildly over the canoe, and he accused her of being the cause by her evil deeds. So he determined to rid himself of her. For this purpose he stood in for the land, and leaped ashore, but would not allow her to follow and, putting his foot against the heavy craft, he pushed it off to sea again, with the girl on it, telling her to "become whatever she desired to be." She was transformed into a large, fierce, ferocious fish, called by the Indians *Keeganibe*, said to have a huge dorsal fin, like the sail of a boat, it is so large and high out of the water.

The Indians sometimes visit Glooscap at his present residence,

\*Heated to me September 30, 1889, by Stephen Hood, a very intelligent and reliable Indian.

†This remarkable personage figures in all their *Ahmooh-Atwas*. Here is evidently a clear tradition of God, as the friend, companion, guide, instructor and helper of the human race. This divine friend leaving them on account of their disobedience, and their long and expectation of his return, looks marvellously like the Jewish expectation of a Messiah and of the reason given by the prophets why God forsook them in former days.



so says tradition. This is in a beautiful land in the west. He taught them when he was with them that there was such a place, and led them to look forward to a residence there, and to call it their beautiful home in the far west, where, if good, they would go at death. The journey to that fair region far away, is long, difficult and dangerous. The way back is short and easy.

Some years ago seven stout-hearted young men attempted the journey and succeeded. Before reaching the place, they had to pass over a mountain, the ascent of which was up a perpendicular bluff and the descent on the other side still more difficult, for the top hung far over the base. The fearful and unbelieving could not pass at all, but the good and the confident could travel it with ease and safety, as though it were a level path. Having crossed the mountain, the road ran between the heads of two huge serpents, whose heads lay opposite to each other, and they darted out their tongues so as to destroy whoever they hit. But the good and the firm of heart could dart past between the strokes of their tongues, so as to evade them. One more difficulty remained. It was a wall as of a thick heavy cloud that separated the present world from that beautiful one beyond. This cloudy wall rose and fell at intervals, and struck the ground with such force that whatever was caught under it would be crushed to atoms. But the good could dart under it when it rose and come out on the other side unscathed. This our seven young heroes succeeded in doing.\* There they found three wigwams—one for Glooscap, one for Coolpūrjot and one for Cuhkw. These are all mighty personages, but Glooscap is supreme and the other two subordinates.

Coolpūrjot has no bones. He can not move himself, but is rolled over every spring and fall by Glooscap's order, being turned with handspikes,—hence the name, "Rolled over by handspikes." In the autumn he is turned toward the west, in the spring toward the east, and this is a figure of speech denoting the revolving seasons of the year. His mighty breath and looks, by which he can sweep down whole armies and work wonders on a grand scale, indicating the weather, frost, snow, rain and sunshine. (Such was Stephen's very satisfactory explanation.) "Cuhkw" means earthquake. This mighty personage can pass along under the surface of the ground, making all things shake and tremble by his power.

All these visitors had requests to proffer, and all received what they asked for, though the gift did not at times correspond with the spirit of the request, though it might agree with the letter. For instance, one of these seven visitors was enamored of the fine country, and expressed a desire to remain there and to live

\*I strongly suspect that there is some mistake here, and that my informant has confounded the traditions respecting the passage of souls to the happy abode of the blest with the journey of mortals to Glooscap's present residence.

long. Whereupon, at Glooscap's direction, "Earthquake" took him and stood him up, and he became a cedar tree. When the wind blew through its boughs, they were bent and broken with a great uproar, making a thunder-storm that roiled far and wide over the country, accompanied by strong winds, which scattered the cedar boughs and seeds in all directions, producing all the cedar groves that exist in New Brunswick and Nova Scotia and elsewhere.

The other men started and were home in a short time. One of these had gone for a medicine that would be effectual in curing disease. This he obtained, but neglecting to follow implicitly the directions given, he lost it before he reached home. It was carefully wrapped up, and he was charged not to undo the parcel until he reached home. But his curiosity got the better of his judgment. He could not see what odds it could make if he just looked at his prize as he was going along. So he undid the parcel, and, presto! the medicine slipped out on the ground, spread and slid in all directions, covering up all the face of the earth, and vanishing from sight.

On another occasion several young men went to see Glooscap in his present abode. One of them went to obtain the power of winning some fair one, which all his unaided skill had failed hitherto to do. An hundred times he had tried to get a wife, but the girls all shunned him. Many of the party who started on the difficult expedition failed to pass the obstructions that lay in their way, and turned back, baffled and defeated; but several of them succeeded, and among them the poor fellow who was so desirous of having a wife. They were all profitably entertained, all presented their requests and were favorably heard. The man who sought power to win some female heart was the last to proffer his petition. Glooscap and his two subordinates conferred together in a whisper, and then Earthquake informed him that his ugly looks and still more ugly manners were the chief hindrance to his success. But they must try to help him. So he was handed a small parcel, and directed not to open it until he reached his own village. This he took with him, and they all set out for home together. The night before they arrived, the foolish fellow could restrain his curiosity no longer. He opened the parcel! Out flew young women by scores and hundreds, covering the face of the earth, and piling themselves up in towering heaps, and burying the poor fellow, crushing him to the earth under the accumulating weight of their bodies. His comrades had cautioned him against disobeying the mandate, and had begged him not to undo the parcel. But he had not heeded the caution. They now hear him calling for help, but he calls in vain. They can not help him, and his cries become fainter and fainter, and finally cease altogether. Morning dawns at last. The young women are all vanished, and the fragments of their

exploring the dolmens and alignments of the Quiberon peninsula, accompanied by M. Gaillard, who was so enthusiastic and interested in having us see everything of archaeological interest.

After visiting the dolmens and tumuli of Port Blanc on the west shore, near St. Pierre, gathering pieces of pottery, bones and flint chips, and seeing how the ocean has encroached on the slowly subsiding coast, so as to undermine the cliff and the tumulus, which must have been situated much farther inland in pre-Celtic times, we walked over the grassy, sandy wastes back to our cart, and drove past the village of Saint Pierre and its old windmill to the menhirs and cromlech on the shore. How long the rows of standing stones were originally it is difficult to say, because the coast has sunken and the waves have undermined and overturned the stones at the eastern end. Walking down across the field, where the men, and women, too, were digging potatoes, we stood on the edge of the *falaise*, or sandy cliff, and the tide being partly out we could trace some of the lines into the sea. A few of the stones were lying prostrate on the beach, while others beyond were overground with sea-weed, and still beyond lay some under the waves. There are in all five lines which extend in a southeasterly direction for 634 feet seaward. At a distance of about 90 yards from the head stones of the rows, the highest menhirs being about 11 feet, is situated the ruined cromlech, which, according to Lukis, was 200 feet in diameter. We did not attempt to measure it. This group has not yet been restored, and only about a dozen of the stones are still upright.

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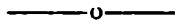
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make his Indian blood but slight, not more than a thirty-secondth part. S. G. Goodrich, in his *Recollections*, gives us this description of Randolph's appearance during one of the Missouri debates in 1820: "His hair was jet-black, and clubbed in a queue; his eye was black, small and painfully penetrating. His complexion was a yellowish-brown, bespeaking Indian blood." It was doubtless from his Indian ancestors that this extraordinary man inherited his wonderful powers of oratory.

MCDONALD FURMAN.

Ramsey, Sumter County, S. C.



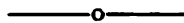
### MOUND BURIAL IN ILLINOIS.

The following description of a mound burial is furnished to us by the local press. It appears that a series of mounds on the Illinois River, opposite Virginia City, had attracted attention, and that one of these on being excavated began to yield some remarkable relics. Dr. Snyder, the archaeologist of the region, heard about it, and was able to secure the most of the relics. The following is his description of the find:

The mound opened is two hundred feet in length at the base, and one hundred feet broad, by thirty feet in height. In its center a slight depression of the surface was noticed, and at that point an excavation twelve feet square was carried down, with side cutting for removal of the earth taken out. The mounds are built on the alluvial soil of the river bottom, but are constructed altogether of clay taken from the adjacent bluffs. It was found that this mound was a tumulus, or the monument of a distinguished personage. Its construction was commenced by erecting a platform of clay five feet high and twelve wide, its length not yet determined. Upon this a fire had been built to bake the surface hard. Upon this gigantic bier was deposited several thousands of black flints, oval in outline, flat on one side and convex on the other; averaging four inches in diameter and nearly an inch in thickness in the middle. In 1860 a deposit of thirty-five hundred similar flints was found at Frederick, in Schuyler County, buried about four feet deep, and in 1872, when digging a cellar near the river bank at Burlington, another deposit of the same flints, numbering fifteen hundred, was found at the same depth below the surface. In this large mound the flints had been laid regularly in six layers, and as even as shingles are placed on a roof, forming a bed eight feet wide by fourteen in length. On this flinty bed, or rim, the corpse of the great chief had been laid, with his head to the east, and probably wrapped in the finest of furs and dressed skins. Around this funereal couch a tomb of logs had been erected a few feet high

and covered with other logs of huge size; some of them fully eighteen inches to two feet in diameter. Over all this, clay taken from the bluffs was thrown to form the mound of the dimensions stated. On the forehead of the decayed skeleton was found a crescent-shaped ornament of thin hammered copper; at each side of the head was a spool-shaped ear-ornament also of hammered copper; and on the breast had been placed a large sheet of mica that no doubt had served as a mirror. On one side of the skull was a small pottery vase of peculiar form, and on the other side was half of a sea-shell with its inner whorls cut out so as to form a drinking-cup. In one hand was a small stone ax, and in the other several arrow and spear heads of flint, a few bone awls and fragments of a large sea shell. All of these objects, including about five thousand of the black flint discs, were secured by Dr. Snyder, and added to his collection. The skeleton of the mighty warrior, to whose memory this immense earthen monument was erected, was decayed so that only the enamel of the teeth could be identified; and the crib-work of logs that had enclosed it had long ago been resolved into dust, leaving nothing but their forms mouldered in the clay.

The Mound-builders who buried their dead chief here in such majestic style were evidently of a very ancient race. Dr. Snyder says we have satisfactory proof that all those hornstone (flint) discs found in this mound, as well as all similar ones found at Frederick, Beardstown and other points in the west, were made at Flint Ridge, in Muskingum County, Ohio; and it is supposed by some antiquarians were buried along our rivers as propitiatory offerings to the spirits or gods of the streams. It is his opinion that the flints were tools for shaping and digging out canoes, and as such were fit and appropriate objects for votive offerings to appease the wrath of the river gods and insure success on the water in fishing, fighting and navigation



## AN ANCIENT CITY IN NEW MEXICO.

The surveys at present being made for the Kansas City, El Paso and Mexican Railroad, which will be built in a diagonal direction through New Mexico from northeast to southwest, promise to bring to the light of modern exploration some regions of remarkable interest which have heretofore been closed to the scientist on account of their inaccessibility. Between the 33d and 34th latitude, and at their intersection with the 106th degree of longitude, the surveying parties have passed along a lava flow which by the local population is called the molpais, which is probably the most unique of its kind in America. It consists of a sea of molten black glass agitated at the moment of cooling in



ragged waves of fantastic shapes. These lava waves or ridges are from ten to twelve feet high, with combing crests, and the whole formation presents the appearance of having been made at a comparatively modern period. This lava flow is about forty miles long from northeast to southwest and from one to ten miles wide. It can be crossed at two places, and its narrow portion, where, in process of time, with infinite labor and trouble, two different and difficult trails have been formed.

For miles on all sides of this lava flow, the country is the most desolate that can be imagined. It has been literally burned up. It consists of fine white ashes to any depth which, so far, has been dug down. To the north of the lava flow, and lying in a country equally desolate and arid, the surveyors have come upon the ruins of Juan Quivira, known already to the early Spanish explorers under Coronado, but which have been visited by white men less often even than the mysterious ruins of Palenque, in Central America. Only a few people at Socorro and White Oaks have been at Juan Quivira, because it is at present forty miles from water. The surveyors found the ruins to be of gigantic stone buildings, made in the most substantial manner, and of grand proportions. One of them was four acres in extent. All indications around the ruins point to the existence here at one time of a dense population. No legend of any kind exists as to how this great city was destroyed or when it was abandoned. One of the engineers attached to the surveying expedition advances the theory that Juan Quivira was in existence and abundantly supplied with water at the time this terrible volcanic eruption took place which formed the lava flow or molpais; that the heat generally, destroyed the whole country and permanently dried up the water supply, and that thus the inhabitants were forced to abandon it and the country generally.

The few Mexicans scattered through this country herding their small goat herds, still have a tradition that untold treasures are secreted under these ruins, and a few years ago an expedition of adventurers left Socorro, N. M., for the purpose of digging for this treasure. They stayed at Juan Quivira and hunted till their water gave out and they returned unsuccessful and disheartened.

The student of Mexican history will remember that Juan Quivira was the city in search of which the expedition of Coronado started from old Mexico in 1540. The rumors of such a city reached beyond belief. They were brought to Mexico by Estevan, the negro companion of Cabeza de Vaca, who was a very *Manchusen* in his tales of immense wealth among the seven great cities of Cibola and other places he claimed to have passed through. Juan Quivira must have been abandoned long before Coronado's time.—*Globe Democrat*

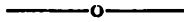
## Editorial.

## QUIVIRA, THE PHANTOM CITY

Of all the interesting stories which have come down to us from the early times of the Spanish conquest and the wanderings of the Spanish troops, the most interesting is that which relates to the celebrated but mythical city of Quivira, which we call the Phantom City. It appears that when Coronado was in the ancient Pueblo of the Pecos, on the Pecos River, he was still enquiring concerning gold and silver mines and famous cities. He was therefore pleased when he met an Indian who filled his ears with stories of a great city, situated somewhere at a distance. This Indian used the word *Quivira* frequently, and so the word became the name of the fabled city. The Indian, however, led the Spanish general and about thirty horsemen not to a city, but far out to the barren plains of Central Kansas, where were only a few wandering tribes of hunters and countless herds of Buffalo, and the villages made up of round lodges constructed of mats and brush. The Spaniards returned disappointed, but the impression formed by the Indian impostor continued, and many an expedition went out in the early days—from 1541 to 1598, down to 1660—seeking for the phantom city. Each journey proved fruitless, and yet there are those who are still enquiring where the fabled city is. The tradition has even fixed itself on the map, so that we have now not only one Quivira, but several. These names are, to be sure, variously applied, for at one place in Southeastern Kansas the name is fixed to a barren open prairie, at another place it is descriptive of a city or village situated among the lava beds and rocky heights of the great plateau, and then again it seems to have a mere shadowy and indefinite significance, very much like the seven cities of Cibola and the celebrated Aztlan of the west.

The name is deceiving, for even during this year the discovery of certain ruins in the region of El Paso has startled the discoverers, and it is supposed that the fabled city has at last been found. This, however, is well, and as it should be. The science of archaeology has long run its course in a dry channel, and the objects of greatest interest have been the lonely ruins and desolate cities and the sight of graves rifled of their contents. We need a little of the spice and of the novel sensation to make it interesting. Therefore we are glad to publish the stories of great ruins, which may possibly mark the site of this mysterious

place. The only difficulty, however, is that when we come to examine the descriptions of the same place, given by a correspondent, one has his imagination fired by the stories brought in from the past, but fails to get any real information. We therefore ask in reference to this find in New Mexico, Can we not have a more complete account? What is this new old city? Is it the Quivira which Coronado sought, or is that still a phantom city, and this something else? Can we not get something definite about the newly-found ruins? We therefore again put the enquiry, where is this Quivira, which has been found?



### WERE THE DRUIDS IN AMERICA?

The study of symbolism in America always brings up a great many enquiries, but none more interesting than one which has relation to a contact with Europe in prehistoric times. This is, to be sure, a point which is constantly arising in connection with all departments of archaeology, but in this connection it is especially suggestive. We therefore propose to speak of the phallic symbol as it is found in this country, especially among the Mound builders, and to see if this does not prove a pre-Columbian contact with other countries. We shall not, however, confine ourselves to this one symbol, but shall take it in its combination with other symbols, such as the symbol of fire, of the sun, of the serpent, and other nature powers.

The description of the dolmens and menhirs of Western Europe, which was given a year or two ago by Mr. Thomas Wilson, and now again by Prof. A. S. Packer, has brought up the subject afresh. The same is also the result of reading about the remarkable find on the Illinois River. The question is how came the custom of making offerings to fire and water, and other customs in America? Shall we say that the Druids were here during pre-Columbian times, or shall we go farther back and ascribe them to an Asiatic source?

I. We begin with the cup stones or perforated symbols. It forms one of the standing problems for American archaeologists how to account for these. These cavities have been studied by various parties and have been found in many and widely separated countries. It is because of this extensive distribution that they have been regarded as important. The argument is that the prevalence of them in America proves European contact in prehistoric times. The argument is a good one, provided we assign to the cavities a sacred character, and recognize them as the symbols of a widespread faith. This is, however, the point. We imagine that if they were not so widely distributed

the thought of their symbol character would never have arisen. The shape of the holes suggests a very simple cause, nothing more nor less than the nut-cracking, which was a natural thing for the natives of this country. The discovery of so many boulders and slabs, filled with these cavities, in Southern Ohio, which is a forest region abounding with all kinds of nuts, naturally suggests that this was the source of the cavities. Perhaps we should say that the question is a *faux pas*. It suggests a mystery when no mystery exists. Still, as various authors have written upon the subject and European archæologists, as well as American, have regarded them as symbolic, we take up the subject in all candor. It is noticeable that the matter-of fact and careful Dr. Charles Rau thought it worth his while to write a book about them, and to recount all the places where such holes have ever been seen. From this book we learn that they are scattered over the continent of America, being very common in the Mound builders' territory. A few specimens are found in the region of the Pueblos and on the rocks of California, and one specimen has been discovered near Orizaba, Mexico. They are also numerous in France, Brittany, Ireland, Switzerland, Saxony, Sweden, Scandinavia, though in these latter countries they are attended with rings and loops and various grooves and channels, as if a special use had been made of them and strange superstitions had been associated with them, making them sacred symbols. We learn, too, that the same works are numerous in India, and that in that country, where everything seems to have a symbolic character, they are regarded with peculiar veneration, and that even phallic worship has been associated with them and the symbol of the Mahedeo is always recognized in them.

Now the point which we make is this, if we must associate so great a significance with so simple an object as a cavity, which seems to have been used for nut-cracking, then we shall conclude that the evidences of contact with older countries during prehistoric times are very common. We can imagine the practice to have prevailed among a rude people of making a very common thing to seem uncommon. The very tools and weapons and ornaments which they had might become the embodiment of strange superstitions, and even feathers and sticks might be expressive. Perhaps there was the addition of a myth or of a transmitted custom, and this would account for the unusual shapes and combinations by which these cavities are sometimes characterized. Still there are figures on the Black Friar's Rock, in Pennsylvania which resemble serpents, the eyes being cup cavities or perforations, the heads only being visible. In these heads we recognize the jew's-harp pattern, and so we have in America, as in India, not only serpent worship but possibly the phallic symbol, with all of its conventionalities. We are not disposed to minimize the significance of these symbols, and yet

we should make a distinction between a practical and a symbolic use.

We find that the symbols are quite widely distributed in America, as widely as they are in Europe, and are sometimes found connected with the cremation of the bodies of the dead, as they are in foreign lands, and are also associated with altar mounds. It is also noticeable that animal figures, human faces and forms, and sun symbols, as well as serpent heads, are associated with the perforated cavities. Dr. Charles Rau has referred to the bird symbol found in the San Pete Valley of Utah and the peculiar figures found among the rock paintings in Lake County, Oregon, and to the human and animal figures on the sculptured boulders in Arizona. These may all have been symbolic, and it is possible that a common symbolism has spread over this entire continent, either from the east or west, and that the connection may be traced even as far away as India. Still we think that a distinction should be drawn, and that the American symbols should be left to themselves until it can be proved that they were transmitted from other lands.

The positions of these cup works are, to be sure, sometimes significant, and the association with various pictures is suggestive. For instance, there is a picture of a Scandinavian boat which reminds us of the Norse sea-kings, and a picture of battle axes and pyramidal *stele* in the Kivik monument in Scania, Sweden. So there are many cup cavities in the roofs of dolmens in France, and Prof. A. S. Packard has declared that these must be symbolic. So there are peculiar figures resembling Runic letters on the Bald Friar's Rock in this country. There are remarkable coincidences also in the shapes of the rings surrounding the cavity which are found in Denmark and Sweden and in this country. Some would make them symbols of the sun, and would prove a contact with European nations or else a remarkable parallel development. Some would also consider the Dighton Rock as still more conclusive, but this rock Dr. Rau is especially skeptical about, taking the position that it was only fabricated by ordinary Indians. It seems to make a complication with our system if there are resemblances to Old World forms in America. Which shall we do? Shall we take the simple facts and be satisfied with these, or shall we assign a mysterious significance to them? We have seen these perforations on various stones, but have not recognized anything symbolic in either the shapes or locations or relative positions of the holes. At one time we discovered a small stone slab, burned and smoked, near the altar of the celebrated alligator effigy in Ohio, the proximity suggesting that it was once on the altar. This was perforated with a cup cavity, and may have been designed as a symbol. Still other stones, with similar cup-shaped cavities, are found in many places. We saw one on the banks of the Ohio at the steamboat

landing at Maysville, Ky., a place which was not suggestive of anything sacred. We also at one time examined the great boulder which was taken from the bank of the Ohio near Iron-ton, and given by Dr. H. H. Hill to the Natural History Society of Cincinnati, and were told that there were one hundred and sixteen of these perforations on this single boulder. Similar stones have been found in Summit County, Ohio, at Portsmouth and Graveport, Ohio, and at various places in Pennsylvania and Tennessee, and the common impression is that they were used for nut-cracking.

The boulder at Cincinnati has certain grooves on its surface, four or five inches long, which have the appearance of being worn by continuous rubbing. But about these we enquire, in what respect do they differ from the marks made by arrow sharp-ening, which are so common throughout the country. Beau-champ has described such works as being common in New York and Gen. Thruston in his new book has spoken of others in Tennessee, and has given a cut representing the same, but they seem very simple things, and we do not see that any symbolism can possibly be made out of them.

Col. Charles Whittlesy thought that the perforations were made by spindles, and that they were evidences of the domestic art of spinning and weaving. Others have taken the ground that some of them were used for paint cups, especially as pestle and mortars have been found in New Mexico with the cup mark in the pestle. The explanation is that the paint, which had been ground, was placed in the cavity while the process of grinding other paint went on. How could symbolic significance come to such simple objects? We suggest the following: It is possible that the women, who so frequently have left the marks of their handiwork, may have used the cavities as signs, giving them the hidden significance which would be expressive of certain sexual desires. We are aware that the bird amulets and various other objects of personal decoration were symbols of maternity with the aborigines. The spool ornament was also made symbolic of some more spiritual desire, and the axe, especially when made of jade, was symbolic of the immortality of the soul, superstition requiring that bits of jade should be placed in the mouth of the dead.

It is the practice with the women in India to take water out of the Ganges and pour over the cavities and the channels sur-rounding them, as they have a superstition that maternity will be the result. Dr. Rau seems to think that phallic worship is represented in this way. The question is whether these cup marks in America are to be regarded in the same light. If they are, then we should say that they form only another link in the chain which connects this country with the far east, proving not only that serpent worship, but phallic worship and fire worship

and sun worship were all connected and prevailed on this continent in prehistoric times.

II. This point has been impressed upon us by recent discoveries. We now refer to the discovery which we made in connection with the great serpent effigy near Quincy, Illinois. This serpent is a massive effigy, which conforms to the bluff throughout its entire length. Its folds are brought out very forcibly by four conical burial mounds located near the center of the ridge, midway between the head and tail of the serpent. The mounds contained many bodies, none of them remarkable except the one which was cremated at the base of the mound. This was a large body. It was lying on its back, and was partially burned. The bones, however, were preserved, and what was the most singular about the case, on the very center of the body, near the secret parts, a skeleton of a serpent was found coiled up, as if there was an intention to make it significant. The hands were folded over the body just below this skeleton. The body had its feet to the east, and its face was turned upward, as if to look toward the sun. Thus we have in this cremation scene both the phallic symbolic and the serpent effigy, and we have at the same time some evidence of sun worship. But there was another feature still more remarkable. It was noticed that there were several bodies lying parallel with the central one, and that these bodies had been burned. The fire bed was about twelve feet across, and contained the remains of at least four bodies, all of them partially burned, all of them cremated and apparently with the faces looking upward. There were also skeletons of snakes found with the bodies, though the position of the snakes was not closely observed. Now the point that we make is, if there was phallic worship at all, it was also attended with the eastern custom of suttee burning. We learn from the early explorers that at the south the fashion was to kill the slaves and wife of a chief when he died and to burn the bodies with the body of the chief. If this was the case among the southern tribes, it may also have been the fashion with this northern tribe. These, we think, are important facts. While everything in this Quincy find was very rude—no relics, no paved altar, no elaborate contrivance further than the effigy itself—still the cremation was remarkable. We acknowledge that there are many things in connection with all the Mound builders' burials which are of purely native origin. Yet if the phallic symbol is to be seen in one case it is also in many, and, what is more, it is also almost always connected with the serpent symbol.

It is strange that here in America native superstition seized upon the most familiar objects, such as arrow heads, spear heads, leaf-shaped implements, pieces of mica, or even pebbles and round stones, and made of these altars which should be symbolic of sun worship; but it is stranger still that native superstition

should at times give evidence of contact with the more advanced fashions and customs of countries which have long been historic and that the two systems of symbols should be so near to one another. The find at Virginia City, in Illinois, reminds us of similar deposits in Ohio. It was a simple altar or artificial heap formed out of leaf-shaped relics, the specimens all having come probably from Flint Ridge, but here were used as the resting place of the dead. There was, however, a mica crescent on the breast and copper spoons near the head and stone weapons near the hands. Everything about the find showed a very rude state of art, and yet showed a strange and conventional symbolism. The same is true also of the various altar and burial mounds of Ohio. Here in one place were altars composed of similar flint relics, chipped into leaf-shape, and deposited in two layers, one above the other, the entire heap having been used as a platform on which immense numbers of relics had been placed, but no other relics. In another place, at Mound City, mica plates are laid like scales, one against the other, the whole deposit having made a remarkable crescent, which might be supposed to have glistened with the silvery radiance of the moon. This crescent was situated at the bottom of the largest mound in the group found at Mound City, and was itself placed above a layer of clay, four layers above it composed of sand, the whole being very hard and compact. The mound itself was seventeen feet high and ninety feet in diameter, and overtopped all the rest. The symbolism consisted, however, in the crescent, which was nineteen down and nineteen feet across from horn to horn, the greatest width being about five feet.

Still the two altars—the one formed of leaf-shaped implements and the other containing the crescent—were very large, and it is supposed that both deposits were equally sacred among this mysterious people. In the Ohio mounds were other altars, on which many valuable relics had been placed. At the fort on the north fork of Paint Creek, where the leaf-shaped flints were placed, a large number of pipes had been offered, and among the pipes were some in the shape of serpents, the very symbol of the Mahdeo being suggested by one of them. This coiled snake may indeed have been a mere mythologic object, embodying one of the myths which have survived to modern times. Still the presence of the serpent effigy with the other features would indicate that phallic worship had been observed. The clay was at the bottom of these altars, and sand layers above just as clay was beneath the flint deposit in Illinois. So there was a fire-bed of black soil beneath the cremated bodies and white soil above, the evidence of a studied design given in both cases. There are, to be sure, no two altars alike and no conventional or stereotyped mode of burial in the mounds, yet with the variety the uniformity is apparent, the uniformity being always confined to



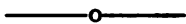
the symbol, but the diversity coming out in the mode of burial and the articles deposited. This is also one of the strange features of the Mound-builders' religion. They seem to have been saturated with superstition. It was almost childish in its simplicity, for it seized upon the most trifling things to express itself; it was also held under the control of a fixed and formal symbolism, which constantly reminds one of foreign customs. Stately ceremonies resembling those of Druidic worship were associated with the trifling details of a savage people. The inference is that human sacrifices were made, and that burials of an extraordinary character were practiced in certain cases, but in other cases the commonest things seem to have been laid away as if with all the care of the most sacred treasure. We are puzzled by these deposits, and yet we recognize a strange symbolism in them all. The great serpent in Ohio is only such an effigy as perhaps any superstitious savage might possibly devise; nothing conventional or foreign about its shape, but when we come to the oval and the altar in the oval, we are at once reminded of the phallic symbol and the offering to the fire divinity of the east. So, too, the serpent effigy in Illinois seems like a very rude semblance of a massive snake. Its shape conforms to the bluff in every part. It seems only an effigy, but when we compare its double bend to the curve of the Hindu fire generator and to count the number four in the mounds on its summit, and see the contents as they are, it seems as if the same latent symbolism was strangely present, and so it is everywhere. Superstition degenerated or advanced, one of the two. Symbolism, too, was either gradually lost, being merged into the totem system of the hunter races, or it grew up under the same races and became a complicated system, very like the sun symbols of other countries. The resemblance may have been accidental, but the impression is growing that the symbolism was not a native growth, but was introduced from some other land.

III. It is to be remembered that cremation was in Europe distinctive of the bronze age, and was comparatively unknown in the neolithic age. We are also to remember that the phallic symbol was very common during that age, so common that many think it was introduced into the north of Europe by the Phœnicians, who took long voyages for the sake of finding tin. The Druids also are supposed to have cremated bodies, and to them have been ascribed the horse-shoe symbols which are still recognized in those celebrated temples formed from standing stones. With the Druids, fire worship, sun worship, serpent worship and phallic worship formed a complicated system, which stamped itself up on the megalithic monuments of the land. The discovery of these various forms of superstition in the American continent suggests to us the possibility of a transmission of the same complicated cultus to the western coasts of the great sea. This is

an important fact. Was it owing to the extension of the Phœnician voyages or to the zeal of Druidic priests that these things were introduced? The contact seemed to have produced a marvellous effect. It was not a decline from the bronze age which we see in these familiar symbols, but the effect of contact with European voyagers in pre-Columbian times, pre-Columbian discovery in fact. The conclusion is startling, but this is the only way that we can account for the marvellous resemblances. Certainly no ordinary nature worship could produce a cultus which would combine all the elements of the eastern faiths—Druidic, Phœnician, Hittite, all in one, nor could the law of growth account for the details as they are seen. Parallel development might indeed result in the prevalence of animal worship among the hunter races, of sun worship among the agricultural races, possibly of serpent worship; but when all of these are combined and made expressive of a strange esoteric system, with the mystic significance of the sun symbol as the source of life, we are led to say that something else must be brought in to account for the phenomena. Phallic worship is not a simple cult which might be introduced anywhere, nor is it to be expected that the worship of fire, or of the sun, or the serpent, would all come from natural causes. There might be a decline from a previous advanced condition. The bronze age might sink back into the stone age. The absence of tin might result in the substitution of copper for the bronze, and the change go on until savage hunters are seen carrying about with them strange reminders of their previous condition; but we cannot see how the process of growth could bring together on the American tree the varied fruit of the eastern climes or place its many symbols in these western lands. The custom of keeping alive the sacred fire was common among the southern tribes. With them the sun was the great divinity. Idolatry, of a primitive kind, also prevailed among them. They built pyramids of earth, and placed their idols in niches on the sides of those pyramids, with their faces towards the four points of the sky. They kept their dead in sacred charnel houses, and placed images near by to watch the remains or to receive the spirits as they returned, reminding us of Egyptian customs. These are all suggestive facts.

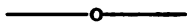
The Mound builder's cult was as strange as this. Here we see the pipes offered to the sun, but the pipes are covered with animal figures, suggestive of animal worship or totemism. Here also we see the serpent effigy, everything about it expressive of a still higher cult, namely, the worship of fire or the sun. Here we see the sun circle and the crescent, showing that sun worship was very prevalent. Here we see the phallic symbol, a marvellous cult, holding its sway over a united people, Southern Ohio being its chief seat of power. Everything of value which was ever offered to the sun was subject to the action of the sacred

flame. Here we see the horse-shoe symbol in the mounds and the phallic symbol in the serpent pipes. And with all this complicated symbolism we learn that the bodies were cremated exactly as they were on Druidic altars, though the flames are smothered beneath the layers of the sacred soil. Surely it is mysterious. Could the Mound-builders have invented all this, and established their system over so great a territory, brought so many strange conceptions into their worship, unless they had received from some source a cult which was not indigenous to the continent. It is said by some that they were nothing more and nothing less than the ancestors of the present race of Indians, but by others that they were gifted with great intelligence; but whichever way we look at them, it does seem that they could not have had such a marvellous symbolism unless there had been among them some one from another continent.



### SNEEZING.

The curious practice of saluting a person who sneezes with some words of congratulation, such as "Mayest thou live," etc., is one of the most widespread customs, and so is worthy of study, as showing contact of the nations at an early date. Theodore Irving, in his narrative of the expedition of DeSoto through the Southern States in 1540, tells of the natives bowing and saluting the chief, who happened to sneeze, and says that the Spaniards were surprised to find the same custom which prevailed among themselves. Latterly Mr. Beal, in visiting Gibraltar and afterwards South America, was amused to find the same custom continuing. The same custom, according to the story found in the Jataka, prevailed in India. The question is, How could the custom become known to the Indians of Georgia without there had been contact at some time with the east?



### ARCHAEOLOGICAL NOTES.

**NOVEL PIPES.**—An item from a Canadian newspaper gives information in reference to some novel pipes. The item is written in the regulation newspaper reporter style and is worth preserving on that account. The following is the description:

"Two of the most unique objects in the Laidlaw collection are represented by the accompanying cuts, which are accurate drawings specially made for *The News*. These are pipes which were no doubt intended for big pow-wow business, and are magnificent examples of the mechanical genius possessed by the ancient "Lo." The eagle pipe is Huronian slate, a material much affected by the old "Reds" for the manufacture of ceremonial articles. It is 5 inches long and 1½ inches across the widest part. The bear pipe is even superior in design and workmanship. The material is soft—probably

steatite—and the surface has been stained a deep glossy black. This pipe measures 3½ inches in length and is 2 inches at the widest part. As specimens these have no superior so far as our Canadian aborigines are concerned, and too much credit cannot be given to Mr. Laidlaw for the generosity he has displayed in placing them with the rest of his magnificent collection in a place accessible to students from all parts of the world. When the rest of the Laidlaw collection is placed in cases *The News* will supply its readers with a copious description of the various interesting objects it comprises."

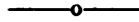
The pipes are represented by cuts. One is a bear climbing a tree. A part of the stem between the figure of the bear and the tree is cut out so as to represent the bear merely clinging to the tree, but the body of the bear is solid and forms the bowl of the pipe. The eagle pipe represents the eagle as bearing the bowl of the pipe on its back, the bowl and the body being carved separately.

**BONES IN A GRAVEL BED**—Some workmen in Auglaise county, Ohio, recently came across some human bones in a bed of gravel. Mr. Charles Jones, a well-known and wealthy land owner of Spencerville, Allen county, says of the discovery:

"There was a remarkable discovery of prehistoric remains in our section the other day. The instance came under my own observation. Last week I had occasion to visit the farm of J. Hemley, about two miles west of Kosuth, just across the border in Auglaise county. Some workmen were engaged in digging a well, and had descended to a depth of 32 feet, when they struck a gravel drift, from which they exhumed a skull, 38 inches in circumference. Further down the other bones were found. There can be no doubt as to the kind of remains. The thigh bone measured three feet two inches long. All the bones were in an excellent state of preservation, and were probably those of a prehistoric warrior who was killed in battle, as the skull seemed to have been crushed with a blunt instrument. The whole skeleton measured eight feet eleven and one-half inches in height, and when clothed in flesh must have been a tremendously powerful man. A huge stone ax weighing twenty-seven pounds and a flint spear head of seventeen pounds weight were found with the bones, and were, no doubt, swayed by the giant with the greatest ease. A copper medallion, engraved with several strange characters, was also found with the bones. This is a startling discovery. The scientific value of the discovery is also considerable, and may lead to some interesting developments."

**A PYGMY RACE**—Mr. Stanley found them in the very heart of the great Dark Continent—a race of queer little people not more than four feet high. They are the oldest race known, and from earliest times they have never gone away from their homes—little stay-at-homes we might very well call them. Near a place called Avetiko, on the Ituri River, his men found the first pair of these tiny people squatting in the midst of a wild Eden, and peeling plantains. The men carried them to the explorer "in the same spirit" he says, "as they would have brought me a big hawk moth for inspection. As they stood trembling before me I named the little man Adam, and the miniature woman Eve. Poor little things! Their faces said clearly as they looked at one and the other of us, 'Where have these big people come from? Will they eat us? There were some nervous twitchings about the angles of the nose, and quick uplifting of the eyelids, and swift, search-

ing looks to know what was in store for them." You may be quite sure the fears of the little couple were quite groundless, and they met with the kindest of treatment from Stanley, who describes them as follows: "Little Adam was four feet high, and Eve a little less. He may have weighed about eighty-five pounds; the color of his body was that of a half-baked brick, and as far as intelligence was concerned, he was certainly superior to any black man in our camp. The mysteries of woodcraft, for instance, he knew better than any of us; he knew what wild fruits were wholesome, and what fungi were poisonous. He could have given us valuable lessons on how to find our way through the forest. The little man talked very briskly by signs, and gave many proofs of his quick understanding." After this, Stanley and his men passed through about one hundred villages inhabited by this ancient and tiny folk, who have been able to hold their own land for over fifty centuries.



#### LINGUISTIC AND ETHNOGRAPHIC NOTES

BY ALBERT S. GATCHET, WASHINGTON, D. C.

LOUGHRIDGE'S CREEK DICTIONARY is a handy little volume of 236 pages, which contains the definitions of about 7000 words of the language disposed in two columns. The manuscript has lain idle for a long time, before it could be forwarded to the press, and the beginning of it was a small collection of words by Rev. John Fleming, the first Presbyterian missionary to the Creeks, in 1832, after their removal to the Indian Territory. With the aid of various interpreters, Rev. R. M. Loughridge and David M. Hodge increased it to its present size, and since Indian languages are exceedingly rich in verbal derivations formed by prefixation and suffixation, the amount of its terms could be tripled and quadrupled. His orthography is that of the rather imperfect missionary alphabet adopted in 1853 at the Old Agency, Creek Nation, in which the vowels have partly the English sounds. A specimen of the conjugation of a transitive verb—*nalkita, to strike*—is added as an appendix. Each word of the dictionary is accented, and this we consider as a mark of progress. Bound in cloth, the book may be ordered, postpaid, for one dollar, from *George W. Grayson, Eufaula, Creek Nation, Indian Territory*. The full title runs as follows: *English and Muskokee Dictionary. Collected from various sources and revised by Rev. R. M. Loughridge, D. D., missionary to the Creek Indians, and Elder David M. Hodge, interpreter, Creek Mission, I. T., 1890.* Pages 236. Printing house of J. T. Smith, 11 Bridge Approach, St. Louis, Mo. A Muskokee English dictionary forms the second part of the volume, pp. 95-224.

EMILE PETRIOT, the missionary among the Dene and explorer of their vast countries, is the author of a large number of publications on geography, geology, ethnography, linguistics, travels, and the history of religions. To this series he has just added another on comparative mythology, entitled: *Accord des mythologies dans la cosmogonie des Indes arctiques.* Paris, Bouillon, 1890, 12mo., pp. 493. The volume is a gathering of a large number of American myths and folklore stories, brought together for the apparent purpose of comparing them with parallels from the old world before and after

Christ. Many analogies are found to exist between the beliefs of the Tinne tribes, or, as he calls them, Danites (from a similarity of sound between Dene and Dan of the Old Testament), and the Jewish tradition, but the Jews have preserved the more antique and pure form of the belief, or, as he calls it, revelation. Paganism is a violation or misunderstanding of the holy laws of nature in many flagrant instances put forward by the author. Mythic figures which he subjects to this comparative treatment are the malign spirit, magic, the supreme god, solar and lunar myths, deluge and Noah, dispersion of peoples, dog-men, bear-men and bird-women, etc. Wherever the erudite author does not yield too largely to imagination, especially of the linguistic sort, his remarks may be put to profit by students of the immense field of American folklore.

CAPT. GEORGE M. WHEELER'S GEOGRAPHICAL REPORT—The splendid and eminently useful series of quarto reports upon the observations made by the parties of the Engineer Department, in charge of Capt. Geo. M. Wheeler, in the States and Territories west of the one hundredth meridian, from 1869 to 1879, has just been concluded by the publication of the geographical report arranged by Capt. Wheeler himself. The whole series now consists of seven quarto volumes and one supplement, one topographic and one geologic atlas. The volume before us contains, with the eight appendixes and the index, 780 pages, three maps, and thirty-eight plates. The main part of the report deals with such subjects as the mountain passes visited, the western rim of the great interior basin, altitudes and distances, summary of results, itinerary of Colorado Grand Canon and River, trip of 1871; population, industries, communications, irrigation and artesian wells; statistics of western Indians; land classification. To readers of popular literature, this volume will be more attractive than most of the others of this scientific series.

GUSLAR SONGS is the name given to a special kind of epic poems found among the Islamic Southern Slavs, south of the Danube, in Bosnia, Herzegovina, etc. The object of these poems is the heroic period of the perpetual fights of the Slavs and Magyars against the Turks during the sixteenth and seventeenth centuries, which ended in the expulsion of the Turks from Hungary. The troubadours, or *guslars*, who perpetuate these poems, accompany their singing with the sounds of the *gusla*, or one-chorded violin, and the more ancient pieces embody many passages of surprising beauty. A number of these epic pieces have been collected by Dr. Frederick Kraus in 1881, and were since partly published by him in the original dialect, like "Orlovic, the Count of Raab," Freiburg, i. B., 1889, with a readable German translation (AMERICAN ANTIQUARIAN, 1889, page 391). Another Guslar song discovered by him has just been translated into German trochaic verses and published in Vienna by Carl Gruber, whose title runs as follows: "*Mehmed's Beutefahrt (Smalage Meho), ein Volkserpos der suedslawischen Mohammedaner*," (12mo), pp. 120, 1890). The subject-matter of this truly heroic poem is a warlike episode of the year 1657, the battle of Czikvar, near Stuhlweissenburg, Hungary. This was the time when the Turkish domination over Hungary was still in full force, and although many incidents of the story are the result of poetical fiction, the historical foundation of the whole is distinctly perceptible. Young Mehmed, who had just induced a beautiful heiress to follow him to Ofen, the capital, with all her treasures, conveys

her there at the head of a large and splendid retinue, and from there to the field of Mohacz, when during the passage over the Glna River, the whole body or pageant is suddenly attacked by Peter, a Christian commander from Wallachia. The contest is a terrible one and lasts three days; it ends in the defeat and capture of the Christian leader. The original of "Mehmed's Bridal Party" contains 2160 trochaic verses of five feet each, and was first published by Krauss at Ragusa in 1886, in the publishing office of D. Pretner, with all the ethnographic and philologic elucidations which are necessary for a full understanding of a production of this unique character.

**ART AMONG THE DAYAKS.**—The Malayan inhabitants of Borneo are known to the whites as Dayaks, although this name is unknown to the people, which calls itself *Olo ol.* or *Olo ngadju*. Although they have among us the reputation of cruel barbarians, on account of their native custom of "head hunting" and exhibiting the heads of their victims on their buildings, they are a talented, industrious and gifted people, eminently capable of becoming more civilized under appropriate guidance. Professor Alois Raimund Hein, of the Vienna University, has made of their plastic arts the object of a memorable and very instructive treatise,\* after having studied them in the ethnographic collections at the Imperial Museum at Vienna (to which the army surgeon, Dr. F. Isidor Bacz, has been the principal contributor), and in the public collections at Hamburg, Berlin, Amsterdam, Leiden and other cities.

Hein subdivides his material into five sections—architecture, sculpture, painting, technical arts, and tattooing; the whole being preceded by a general and historical introduction and followed by the author's "conclusions" upon the whole subject matter. The illustrations consist of ten plates representing ornamental devices, ninety wood-cuts and a frontispice. The only material used for architecture are the solid and imperishable woods produced by the tropical forests of the island. The dwellings have high roofs; the verandahs, and the doors, posts and panels are often full of tasteful ornamentation. People of note are buried in "halls of the dead," solid, lofty mortuary structures standing upon piles. In sculpture, the Dayaks are not especially successful as far as the human form is concerned, for the manifold "mannikins" of both sexes found in the museums are especially coarse and show no finish. Hein believes that some of their number represent good and bad genii, of which their mythology is full, a list of them being given on pages 23-25, while others are talismans, imitations of animals, etc. The Dayaks living on the Katingam place some rude idols, called *konto*, upon the roads to keep off epidemic diseases. More ingenuity is displayed in the war and dance masks. As to the art of painting, the Eastern Asiatics delight in the reproduction of monsters and ogres of various descriptions, also in the drawing of the dragon, which in our tradition is a monster inspiring terror, but signifies just the contrary to these Asiatics. To them it is a being propitious to mankind, and may serve also as a symbol for the productiveness, fertility coming from the rain, for imperial dignity and other extolling qualities. This is so, because the entrance of the sun

\*Die bildenden Künste bei den Dayaks auf Borneo. Ein Beitrag zur allgemeinen Kunstgeschichte, von Alois R. Hein, K. K. Professor und akademischer Maler. Wien, A. Holder, 1889.—Leiticon—Octavo, 16 and 228 pages.

into the constellation of the *dragon* marks the commencement of *spring*. From China this monster-symbolism was introduced into Dayak art and the figures on the innumerable shields in European museums show inventiveness, if not originality, and a rather correct and studied human anatomy. The study of these shields is more attractive, perhaps, than of any other subject in Hein's book. The most imperishable objects used in drawing, carving and painting are manufactured of ironwood, "tabalien," which is so tenacious as to resist even the attacks of the white ant.

Cloths and other textile fabrics are excellent as to durability and of exquisite ornamentation; basketry is made of rattan, split bamboo and palm leaves. In the "get-up" and ornamenting of their textile fabrics the Dayak women are more self-reliant and independent than the European women, who can produce nothing of the sort without having a pattern before them. Hein pays a high compliment to the character of the Dayak fair sex; the females are laborious, chaste without prudery, attractive in their exterior, living wholly within and for their families. They are not fertile, and the nation is at present diminishing. The whole Dayak people is passionately fond of music, and a primitive music always resounds within their halls of festivity. They also make poems, which are songs of travel, of love, of worship; they invent farces, puns and legends of all sorts. Like the Battas, their characters are found to be sincere; they evince love of justice and truth, and abhor deception.

THE KIMBUNDU LANGUAGE is one of the western Ba'ntu dialects, spoken by more than a million of negroes east of the port of San Paul de Loanda, South Africa, some distance south of the equator, in the vast country named Angola. A Swiss missionary, Heli Chatelain, who lived three years among these natives in the interior and on the coast, has published a grammar of that tongue, with Portuguese text, this being the language spoken by the white inhabitants and the numerous Creole population. Its title is: "*Grammatica elemental do Kimbundu ou Lingua de Angola.*" Geneva, typ. de Charles Schuchardt, 1884-89, 8°; 24 and 172 pages. Like all the other Ba'ntu dialects, Kimbundu is rich in grammatic forms, and these are formed chiefly by prefixation of relational elements, not often by suffixation. Exercises after the Ollendorff method greatly facilitate the acquisition of the language. The book has several prefaces, one by Robert Cust, and all of these describe the linguistic and literary position of Kimbundu (or "speech of the negro") among the other Ba'ntu tongues south of the equator. Parties interested in this publication may address Albert S. Gatschet, P. O. Box 333, Washington, D. C.



## BOOK REVIEWS.

*The Antiquities of Tennessee and the Adjacent States, and the State of Aboriginal Society, and the Scale of Civilization Represented by Them. A Series of Historical and Ethnological Studies. By Gates P. Thruston, Corresponding Secretary of the Tennessee Historical Society. Cincinnati: Robert Clarke & Co. 1890.*

This is a very excellent book, and is written in an excellent style. The author is not confined to technicalities, but takes a broad view of his subject, and throws the light of historical learning into the entire archaeological field. In doing so, however, he does not allow himself to be carried away by any theory, and keeps himself free from the charge of special pleading. In this respect it is the most satisfactory treatise yet issued upon the Mound-builders, and comes nearer to the solution of the Mound-builders' problem than anything heretofore written. The special value of the work, however, is to be found in the description of the relics which have been gathered, many of which are new finds, and so have never been described before. These relics, to be sure, were nearly all of them found in Tennessee, but the fact that the book is limited to the antiquities of one district, a district which has not been described before, makes it all the more valuable. We have now several fields which have received special treatment: Ohio, with its many village sites, sacred enclosures, altar mounds, temple platforms, ash pits, and ancient forts; Wisconsin, with its emblematic mounds, animal effigies, ancient villages, and clan residences; and also the southern district or Gulf States, with their extensive pyramids, many sites of ancient villages, and relics, which may be called either Indian or Mound-builder; and in this book, Tennessee, with its stone graves, its ancient forts, and remarkable deposits of ancient pottery, stone implements, shell and copper ornaments, and especially its sculptured idols. Taken together, and compared with one another, the books which have been written upon these different archaeological fields will give to us a very fair idea of the Mound-builders' territory, and will help us to solve the mystery which has surrounded the Mound-builders. History may help us to understand these fields, but it is not sufficient; archaeology is the great exponent. This is certainly the case with Tennessee, which was for many years "as unknown to the outer world as Central Africa." "These facts are stated to show how little history can tell us directly of ancient Tennessee, or of the stone grave race." The author says, "It is difficult to ascertain the exact relation of the stone grave race of Tennessee to the historic red Indians," but he seems to think that they were both anterior and superior to them.

We think this is the position for scientific men to take. It throws back the prehistory of our country beyond the red Indians, and re-establishes the mound-building period. The text books on history should have this distinction clearly drawn, for the new-fangled idea of dismissing the Mound builders from prehistoric America has received a set-back which it can not overcome. The Mound builders' art, or rather the native art in the mound-building period is plainly shown to have been of a superior charac-

ter—that is, it was superior to any art which has appeared among the red Indians in modern days. Of course, if we could be taken back to DeSoto's time, and could traverse the whole territory, and examine the furniture of the houses, the dress of the chiefs, the equipment of the warriors, the domestic utensils of the people, and could have some one explain to us the personal ornaments and the symbolic representations which were common in those days, we might be able to explain the relics which are now found in the mounds, and say that some of these were deposited after the time of the discovery. But we want to go further back than DeSoto's expedition, and we think that the stone graves and burial mounds of Tennessee will carry us there. We are glad that the author of this book has recognized this, and made it a point. We are not kept in the protohistoric period, nor is there any special effort to minimize the relics of the Mound-builders, but we are carried at once to prehistoric times, and are led to see clearly the social status of the people in that period.

There are, of course, some problems which we should like to have had solved. To illustrate, the stone graves are found scattered over almost the entire Mississippi Valley; they have been found as far north as Coshocton County in Ohio, Mercer County, Illinois, as far south as Etowa, Georgia, as far east as Caldwell County, North Carolina, and as far west as Warren County, Missouri, though Tennessee seems to have been the great center, since thousands of them are found in that State. The question is, Were the stone graves all built by one people?

Again, many of the shell gorgets of Tennessee have striking resemblances to the bas-reliefs of Mexico and Central America. How came these resemblances? We are not quite satisfied to have this problem summarily dismissed.

The carved pipes are found in Tennessee, in Southern Ohio, in Central Illinois and Southeastern Iowa, and striking resemblances are to be traced; how came this? Was there a tribe which passed over this entire territory and left their pipes, or did the Mound-builders borrow patterns from one another? The idols which are found in Tennessee are very interesting. They show that the people had passed beyond the stage of sun-worship, and had reached the borders of that stage which existed in Central America. Nowhere else is there such a mingling of animal figures, sun symbols and human representations as in Tennessee. This has not been accounted for and there is no theory to satisfy us.

Again, the portraits which are contained in the idols are unique. There is generally a resemblance between them. Do the portraits give to us an idea of the physiognomy of the people. Gen. Thruston has spoken of the trowels which were taken out of the Noel cemetery at Nashville. He says this set of plastering tools is a most interesting and suggestive discovery; he thinks that men followed the business of plastering in the prehistoric period. We would call attention to one fact: these trowels are found not only in Tennessee, but in other localities. In fact there are objects on the head dresses of idols found in Tennessee, and in the Guede collection from Porto Rico, in the West Indies, which look like trowels. The question we ask is, was there a craft of plasterers, and were these the emblems of the craft, or is the resemblance merely accidental? The same question might be asked in reference to the spool ornaments and objects of copper which

are taken from the mounds of Tennessee and of Ohio. How comes it that objects resembling these are found as far away as Mexico and Central America? We will not, however, ask any more questions. The author says: "We have devoted more attention to the illustrations of specimens than to theories regarding them. It is not our intention to enter upon an extended consideration of the interesting ethnological and archaeological problems naturally suggested, but any antiquarian or collector will be impressed with the fact that it will be impossible to gather a collection of antiquities of such a varied and advanced type as have been illustrated within the limits of the United States, outside of the territory of the mound building tribes. They present unmistakable evidence of a state of society above the social condition of the prehistoric tribes of Canada and the north-eastern States. Unmistakable evidences are presented of intercourse or relationship with the ancient people of the southwest and of the Pueblo districts." "We can not believe that these higher types represent nothing more than the ordinary culture of Indian tribes like the Shawnees and Cherokees, neither do we agree in the opinion with the authors who insist that they were the works of a superior race of Toltecs, Aztecs, or Mayas." In other words, the author undertakes to describe the exact status of the people, who might be called the Mound-builders of the middle districts, and in this he has succeeded.

*Physiognomy in Expression.* By Paolo Mantegazza, Senator; Director of the Museum of Anthropology in Florence, etc. Parts I and II. New York: The Humboldt Publishing Co.

This is a very remarkable work. It first describes the writers who have written on the subject, and reviews the vagaries apparent in their works. It then passes on to the study of the different parts of the human face, giving characteristics of expression in each. Then follow some good thoughts on the different races and their methods or habits of expression. The agricultural races are less expressive than the war-like, sea-faring or trading nations. The effect of emotion on the countenance is described. In fact, a picture of human nature generally is given, and the reader is expected to become a good judge of human nature from the perusal of the book. The price is only thirty cents.

*Quintessence of Socialism.* By Prof. A. Schaffle. Translated by Bernard Bosanquet. *Idolatry and Politics.* By David Ritchie, M. A. *Upon the Origin of Alpine and Italian Lakes and Glacial Erosion.* By various authors.

These little books constitute Nos. 123, 124 and 125 of the Humboldt Library. The price of each is fifteen cents. They average about fifty pages of finely printed matter, and are well worth the money.

*The Life and Times of Ephraim Cutler.* By his daughter, Julia Perkins Cutler. Cincinnati: Robert Clarke. 1890.

Ephraim Cutler was the son of Rev. Manasseh Cutler, who was one of the founders of the Commonwealth of Ohio and the Northwest Territory. The son may be called one of the founders of the Commonwealth of Ohio and at least one of the great legislators of the State. He is not so well known as his father, but was a very honorable man, and his memoir is worthy of a place in the history of the Great West. Mr. Clarke has done great service to the country in bringing out these different volumes about the Cutlers, Zanesbargers and the pioneers of Ohio, and should be patronized by all the lovers of good, wholesome biographical literature.

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ZODIACAL CHRONOLOGY.\*

BY O. D. MILLER.

The large amount of material introduced into this treatise in the preceding chapters, in some cases in a crowded state, has precluded the possibility, in many instances, of giving it a proper treatment; we have contented ourselves with indicating generally its bearings upon the particular topic in hand, without reference to its import in other respects. Not infrequently, also, we have refrained from stating the full, legitimate conclusion until all the proofs had been brought forward to confirm it. Moreover, the chief points of the argument in support of our general theory have been of necessity but gradually developed, so that it has been impossible to bring them together under one view. To remedy some defects of this nature, but more especially with the view to a connected statement of the results of these investigations, and of their bearings upon other subjects relating to antiquity, we give the following summary of the argument. It may be regarded as an introduction to the work.

It is proposed to give here, for the convenience of readers as well as our own, a summary statement, chapter by chapter, of the chief points established throughout the work, introducing such additional explanations, from time to time, as seems to be demanded. In the opening chapter, the existence of the zodiac, substantially as transmitted to us, is traced back to the prehistoric period in the valley of the Euphrates. It was shown to have existed, for instance, prior to the times of Lak-Bargos, or Lakkh, the earliest known king of the Chaldeans, whose epoch has been variously estimated at from 2000 to 3000 years B. C.

\* This article is introductory to a work entitled *Primitive Revelation*, as exhibited by the *Zodiacal Chronology of the Ancients*. This is the first chapter and contains a complete synopsis of the whole work.—*Editor.*

Not only this, the zodiac is shown to have been in use anterior to the origin of the Babylonian genealogy of antediluvian kings, Alomes, Alaparus, etc.; anterior, also, to the origin of the Babylonian traditions of the creation, embodied in the "Creation Tablets" discovered by Mr. George Smith; anterior, finally, to the invention of the cuneiform system of writing itself, in which we find, under their hieratic forms, all the names designating the different parts of the zodiac, the constellations, signs, months, etc. These facts being established, the usual impression among astronomers, and even among antiquarians oftentimes—namely, that primitively the signs of the zodiac occupied the same position, respectively, as the constellations having the same names—is shown to be wholly erroneous; since, at the period to which we had traced the existence of the zodiac, the *signs* were at least one entire division, or thirty degrees, *in advance* of their respective constellations. This fact being firmly grounded, it is necessary to admit, first, that the original positions of all the signs in advance of their constellations was the result, not of accident of any conceivable circumstances of a normal development of the system, but of an *express, deliberate design*; second, that such an original arrangement could have been designed only for the purpose, in one important respect, of a *Zodiacal Chronology*, since, on one hand, this arrangement is admissably adapted for this purpose, and since on the other hand, a zodiacal chronology, dating from a period anterior to the invention of the zodiac, was absolutely impossible without just such an arrangement of the signs in relation to their constellations. The entire problem then resolved itself into the one simple question: *How far* in advance of their respective constellations were the signs originally found?

The problem being thus simplified and plainly stated, the question as to the means of its solution becomes all important. The aim is not, as it had been with M. Dupries and others, to discover who were the inventors of the zodiac, nor to fix the date of its invention. It is rather to determine the epoch to which the earliest traditions of mankind referred, the traditions, namely, respecting the birth of the world, of man, his primeval abode and primitive history. The means to be employed, and the method to be pursued, in the solution of the problem, are essentially different from those hitherto adopted by investigators, so far as we are aware. It was to investigate, as the chief end, the traditions themselves, the date of whose origin was to be ascertained, to investigate them with the view of detecting certain astronomical allusions and references, tending to reveal the state of the heavens, or the position of the earth in relation to the heavens, at the epoch to which they all pertained. Thus we avoid the necessity of assuming any hypothesis at the start on which to predicate our theory, a hypothesis which might

prove in the end, as in M. Dupries' system, wholly erroneous. Our method is, in fact, strictly scientific in its character, the problem itself is reduced to the simplest elements possible, and made practically to involve only two ground propositions. The first fundamental aim is to connect the traditions, whose date was to be fixed, with *one certain sign* of the zodiac, whose retrograde movement should mark the precession, the second ground proposition is to connect the same traditions with *one certain constellation* of the zodiac, as the point from which the precession had originally departed.

The problem stated, and the method of its solution pointed out, we are prepared now to follow the course of the investigation. It is not alone in the main position established in this treatise, in connection with the general problem, that we hope to have contributed somewhat to our knowledge of antiquity and the prehistorical science, but as much, perhaps, in the facts which have been substantiated incidentally during our researches. Thus the extreme antiquity of the zodiac itself, in the valley of the Euphrates, is a fact not without value in itself considered. It is the same with respect to the leading fact verified in the second chapter, which regards the symbolism attached to the solar orb. This solar symbolism, so ancient and so widely prevalent among the nations of antiquity, has not only served the underlying principle of these investigations, it affords the proper point of view from which to interpret the myth of the dying sun-god, of which M. Dupries and his school have made such effective use to discredit the Gospel narrative. The facts relative to this myth are undeniable, its extreme antiquity and wide prevalence are undeniable, the only question is as regards its real import, its actual bearings, the circumstances that gave rise to it. All this we believe to have been suggested, if not fully demonstrated, in connection with our main problem. Sir G. Wilkinson has these pregnant remarks:

"The sufferings and death of Osiris were the great mystery of the Egyptian religion, and some traces of it are perceptible among other people of antiquity. His being the divine goodness and the abstract idea of good, his manifestation upon earth like an Indian god, his death and resurrection, and his office as judge of the dead in a future state, look like the *early revelations of a future manifestation of the Deity* converted into a mythological fable, &c."

The myth of the dying sun-god was in no sense peculiar to the Egyptian religion, it was as familiar to the Phenicians, the Syrians, the Thrygians of Asia Minor, the Chaldeans, Assyrians, and to the populations of the Nile Valley. It, then, was not an "early revelation of a future manifestation of the Deity" on

1831. Rawlinson's Herodotus, Vol. II, p. 219. Note 3.

earth, we see no way to account for and to interpret it in harmony with the integrity of the Gospel narrative of the death and resurrection of Christ. There was, then, a primitive revelation; and it was written in the heavens in starry hieroglyphs. It was by means of the symbolism attached to the sun, as a type of man, thus as both a god and a man; that the inventors of the sphere were able to transmit to after ages the fundamental doctrines of the primeval religion. It was by means of this so-called myth of a dying sun-god that the original promise of a Redeemer was emblazoned on the face of the northern heavens, where we can see Hercules, the sun-god, who dies and is raised again, stamping with his heel on the head of Draco, fit representative of the serpent of Eden. Of course, when the key to this symbolism was lost, the *objets* upon which it was grounded became themselves the centers of worship, giving rise to the Sabaenistic cultus and the worship of the elements, while all that remained were the detached threads of the primeval traditions.

It is unnecessary to enter into the details of the manner in which the solar symbolism served the inventors of the sphere in the embodiment of those ideas which they desired to transmit to the after world. They would have been unable to accomplish their object without it. By the birth of the sun, under the form of infancy, at the epoch of the winter solstice, they were able to symbolize the birth of the world and of man. It was by the ascent of the sun, through Libra, into the lower, playing a serpent, as perambulation for this symbolical design, that they will be able to symbolize the fall of man. All this, however, is familiar to the reader.

The location of the *Uru* *Er* of Chinese, identified with the *Uru* of the Hindu, the *Uru* of the Persian, the *Uru* of the *Uru* of the Accadian inscriptions, upon the high table-lands of Central Asia and the great mountain plateau of Pamir, was a fact long since worked out and definitively accepted by some of the best authorities of our age. It was in this sacred mount that the very traits perceptible in the foregoing paragraphs, that was to be ascertained. It was by means of this important traditional information, in conjunction with the instrument that they were able to work out the result of the last chapter respecting the primitive position of the celestial pole.

The more concise work of the same author at present commences with the third chapter. The main object of this chapter is to connect the primeval traditions with the constellation of the zodiac, as they now develop on the celestial dial-plate, and all the signs of their movement mark the progress of the procession, which they followed. It would be remarkable, that the inventors of the sphere had made special provision for this purpose. In embodying the cosmogony in the sphere, they had associated the birth of the world and of man particularly with the epoch of the win-

ter solstice, selecting at the same time one certain zodiacal sign to represent this epoch—the sign Capricorn. Hence the widely prevalent notion in antiquity that the birth of the cosmos and of man had taken place precisely at this solstitial period. It was here that took place the conflict of the two cosmical principles, light and darkness, resulting in the organization of the world and in the establishment of the rule of law and order. It is true that at a later period the creation was associated oftentimes with one or the other of the equinoxes. Such, however, could not have been the primitive doctrine. Among the Chinese and Egyptians especially, whose civilizations were exceedingly ancient, the great commencement was marked by the triumph of light over darkness at the winter solstice. The analogies of ideas, the production of all things from the humid watery element, necessitated the assumption of this epoch of mid-winter as that of the creation. As Dr. Asmus has shown, the all proceeds out of oceans; and even the fire is from the humid element.\* Thus, as the watery and wintry signs are the same, the epoch of all birth is that of mid-winter, marked by the sign of Capricorn.

Having connected the traditions relating to the birth of the *cosmos* and of man with the sign of Capricorn, it is necessary next to connect them with one certain constellation as that in which the sign was found at the creation epoch. As the constellations never change their positions in the heavens, that in which Capricorn was primitively located would constitute the fixed point from which the precession had originally departed. This constellation was ascertained to have been no other than Gemini, the zodiacal *Twins*. There are many circumstances tending to the conclusion that Gemini must have marked the epoch of creation and of the paradisiacal man. The two cosmical principles, from whose union or conflict the cosmos had originated, were most frequently conceived as *twins*; and the first human pair, like Zama and Zami of the Hindus, were likewise regarded as *twins*. To confirm the first impression, it was found that Shu and Tefunt among the Egyptians, whose cosmical character was not to be doubted, had also been put to represent the zodiacal twins. This proves that the cosmical and zodiacal twins had been conceived as originally one and the same; and thus that Gemini represented the cosmical epoch. Then there was the birth of the Dioscuri, representing Gemini, from the egg of Leda, evidently to be identified with the mundane or orphic egg from which was born the Greek Eros, the god of love, otherwise conceived as born from the height of Chaos and the humid, watery element. The Dioscuri are also regarded as the chief Cabiri, whose cosmical character was well known.

But the most conclusive reason for assuming this constellation

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\*Indig. Religion, I. pp. 129-133.



as having marked the creative epoch, is the fact that the original hieroglyph for Gemini involved unquestionably the double notion of the watery element and of love; a combination of ideas which could find no explanation other than that of the birth of Eros, the Hindu Rama, as god of love, from the original chaos. This proved absolutely the reference of Gemini to the birth of the cosmos. There are, again, evidences of a very direct character, derived from the cuneiform text, that Gemini represented, under the title of "gate of the gods," the paradisiacal mountain, and under the name *As-Kar* the paradisiacal man; for the Accadian language belonging to the Ugro-Finnish group, there is much reason for identifying *As-Kar* with *As-Kur* of the Norse mythology, both as designations of the first man.

Considering all the data, the proof that Gemini marked the birth of the world and of man, seems to be perfectly conclusive. Thus, as the creation of the world and of man took place at the winter solstice, Gemini stood for the creation at this solstice. The sign Capricorn was then in Gemini regarded as the fixed point on the zodiacal dial-plate from which the precession of the equinoxes had originally departed. As the same constellation now stands for the summer solstice, the aggregate amount of precession is half the zodiacal circle, which converted into time equals 12,500 years from the present period, as the approximate date to which the primitive traditions of our race pertained.

The fact last stated, the assumption of Gemini as having marked the primordial winter solstice, controls all the subsequent stages of the investigation.

The result, as stated at the close of the fourth chapter, is still to be regarded, in some sense, as provisional. Although in ordinary matters the evidences adduced would be regarded as sufficient, in a matter of such great importance, and considering the extraordinary character of the conclusion arrived at, no author would be willing to assume the responsibility of such a theory except upon the grounds almost of an absolute demonstration. Thus, these investigations would never have seen the light of day had it not been for the discoveries subsequently made and embodied in the fifth and sixth chapters. Having constructed the simple table introduced in the opening of the fifth chapter representing the primitive positions of all the signs in their relations respectively to the twelve constellations, the inquiry naturally suggested itself, whether this table afforded any indication or proof that such had been at one time the actual state of the heavens, thus tending to confirm the previous conclusions.

The very remarkable tradition presented by Damascus, respecting the four-sided dial-plate called *Hemera* and *Cronos*, together with the circumstance that the zodiacal Taurus and the Assyrian man-bull were intimately associated with Hercules as

his symbols, first suggested to us, the important fact that this mythological personage was not only traditionally connected with the zodiac of Egypt but that for the Gentile world he had represented the original seed of the woman. Two special considerations related to these conceptions. First, the original identity of the man-bull with the cherubim, as so fully demonstrated by M. L. normant, as well as the identity also of the zodiacal dragon of Heaven, with the very cherubim of Scripture, as shown by D. Haack, and as appears for itself at the bottom of the Second, the remarkable analogy existing between the character of Heron's Saturn and his symbols, as developed through in the fifth chapter, and the Hebrew and Christian conceptions of the promised seed of the woman, together with his typical symbols. These analogies are very numerous and very striking. Compare, for example, the Second Adam, conceived as the procreative head of a renewed humanity, with the character of Hercules as "lord of generation," in which he allies himself to Minos and his tauros, both regarded as types of regeneration in the symbolic sense, and in the sense also of regeneration with the blood of the tauros, also graphically represented in the Minotaur monuments. But the most important analogy, of course, is that founded upon the character of Hercules as a man who suffers a violent death and is subsequently raised from the dead. It would be impossible, however, to epitomize the analogies collected together in our fifth chapter, connecting Heron's Saturn with the promised Seed of the woman, with the constellation of Orion, and especially with the celestial Eden located in the zodiacal part of the sphere, as the region formerly occupied by the scorpion and its claws. The celestial *Kivvê* found in Orion there forms, and abtely, the key to the entire problem of zodiacal chronology, as well as to the symbolical representation contained in the same region of the primeval events of history. The extraordinary and skilful manner in which the constellation of Orion was conceived to be located with the flaming sword of Eden, and Saturn, were employed to fix the primitive position of the zodiacal's zodiacal signs, is set forth in the fifth chapter. Heron's signs were located in four certain constellations, and the constellation of Orion, which must be exactly defined, since a difference in the order would make a difference in date not less than 1000 years. The symbols to be employed could not occupy

\*The identification of the Egyptian constellation Orion, heretofore, has taken its connection with the constellation of the zodiacal Orion, as that the latter world had inherited the Egyptian constellation, as the latter constellation has associated with it, almost as definitely as the constellation of Orion in the Mosiac narrative. Thus, that the constellation of Orion was the primary conception of the character of the promised Seed of the woman, as was the Hebrew, was but natural. The wonder of the matter is, not that the present such striking analogies with that of Heron's Saturn and his symbols exist, but that such striking analogies with that of Heron's Saturn and his symbols exist. We regard it as not the least probable that the constellation of Orion, in Heron's investigations, that Hercules-Saturn and his symbols were the other Eden-dragon, had really represented, for the Phoenicians, the Phoenician *Sakl*. The latter presents leaves no doubt, as it seems to be the only constellation which tends to confirm the Hebrew and Christian belief of the existence of a prophetic heritage.

are taken from the mounds of Tennessee and of Ohio. How comes it that objects resembling these are found as far away as Mexico and Central America? We will not, however, ask any more questions. The author says: "We have devoted more attention to the illustrations of specimens than to theories regarding them. It is not our intention to enter upon an extended consideration of the interesting ethnological and archaeological problems naturally suggested, but any antiquarian or collector will be impressed with the fact that it will be impossible to gather a collection of antiquities of such a varied and advanced type as have been illustrated within the limits of the United States, outside of the territory of the mound building tribes. They present unmistakable evidence of a state of society above the social condition of the prehistoric tribes of Canada and the north-eastern States. Unmistakable evidences are presented of intercourse or relationship with the ancient people of the southwest and of the Pueblo districts." "We can not believe that these higher types represent nothing more than the ordinary culture of Indian tribes like the Shawnees and Cherokees, neither do we agree in the opinion with the authors who insist that they were the works of a superior race of Toltecs, Aztecs, or Mayas." In other words, the author undertakes to describe the exact status of the people, who might be called the Mound-builders of the middle districts, and in this he has succeeded.

*Physiognomy in Expression.* By Paolo Mantegazza, Senator; Director of the Museum of Anthropology in Florence, etc. Parts I and II. New York: The Humboldt Publishing Co.

This is a very remarkable work. It first describes the writers who have written on the subject, and reviews the vagaries apparent in their works. It then passes on to the study of the different parts of the human face, giving characteristics of expression in each. Then follow some good thoughts on the different races and their methods or habits of expression. The agricultural races are less expressive than the war-like, sea-faring or trading nations. The effect of emotion on the countenance is described. In fact, a picture of human nature generally is given, and the reader is expected to become a good judge of human nature from the perusal of the book. The price is only thirty cents.

*Quantessence of Saccharin.* By Prof. A. Schaille. Translated by Bernard Bosanquet. *Duracium and Polites.* By David Ritchie, M. A. *Upon the Origin of Alpine and Tibetan Lakes and Glacial Erosion.* By various authors.

These little books constitute Nos. 123, 124 and 125 of the Humboldt Library. The price of each is fifteen cents. They average about fifty pages of finely printed matter, and are well worth the money.

*The Life and Times of Ephraim Cutler.* By his daughter, Julia Perkins Cutler. Cincinnati: Robert Clarke. 1890.

Ephraim Cutler was the son of Rev. Manasseh Cutler, who was one of the founders of the Commonwealth of Ohio and the Northwest Territory. The son may be called one of the founders of the Commonwealth of Ohio and at least one of the great legislators of the State. He is not so well known as his father, but was a very honorable man, and his memoir is worthy of a place in the history of the Great West. Mr. Clarke has done great service to the country in bringing out these different volumes about the Cutlers, Zanesbargers and the pioneers of Ohio, and should be patronized by all the lovers of good, wholesome biographical literature.

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ZODIACAL CHRONOLOGY.\*

BY O. D. MILLER.

The large amount of material introduced into this treatise in the preceding chapters, in some cases in a crowded state, has precluded the possibility, in many instances, of giving it a proper treatment, we have contented ourselves with indicating generally its bearings upon the particular topic in hand, without referring to its import in other respects. Not infrequently, also, we have refrained from stating the full, legitimate conclusion until all the proofs had been brought forward to confirm it. Moreover, the chief points of the argument in support of our general theory have been of necessity but gradually developed, so that it has been impossible to bring them together under one view. To remedy some defects of this nature, but more especially with the view to a connected statement of the results of these investigations, and of their bearings upon other subjects relating to antiquity, we give the following summary of the argument. It may be regarded as an introduction to the work.

It is proposed to give here, for the convenience of readers as well as our own, a summary statement, chapter by chapter, of the chief points established throughout the work, introducing such additional explanations, from time to time, as seems to be demanded. In the opening chapter, the existence of the zodiac, substantially as transmitted to us, is traced back to the prehistoric period in the valley of the Euphrates. It was shown to have existed, for instance, prior to the times of Lak-Bargos, or Lakkh, the earliest known king of the Chaldeans, whose epoch has been variously estimated at from 2000 to 3000 years B. C.

\* This article is introductory to a work entitled *Primitive Revelation, as exhibited in the Zodiacal Chronology of the Ancients*. This is the first chapter and contains the full synopsis of the whole work.—EDITOR.

than these simple facts, that the original position of the winter solstice in Gemini was a reality, and that it marked the paradisiacal epoch? A fixed astronomical principle underlies these facts, and takes our problem at once out of the sphere of mere probabilities into the domain of scientific truth. We demonstrate here that the inventors of the celestial sphere actually intended to make these two paradises, the one centering in Libra, the other in Lyra, correspond with the epoch when Gemini marked the winter solstice; or to the epoch fixed, we might say, by the cherubim located in Libra, as explained in the fifth chapter; for this arrangement, instead of Gemini, seems to have been designed as the key to the chronology of Eden. In either case the result is the same; there was an express, deliberate design in these combinations.

But independent of all these combinations, are the evidences tending to show that the star Vega, in Lyra, actually marked the position of the pole at the period to which the traditions pertained relating to the creation of the world and the paradisiacal man. First, in the order of these proofs, are the various legends of the tortoise. How came the tortoise to be associated almost universally in antiquity, though often vaguely, with the cosmos and with the cosmogony? How came it to be associated with the great Asiatic Olympus, the traditionary Mount of Paradise? Most remarkable of all, how came this animal associated with a *conceivcd chronology of the creative epoch*? It is positively certain that the tortoise represented: 1st, the cosmos; 2d, the traditional cosmos; the particular heaven and earth united by the sacred mount, and imaged on the upper and lower shells; 3d, the chronology of the creative period. These are three facts perfectly certain. They present a combination of ideas the most singular and rare. But one explanation is possible, and that establishes our entire theory of zodiacal chronology. The tortoise could represent the chronology of the creative epoch in no way possible except as the constellation marking the position of the pole of that epoch. The summit of the sacred mount penetrated the heaven at that point; and the traditional cosmos was associated with that mount. This is the explanation, the only one conceivable; and it demonstrates our theory.

We come now to the Mosiac account of the fall of man, and of the promise of a Redeemer, as represented in the constellations surrounding Lyra. The proof that the constellation of the Eagle and Lyra represented the great Father and Mother is very direct and clear. *Merops* was the king issued from Meru, transformed into the eagle of the sphere. Lyra, under the form of the vulture, represented the "mother of all living." Consider, then, that the head of Draco, whose name *Nu-Rash* is applied to the serpent of Eden, is situated only about six degrees from Lyra, put for the great mother. This immediate

proximity of the two asterisms, in connection with the other facts stated, very forcibly suggests the history of the temptation and the fall. The position of Hercules, in a kneeling position, his heel directly over and within two degrees of the head of the serpent, and in the very act of stamping upon and bruising it, realizes and literalizes the account of the promise made to our first parents in a most extraordinary manner. The allusion here to the paradisiacal epoch is simply self-evident. But in what way does it fix the chronology of that epoch? As we see, there is here centering in Lyra a celestial paradise, realizing the tradition which located a celestial Eden at the north pole, modeled after the terrestrial Eden in all its principal features. At the same time, and according to tradition, the summit of the paradisiacal mountain presented the heaven precisely in the region of the celestial paradise, and at the same time in the region of the north celestial pole. Thus at the epoch of the paradisiacal man the sacred summit pierced the heavens in the region of the pole, which was at the same time the region of the celestial Eden. Now, there exists not the slightest trace of any other celestial Eden in the northern heavens but this one centering in Lyra. Hence Lyra marked the position of the pole at the paradisiacal epoch. We fulfill here all the conditions required by the traditions, and show that they were founded upon facts. The sacred mount penetrated the heaven at Lyra; this asterism was the pole of that epoch and the center of the conceived celestial paradise. We have here a series of coincidences and of symbolical representations of a character the most rare and extraordinary. The proof of the correctness of our theory respecting the primitive pole could not well be more satisfactory and conclusive. Add to its force, then, that derived from the various legends of the tortoise if we would realize the strength of the position laid down.

The Greek legend, relating to the "garden of the Hesperides," affords much additional evidence to the correctness of our theory of the primitive pole-star. It is only another form of the Hebrew tradition representing the garden of Eden. It is remarkable that former critics, who have located this legend at the celestial pole, have uniformly referred to the identical constellations which we have interpreted of the Hebrew tradition; yet none have suspected, so far as we are aware, that Lyra was the pole to which the legend referred. That precisely these asterisms should be made to embody two distinct traditions relating to the same subject, yet so very different in their character, is a very notable circumstance. They confirm each other, both as regards location and the significance attached to them. They mutually tend to confirm the location of the Eden of the pole in the region surrounding Lyra, going to prove that such was the pole, therefore, of the paradisiacal era.

The three serpents, Draco in the north, Hydra near Cancer and

Serpens near Libra, each associated with a form of Hercules, afford another confirmation of our theory. Their connection with the serpent of Eden, in such instance, and with the promised Seed of the woman, is perfectly apparent. The exact manner in which an astronomical relation is established between them, and all are connected with Lyra, as the pole of the epoch of Eden, is fully set forth in our sixth chapter. All this is accomplished by means of the cherubim, with whose asterism, Taurus in Libra, Aquaris in Cancer, Serpens and Hydra are placed in direct relation. They are made thus, together with the legends attached to them, to refer to the period fixed by the cherubim, and thence to the pole of that period, near which is Draco.

We recall here the proposition laid down in our fifth chapter; namely, that the dying sun-god of antiquity, more especially the Asiatic Hercules, actually represented to the first ages, as prophetic type, the promised Seed of the woman, the expected Redeemer of the world. Not only the resemblance of Hercules' character, as traced in the fifth chapter, to the Hebrew and Christian conception of the promised Seed, goes to substantiate this hypothesis; but the established connection of Hercules with the cherubim and with the serpent of Eden, with the celestial paradise, in fact, centering both in Libra and in Lyra. Add to these proofs, the representation of Hercules with his heel bruising the serpent's head, as pointed out in the sixth chapter; and not less his connection with the dragon in the legend of the Hesperides. Finally, add to all these proofs the legends associated with the three serpents, each definitely connected with a form of Hercules; the reference of these serpents and legends to the fall of man and the promised Seed being perfectly transparent. In view of all these proofs we claim to have established beyond reasonable doubt the proposition before stated. To the first ages, and especially to the Gentile world, the dying sun-god, particularly the Asiatic Hercules, was the prophetic type and representation of the promised Seed, the expected Redeemer of mankind. The importance of this fact, in its bearings upon the theories of Dupries, Nork and others, representing the dying sun-god, will be recognized at once. It completely refutes those theories. Moreover it goes far to establish the fact of a primitive revelation actually written in the heavens. The various and direct analogies existing between the prophetic character and that set forth in the Gospel history of Jesus Christ, exhibit a most extraordinary fact, tending to confirm that history. The entire subject, indeed, is calculated to excite our wonder and our most profound reflections.

We have now passed through the different chapters, tracing the various stages of the development of our theory, and that nearly in the order in which it was originally wrought out

But some important points established during the progress of the investigation have been wholly passed over in this review. In the fifth chapter, especially, the views put forth respecting the tree of life and the connection of the scorpion with the cherubim, we believe to be correct, and not without importance. Yet they are not vital to our theory, nor to the argument in its support. They serve, however, to explain and confirm many other points. It is proper to call attention to the fact that the fourth, fifth and sixth chapters are in one sense separate from each other, containing each an independent argument in support of the general hypothesis. The fourth chapter, on the primitive position of the constellation Gemini as marking the winter solstice, stands in one sense by itself. Prove that this constellation did mark the winter solstice at the paradisiacal period, and our theory is that instant established. So with respect to the fifth; show that the cherubic figures did fix the original positions of the equinoctial signs, and the same conclusion results. Finally, as regards the sixth chapter, if the star Vega in Lyra was the pole at the traditional epoch of the creation, the same result follows as before. These three chapters, then, are complementary, proving each other. Admit the correctness of the theory of one, that of the others has also to be admitted.

There are certain points in the general argument which we believe might be very much strengthened, had we access to the proper sources of information. Thus with regard to Gemini: the Egyptians had another mode of representing the asterism, which was by the figure of two plants, or sprigs of plants, having the phonetic power of *ka*. We strongly suspect that the reference was to an elementary divinity representing the original watery chaos; but we have not the means of proving it. This would go to establish the cosmical character of Gemini, which is, in fact, sufficiently apparent. Again: on the Hindu zodiac and many others Gemini is represented by a man and woman holding each other by the hands or arms. We believe the reference was not only to the two cosmical principles, male and female, regarded as twins, but also to the first human pair, conceived as twins, like Zama and Zami of the Hindus. But this we are not able to fully substantiate exactly in so many words. Doubtless there exists an abundance of material known to scholars, of which we ourselves are ignorant, that would go to confirm these and other points. But we believe that the results, as already worked out, will prove satisfactory to those best qualified to judge in such matters.

In another work treating upon "The Ancient Cosmogonies," which, if the circumstances are favorable, we shall hope to publish at no very distant day, we have shown that the Babylonians, for example, to say nothing of other peoples, embodied in their cosmogony much of this sacred science and tradition in their sphere. The original chaos, as described by Berosus,



for instance, was represented by the sphere in its unformed, chaotic state, before its primary divisions and orderly arrangement; the primordial ocean being, in fact, the celestial sea, out of which the all had its birth. To a certain extent it has been shown incidentally during these researches that the cosmogony had been embodied in the sphere. Nor is this all; but everything relating to the traditional paradise, as well as the events associated with it, have been found equally embodied in the sphere. All these matters appertain to a primitive revelation, if we admit the existence of such a revelation. In our view, the result of these investigations goes to prove that such a revelation did exist, and that it was, to a certain extent at least, embodied in the sphere; in other words, it was written in the heavens, and the cherubim, located in the east, in Libra, constituted the key to it. Nor are these, to employ here Dr. Faber's expression, mere "licentious conjectures". The underlying principle which connects Gemini, assumed as marking the winter solstice, with the symbolism centering in Libra, with the celestial Eden located there, and then with the symbolical representations centering in Lyra, with the celestial paradise placed at the north pole; this principle, we say, is no mere conjecture, but a definitive astronomical law. Assume any date, or place these symbols in any other position on the sphere, no such relation of the one to the other could be pointed out. There is thus the clearest evidence of combinations for an express purpose. The aim was unquestionably to embody certain facts or ideas, and to transmit them to posterity. The inventive genius, the scientific spirit, has presided over these combinations, these highly artistic and symbolical representations. There has been attempt to employ in the sphere the record of events appertaining to man's primeval history, and to fix the epoch in which they transpired.

The various traditions which have formed the subject matter of these investigations, were inherited by peoples the most distantly separated in antiquity, yet they all center in the paradisaical mount, the great Asiatic Olympus, whose location on the high table-land of Central Asia has been long since established. The different nations inheriting these traditions, and that at the earliest period of their history, have not derived them at second hand, so to speak, but they have carried them from the common center of populations, where they originated, to the countries where they had located after their dispersion. Thus the primitive ideas handed down under form of sacred tradition, had taken their origin in the same region where the sacred mount in which they all centered was located; that is, in the great plateau of Pamir. The state of culture and civilization which had given birth to these ideas, and to the astronomical symbolism in which we find them embodied, must have been well advanced and of a high character. There was, then, a primi-

tive civilization, located around the great Olympus, in which centered the earliest recollections of our race; a civilization which had been the foster-mother of the oldest known to history, but which had died out and had been forgotten by the world. It is a fact that the earliest civilizations known to history actually had a genealogy, and that all were to be traced to the same ancestral head. Thus those who, with Sir John Lubbock and his school, would trace the "origin of civilization" in a state of savagism, as the "primitive condition of man," must now go back of Mount Meru to do it, and to a period anterior to that of 12,500 years ago. It will be difficult to trace the existence of modern savage races and their barbarous customs to an antiquity such as we have established for the paradisiacal man.

With regard to the antiquity of the human race itself, we show that the most primitive traditions known to the world all *center in one locality and in one period*. That locality was the Olympus of all Asia, and that period was marked by the constellation Lyra, toward which the sacred summit pointed as the celestial pole; the period, 12,500 years from the present epoch. We speak here of the earliest traditions of man. If we could prove the existence of our race anterior to this period, neither history nor tradition will serve the purpose. We must appeal to the geological evidences, so termed, of the antiquity of man. The question of these evidences we leave entirely aside in these investigations, for the reason that they are not yet all in. But we establish in these researches one important fact, which, if we mistake not, has some bearing upon the extent of the periods indicated by them. The condition of the earth has undergone a great change since the epoch 12,500 years ago. Its position in its orbit, which resulted in summer at that period in the northern hemisphere, corresponds to winter at the present era. The relation of our planet to the sun has become reversed, if we may so speak; and it is probable that the period of transition from one stage to the other of this relation effected important modifications on the earth's surface with a rapidity of which we can form now no adequate conception. Thus, when these geological evidences are all in and all the conditions are fully ascertained, we believe it will be found difficult, as before said, to go back of the great Asiatic Olympus.

Between the earliest date that can be established for the oldest civilizations known to history and that which we establish for the paradisiacal man and for the civilization centering in the paradisiacal mount, there intervenes a long, impenetrable night like that of the so-called "dark ages." It was during this long, unknown interval of time that took place those primitive migrations of races, the facts of which we know, but of whose exact periods and routes we know nothing. It was during this epoch of darkness that the "cave-dwellers," and after them the

"lake-dwellers" of Europe, wandered from their original home on the Asiatic continent. They seem to have been the barbarians of the earlier epochs, existing side by side with more highly developed peoples. It was during this long night, also, that the Hamites of Egypt left the elevated table-lands of Central Asia and made their way by unknown paths to the valley of the Nile, founding there the theocratic society that preceded even Menes, who headed the long list of dynasties following. It was during the same period that the Cushites of Babylon departed from the traditional "Bit Rhunis of the East," the "father of countries," and took their westward route to the plains of Shinar; that the Turanians, also, of the "celestial empire," left the land of the "five summits" and of the "four canals," and settled in the far east, where the "Dragon of Spring-time" burns in the "azure path." The period of these migrations must have been immense and exceedingly remote, since these races themselves had nearly forgotten it, preserving only dim recollections of the ancient and common home. During this long night the record of the world's past had not been kept by man, but by the stars; and it was written with pens plucked from the wings of the celestial Taurus, flaming in the east.

That record, in part, we believe to have correctly interpreted. There had been a beautiful civilization born on the morning when the heavenly Lyra first woke its eternal harmonies; and it had been planted on the slopes of the sacred mount, on which, as the stern-post of the world-ship, swings the rudder of the Seven Stars. But a terrible calamity had befallen mankind, and the light of that civilization had gone out forever. Yet those who were the first to experience the sad calamity had received the Divine promise that the Seed of the woman should one day bruise the serpent's head; and this promise was inscribed on the northern heavens, where we behold Hercules wielding his powerful club, and stamping with his heel the head of Draco. Thus, it is from the sublime summit, around which dashed alike the waters of the primal chaos and of the devastating deluge, and across the vista of the immense period of 12,500 years, that the inventors of the celestial sphere hail us to-day as members of a common humanity and a common destiny.

## THE STONE GRAVE PEOPLE.

BY STEPHEN D. PEET.

One of the signs of the progress which archaeology is making in this country is that so many new fields are constantly opening and so many new discoveries are being made; but the old problems are returning for new solutions. This is as it should be. The science is one that can not be finished in a day, nor can we even hope to safely lay its foundations until many facts have been accumulated and the material which is gathered has been well sifted. The student may be slow in passing over the rudiments, but it is very likely that his scholarship will be all the better and the results in the end be surer and more satisfactory if he often returns to the same lesson. This is especially true of the Mound-builder problem. So many have inclined to jump at conclusions in reference to this question, so many have advanced theories without waiting for sufficient evidence to substantiate their positions, that it seems hopeful when new facts are brought to light and the old subject is brought up again for reconsideration.

We are to speak in this paper of the stone grave people, but would, before we begin, call attention to the various opinions which have been advanced in reference to them. A few years ago, when their works were first discovered, it was reported that a race of pigmies had been found. The report, of course, excited much curiosity, and it was thought that a great mystery had been uncovered. The process of investigation, however, went on, and it was soon ascertained that the pigmies were only the children of people who had been accustomed to bury in graves made from stone slabs, but they were people like other aborigines in America. The mystery, however, had scarcely been cleared up and the error corrected before there arose another opinion, which also excited much attention. This opinion was at the time advocated by persons in authority, and was therefore quite generally adopted. It was at the opposite extreme from the one which preceded it. There was now no mystery about the Mound-builders; they were only common Indians. We must class them all with the aborigines. The stone graves belonged to one tribe of Indians. The Mound-builders of Ohio were another tribe, the Cherokees.

A third stage of investigation, however, is now before us, and the same problem is coming up again for solution. It yet remains

to be seen how much of truth there is in the position last taken and whether any of it really deserves to go into history, or whether some other position is yet to be reached, which will prove more satisfactory and some conclusion which shall be more permanent. The pendulum which has been swinging backward and forward may indeed mark progress, but we are not certain about the significance of the figure on the dial. It certainly may be doubted whether the clock has yet reached the striking place, nor have we reached any permanent conclusion. Many new discoveries have recently been made, new fields have been opened, and various books and publications have appeared, and now the whole subject is again up for contention.

An array of new facts is before us, and we may expect the opinion to turn towards new evidence. The Mound-builders were an ancient people. They resembled the modern Indians, but the Mound-builders' period was distinctive. One error was detected when it was proved that the Mound-builders were not a civilized people, but another error came to the surface when it was maintained that the modern Indian is the only representative of the mound-building period. The truth is between them; neither in the civilized nor in savage races do we find the picture for which we are seeking. The Mound-builder belongs to neither of these classes, but their real status was between the two extremes. Three periods may be ascribed to the prehistoric age in America. First comes the paleolithic period, with its rude condition; next comes the mound-building period, with its varied record; lastly, the period of the red Indian; then comes the date of history. History treats of the modern races, ethnology may treat of the more ancient peoples, but the science of archaeology has much in store which may modify our conclusions. The living tribes have but recently disappeared, other tribes preceded them, and the record goes back into the remote centuries. We have not by any means reached the end of our studies. Things are to be discovered that have not yet been put on the record. The Mound builder problem is not solved. New factors are constantly coming up and we leave ourselves open to new evidence.

We not only go back of the historic period and look for the prehistoric races which have left their tokens on the soil, but we are also to go back of one prehistoric period and find the traces of a period and race which still preceded them and so make the record complete. While ethnology, treating of the living tribes, may help us to understand the character of the tribes and races which preceded them, the archaeological tokens are to be most relied upon for our evidence. The archaeological evidence is to be sifted, and we are to discriminate until we shall know the differences between all the races. It does not seem to be so important to identify any known tribe with the tokens of any one

locality, or to distinguish between the tribes and races which may have occupied each locality, and make the characteristics of each our especial study.

The subdivision of the Mound-builders' territory, and the distinction between the mound-building classes, we may regard as already established, and the succession of races in each locality is rapidly becoming recognized, and we may expect soon to distinguish the races and to recognize not only the periods but also to see the diversity which existed among the races. We go back of the historic period to ascertain the origin of the American Indians, but we go back of one prehistoric period to the tokens of another to ascertain the origin of the Mound-builders. But after all this, we know very little about the peopling of America. Perhaps we shall find that the races were autochthonous in this country, and trace the clue back from the Indians to the stone graves, and from the stone graves to the mounds and shell heaps, and from the mounds and shell heaps to the cave-dwellings, and from the cave-dwellings to the gravel beds, but for the present we wait for evidence. Possibly we may trace the population of this country to other lands and be led to recognize the waves of migration in the very relics which have been left beneath the surface. We leave ourselves open to conviction in either direction. We welcome the new discoveries and wait for the solution of the many problems.

The present paper is devoted to a single class of people, to a single period of occupation, to a particular type of aboriginal civilization, and to a particular locality, and yet there are many questions which arise in connection with them. We have chosen the stone grave people for our study. Some may think them modern, and imagine we are studying the works of historic Indians. Others consider them purely prehistoric and illustrative of one phase of prehistoric civilization. They are, however, only one out of many. The soil of America is filled with the records of many such races. Our work is to study the records and to see the difference between them.

Our subject will lead us first to a view of the habitat of this people; second, to the study of their characteristics, especially as they are made known by their relics; third, to the question of races, especially as it is brought before us by their portraits, and, fourth, to an examination of their symbols, with the query whether we may recognize the evidence of foreign contact in them.

The subject is somewhat difficult, the facts are remote, but the points are suggestive and the discussion interesting. We would say, however, that we have been greatly aided by the perusal of the pages of that interesting book which has been prepared by Gates P. Thruston, who has made a close study of the works and relics of this people, and we shall quote from the book, seeking, however, to give credit for all the essential facts and discoveries.

I. As to the habitat of the stone grave people, we have already said that this was to be found mainly in Middle Tennessee and in the valley of the Cumberland, though it may be supposed to have extended in either direction and possibly reached even the adjoining states. It was a peculiarly isolated region, remote from the routes of the early explorers, and for this reason its inhabitants for many years remained without notice from the historians. We are impressed with several facts in reference to the territory. (1) It was peculiarly favorable to the development of an aboriginal condition, such as is now found represented by the works and relics which are being studied so attentively. (2) It was a region which was occupied at different periods by a homogenous population, who for the most part followed the same general mode of life and filled about the same grade of civilization. (3) It was a region through which the different populations of the Gulf States made their way northward into the valley of the Ohio, leaving on their way the tokens of their presence. (4) It was a region in which peculiar tribal customs seemed to have grown up and become established. (5) It was a region in which the tokens of a teeming population abound in unusual numbers, and therefore furnishes a very favorable field of investigation. (6) It is a region where pyramids of an inferior kind were associated with lodge circles and fortified village sites, but where the burial places took a peculiar character. (7) It was the region which, though lying between the habitat of the historic tribes of Indians—the Cherokees and Natchez—had a population which, so far as tribal history is concerned, may be regarded as still unknown. (8) It was a habitat which was once occupied by a peaceable and sedentary people, but was invaded by a savage foe sometime about the date of the opening of history,—a foe which was probably allied to the red Indian hunters of the north, and who may have been the Shawnees, who were themselves late comers in the Mississippi Valley, but who never reached the grade of the civilization of the people whose territory they invaded. (9) It is a region in which the Alleghans or Cherokees, the Algonkins or Shawnees, and the Natchez or Chickasaws, a branch of the Muskogees, were once the occupants, all of them belonging to different races. (10) It is a region full of the Mound-builder symbols. We shall take these points, its isolation, the obscurity of history concerning it, the evidence of growth and development during prehistoric times, and the abundance of archaeological tokens, as being proof that the people belonged to the mound-building period, and that their territory constituted one more division of mound-building territory. We are, to be sure, now among the southern mound-builders' type, and yet it is a type which is not found elsewhere.

Such are the impressions which we have gained from a study of the locality and its tokens. There are, however, impressions

which others have also gained, and we here take pleasure in quoting the opinions of the various authors who have written on the subject, thus giving both sides, and leaving the reader to judge for himself.

The following words from General Thruston's book will express one thought now before us: "About fifty years after the discovery, DeSoto and his army (in 1540 A. D.) pushed along its northern border, rudely startling the native inhabitants, but they passed on across the great river and probably never came within the actual borders of Tennessee. A hundred and thirty years then elapsed and no European stepped within its limits. In 1673 Marquette came in his shallow bark, floating down upon the broad waters, its first white explorer. Nearly another century intervened before the hardy pioneer of Virginia scaled the mountain or Daniel Boone started on 'the wilderness trail' for the far west. In all these years Tennessee, infolded in her ancient forests and mountain barriers, in her isolation, remote from lake, ocean and gulf, was as unknown to the outer world as Central Africa. France claimed her territory as a part of Louisiana and Illinois, Spain called it Florida and set up her



Fig. 1.—Wolf's Head.

right, England assumed sovereignty over it as a part of Virginia and California; but none of them took possession. Even the Indians had to fight for their titles. Vincennes in Indiana, Kaskaskia in Illinois, and New Orleans were founded; Texas and Missouri were colonized; Santa Fé in New Mexico, a thousand miles to the west, had become an old Spanish town; yet Tennessee was still without a name or description, save that it was marked on the New World's maps as the unexplored land of the Shawnees. These facts are stated to show how little history can tell us directly of ancient Tennessee or of the stone grave race."

The same author has spoken of the rise and fall of that peculiar grade of civilization which found its embodiment in the stone graves in the following words: "The primitive manifestations of industry and art found among the remains in the Cumberland and Tennessee Valleys and in adjacent States were evidently in the main of indigenous growth. They may have been the result of centuries of gradual development within these borders, or



they may have had an origin in part through migration or inter-tribal intercourse from the sedentary or village Indians of New or Old Mexico. We are inclined to the latter view. It is difficult to ascertain the exact relation of the stone grave race of Tennessee and its kindred of the neighboring States to the historic red Indians." Whether the fort-builders and pottery-makers of the Cumberland and of the Tennessee were overwhelmed and dispersed, and became practically extinct, or whether they were absorbed by the more powerful and savage conquerors and became members of the Shawnees, Natchez or other tribes by adoption,



Fig. 2.—Pottery Portrait from Stone Grave.

may never be known. There is no mystery in the disappearance of some of the mound-building aborigines. Scores of tribes have become extinct during the last three centuries. The Shawnees have had a pathetic history. Dr. Brinton calls them the "Gypsies of the forest." Their eccentric wanderings, their sudden appearance and disappearance, perplex the antiquarian and defy research. We first find them in actual history about the year 1660 along the Tennessee and Cumberland Rivers. For a century or more they held their sway. Their territory extended from the Ohio to the Tennessee, but they were never in security. They were never at peace. The

Iroquois preyed upon them from the north, the Chickasaws and Choctaws from the south and the Cherokees from the east, until they were finally overwhelmed and scattered, and fled beyond the Ohio. For sixty years before its first settlement by the whites Tennessee was an uninhabited wilderness. Such is the history of the region which we call the habitat of the stone grave people—a history, however, which contrasts with the archaeology of the same region.

The same author says: "Passing from the brief historical view to the interesting problems attaching to the origin of the ancient mound and grave builders of Tennessee, their race relation, their tribal affinities, and their culture status in the scale of civilization, as represented by their monuments and art, we enter upon

more uncertain ground. The stone graves are not always found in cemeteries or large groups. Their location upon almost every farm in the central counties indicates not only the presence of a very large population, but that it was generally widely distributed throughout the country, probably in peaceful settlements through a long period of time, thus doubtless enabling the ancient race to make progress in the simpler arts and industries beyond the status of the more savage tribes."

II. We ask, in view of these facts, whether we shall class the stone grave people with the historic Indians or with the pre-historic? whether the facts of archæology do not lead us to a period more remote than that of which history has the record, and to identify the people with the ancient mound-builders rather than with any known tribe of historic Indians?

We here call attention to the description of the relics and implements abounding in East Tennessee. Many of the ancient flint pits and quarries, and the remains of the old work-shops, are still to be seen. Flint, jasper, chert and silicious limestone were generally used, but arrows and implements



Fig. 1.—Portrait Pipe, Indian.

are found of chalcedony, transparent quartz, and quartziferous and other stone. Fine examples of the work of the old arrow-makers are shown. They are similar to the delicate arrow-points found in Mexico and along the Pacific coast. There seems to be no limit to the arrow-points. The village Indians, who dwelt in forts, towns and settlements, must have been sufficiently advanced to have known the use of a variety of implements. Sets of tools of chipped and polished stone, evidently the outfit of some ancient lapidary or artisan, are occasionally found lying together in the same grave. Caches of new flints or cherts in large numbers are also found, apparently just as they left the workshop of some old "stone chipper". Eight well made implements of various forms, all polished by use, were found in a

grave, lying beside three useful implements of bone. Another set, mainly sharp stone chisels and a horn handle, with a deep socket, were found in a neighboring grave. An agricultural hoe of flinty chert, 8 inches long, is in Mr. J. G. Cisco's collection. A large, perfect, fan-shaped axe or adze,  $12\frac{1}{2}$  inches long and 8 wide, was found in Stewart County. A handsome leaf-shaped implement from Davidson County is nearly 14 inches long. It is a turtle-back, or adze-shaped. A paddle-shaped flint, glossy with use at the blade end, is  $10\frac{1}{2}$  inches long and very symmetrical, slightly curved or adze-shaped, is as delicately chipped as any spear-head. Many scrapers, spoon-shaped, with blunt ends and concave at one side, are discovered. Chipped stone chisels, chipped to a sharp edge, with square corners at the blade and notched at the upper end, and other chisels with the handle end



Fig. 2.—Paddle-shaped flint from A. G. Cisco.

rounded as if for holding in the hands, are shown. A set of five chisels that evidently had handles of wood, sharp as a table-knife at the blade end, is described. These flint types seem to indicate a condition of society and of the industrial arts above the ordinary stone hammer and spear stage of barbarism. A flint knife 7 inches long, and the horn handle, the end pierced with holes, in which the string was fastened to that, aided in binding the knife, were found in a grave near Nashville. Other knives, with round curved edges and notched at the end; stone hatchets, with wide spreading flanges at the blade ends; others with curved edges and straight sides, designed for hutting. Flint daggers with long tapering blades, and guards above the blade, like dirk knives of modern style, are seen. A double-barbed spear-head, one notched, a sword made from chipped flint, 22 inches long and 2 inches wide, was found beside a skeleton, put within the very bones of the hand, as if a tribute to his rank or as a badge of distinction in the spirit-land. A scepter fourteen inches long, and another seventeen inches and three quarters long and

three and a half inches wide, evidently emblems of authority, are described.

The only flint implements in America, north of Mexico, rivaling these fine implements from Tennessee have been discovered in the ancient graves of the California Indians, but the largest one of these is only  $9\frac{1}{4}$  inches long, though one from Oregon is said to be 13 inches long. Three magnificent chipped stone implements, with ornamented handles, were found in a cache together. They offer direct and very positive evidence that they were used for ceremonial purposes of a religious, military or public character—the scepters or royal maces once used by the magnates of the race that built the ancient mounds and fortifications of Middle Tennessee. The most distinguished personage



*Fig. 3. Stone Image from Clarksville, Tennessee.*

of the stone grave race yet identified—the honored chieftain or priest whose remains were unearched in the Harpeth River, was placed in his sarcophagus with a large flint sword in his right hand.

The totem marks, the number of feather plumes, the battle-axe or war-club, the engraved brooch plates, the upholding of the pipe of peace, were ensignia or symbols of rank or authority everywhere used and respected. A fine scepter, a splendid specimen of ancient art, wider at the hilt points, and shorter in the blade, but finely decorated with curved or crescent-shaped guards, is described. It was not intended for cutlery, but was probably used as a halberd or mace. Mr. Thruston says: We have never seen a specimen of aboriginal art from the valley of the Mississippi superior to this fine flint. It was found twenty miles north of Nashville, near the ancient fortifications situated there.

Such are the relics which have recently been discovered and which have been described in this new and valuable book. We ask again, in view of this, whether we shall not conclude that the stone grave people belonged to that class of mound-builders which was superior to the red hunter Indian, and that the theory about the Shawnees being their fabricators is a mistaken one.

III. The same impression is also drawn from an examination of the pottery portraits. We may say that in no part of the country has so much pottery been found as in this district. The only other district in which any similar amount has been found is that which is situated immediately west and northwest of this, in Arkansas and Missouri—New Madrid, Missouri, being the chief seat of the ancient pottery-makers. Many authors



Fig. 6.—Female Portrait.



Fig. 7.—Male Portrait.

have spoken of this fact as if it was significant. The general impression seems to be that the people of the two districts were in the same general grade of culture and had reached the same stage of art. How this can be reconciled with the theory that the stone grave people were Shawnees we do not undertake to say. There is no evidence of the use of the wheel or lathe. The ware is hand-made. Clay trowels were used in smoothing and rounding the open vessels. The vitreous glaze was unknown to the potters. In this respect, the pottery of the Mound-builders differed from that of Central America. The Pueblo Indians had no knowledge of it, but the ancient ware of Mexico shows this. The pottery from the stone graves was hardened by fire. Some of the vessels ring as if they were made of metal. The decline of the potters' art among historic tribes is well known. The wild Indians do not often manufacture pottery, but the Pueblo Indians still continue the art. The stone grave people seem to have had much skill in decorating pottery. They used pigment dyes in giving different colors to the clay, and they burned different colors into the vessels. Many

of the specimens of pottery are decorated with animal figures. They show much skill in imitating animal life. One specimen is described by Gen. Thruston. The cut is furnished to illustrate this paper. It represents a panther or wolf, or some animal that is suggestive of ferocity. See Fig. 1. The majority of the specimens of pottery are those which were used for domestic purposes, though there are pipes and other articles which are made of pottery and are highly ornamental.

Domestic pottery comprised all kinds of vessels, some of them in the shape of urns, bowls, pots, vases, shallow dishes, deep



Fig. 4.—Heads Used as Handles for Dishes.

dishes, bottles, jars, vessels for cooking food as well as for holding water, and for other domestic purposes. It would seem as if the domestic life of the people was brought before us by this pottery which was burned with the bodies. There are also many jars and other vessels which were made in imitative shape, the ordinary wild animals and wild fowls being the objects most commonly imitated. There are many pottery vessels, however, which might be called idols, as they are in the shape of human images. These images are very interesting as objects of study, as they furnish an idea as to the different types of faces which were probably common among the people of this region. We notice that some of these faces resemble the modern Indian of the northern type; others are very different, however, from any Indian face which is likely to be recognized in these days. The question arises whether these faces all belong to one people or were they proofs of a great mixture in the population of

those days. We call attention to the contrasts between the faces. We take the terra cotta head from the cemetery at Nashville and the female head from the same cemetery, and place them alongside of the image pipe found near Kingston, Tennessee, representing a kneeling human figure. See Figs. 2 and 3. The contrast between these faces will, we think, be recognized at once. "The material of which the pipe is composed is reddish-brown stone, probably jasper. It is eight inches in height. The head-dress is unique and remarkable. The face is peculiar, and is sombre in expression, but the high cheek bones and long nose seem to represent the red Indian type. The long, pointed ear-rings on each side are well carved and original." The difference between the pottery faces from the cemetery

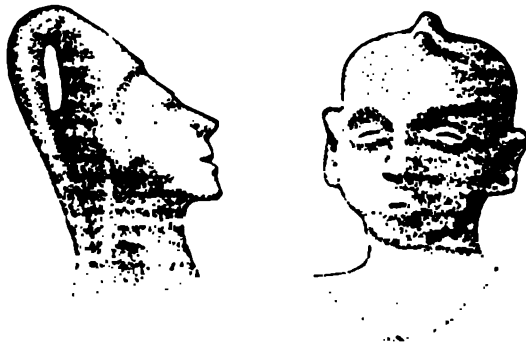


Fig. 3.—Pottery Heads Found at Hawkins.

and the pipe portrait, we think, will illustrate the point we are arguing. The southern mound-builders, whoever they were, seem to belong to a different race from the ordinary Indians. We would take one face to be the face of a Briton and not a North American Indian, and the question arises whether some of these southern tribes may not yet be traced back to the early Britons or Basques.

Two other faces are presented for examination. We call attention to the contrasts between them. One of these is found on the surface of a bowl discovered in a mound on the St. Francis River in Arkansas. See Fig. 4. It is called the "Riggs" face bowl, from the name of the person who first discovered it. A large image of marble or crystalline lime-stone was found by Mr. H. L. Johnson, of Clarksville, Tennessee. See Fig. 5. The features of the face are the heavy, Ethiopian cast. Other images similar to this, with still more marked Ethiopian or Aztec features, have been described and depicted by Mr. Thruston in his book. The question which we ask in connection with these four pictures is whether there was not a difference between the idols and the portraits, each of them being significant of a dis-

inct race, the vases being of the ancient type and the portrait pipes being modern Indian. Two more figures are presented, one of them a terra cotta image, with the face of a female, quite delicate in feature—a handsome face; the other a strong, manly face; both are from the stone graves. See Figs. 6 and 7. They show the features of the people. Three more terra cotta heads are presented in the next cuts. See Figs. 8 and 9. These are the handles of terra cotta bowls, modeled in imitation of the human head. They are valuable as illustrating two or three important points. They may not have been exact imitations of the faces of the stone grave people, yet we think that they give some idea as to how these people looked. They also show the style of head-dress which was common among the people.



Fig. 1.—Pottery Heads Used as Handles.

We give two more cuts (see Figs. 11 and 12), and call attention to the faces in them. One of them is a portrait pipe from near Chillicothe, Ohio, the other represents the faces of the Pueblo Indians of San Domingo, New Mexico. They are in contrast with all of the faces before given.

We ask the question, in view of these portraits and the imitative skill which they exhibit, whether any northern Indian of the hunter class was likely to have been the manufacturer of them. We ask further whether the contrast in the features does not lead us to the recognition of different races among the mound-builders? Shall we not trace the races back to different stocks and families, some of them to the Mongolians, some of them to the Basques, some of them to the Malays.

IV. We now come to the evidence furnished by the burial customs. (1) The first fact which is brought to our attention is that a new material seems to be used in the structures. In all other districts earth was the material employed, but here stone seems to have been used. The structures of the Mound-



builders are generally earth-works. Earth is the material used even in the tombs, the large majority of the burial mounds, especially in the northern districts, having been constructed of mere earth, some of them stratified and some of them unstratified. There are, to be sure, burial mounds in Ohio which contain within them chambers formed from logs, the dead having been placed in these as if they were chambers in which they rested. There are also, as we have seen, certain vaults constructed from stone, some of them being arched, others with square angles. Specimens of these are found in Illinois and Missouri. Dr. Cyrus Thomas speaks of the burial pits which were found in North Carolina. These pits contain conical stone chambers, some of them being built over the body—the body being in a standing



Fig. 11. *Effigy Burial*—Ohio.

attitude—but others being lower and having the body in a sitting posture. Dr. Thomas has ascribed these to the Cherokees and thinks that they may have been modern in their origin. In none of the other districts, however, do we find the use of stone so common as in this, and in none are stone graves so numerous.

The second peculiarity which we notice is this, the graves are built in tiers, one above the other, each tier being drawn in so as to make a pyramid or cone, the whole heap having been ultimately covered with earth, and so a mound which externally resembles other mounds was the result. This was a novel method of constructing mounds out of tombs, and is peculiar to this region. There are, to be sure, a few mounds constructed somewhat after this pattern—a tomb of logs above another tomb being found in them. This is a different type, however, and must have been built by an entirely different class of people. The Grave Creek mound is a specimen of this kind. It was a large, high conical mound, and contained two chambers, one above the other; but the chambers contained a few bodies, with the relics, showing that an unusual personage was buried there. The

stone graves which are found elsewhere are not built in tiers, but are merely graves which are connected—a succession of cysts—being placed on the same level and covered with the same mound. The stone grave people had it for their usual custom.

(3) Another peculiarity of the district is that the stone cysts were frequently placed in circles, the interior of the mound having been left without graves, fire being the element which was regarded as sacred, and the circle formed by the graves being in a sense symbolic. This peculiarity of the stone graves is significant. It corresponds with the religious symbolism embodied in the inscribed shells and other symbolic relics. There



Fig. 11.—Pueblo Indians of San Domingo, New Mexico.

was a superstition among the people which ruled the burial customs, but which seemed also to ally the people to those in the neighboring districts, as fire was a sacred element to the Mound-builders of Ohio and the sun was a sacred object among the people of the southern districts. This superstition seems to have survived to historic times, for there are persons, old Indians, who maintain that the fire is still burning and that it was a sacred flame. The custom existed among the Cherokees of taking fire from the rotunda and lighting the fires in the houses, thus showing that the divinity of the hearth was recognized among the native Americans as well as among the Romans. Prof. Putnam speaks of the custom of placing urns at the head of the bodies, near the outside of the mounds, thus making a circle of urns surrounding the circle of bodies, the fire being inside of all. In other graves there were jars at the feet of the skeleton and pipes in the hands. This custom was not common, yet there seemed to have been a significance to it.

(4) Another peculiarity is that the stone graves are frequently attended with high lookout mounds. This also seems to have been a significant custom. Possibly there was a superstition about it. Was it because fire was so sacred that these mounds were erected and used as beacons, from which the fires could be seen at long distances?

(5) The graves were frequently in mounds that were arranged in groups—cemeteries having been formed by the groups. Prof. Putnam speaks of five mounds which contained from 600 to 800 persons. One mound contained 200 bodies. These mound cemeteries were frequently placed near the site of some old village or ancient settlement. They were sometimes enclosed within the very wall which protected the village and constituted an important feature in the village site. Prof. Putnam has spoken of the earth-works near Lebanon, sixty miles east from Nashville. Within this earth-work was a mound with dimensions of 138 feet by 120 at its base, 95 by 75 feet on its summit, with a height of 15 feet. It was not a burial mound, but contained beds of ashes at different depths. The place may have been the site of an important building, possibly erected for the celebration of their peculiar rites, though there are two periods to its construction. Near this mound was another, which contained sixty stone graves arranged around a hollow square. In this mound was a large quantity of pottery, most of it in the shape of domestic utensils. Scattered irregularly about were nearly one hundred more or less defined circular ridges of earth, earth rings or lodge circles, showing that the dwellings of the people had been erected around the large mound, and that the stone graves were placed in the midst of the lodges while the people still lived in their fortified town.

(6) Another feature is that some of the graves were placed underneath the floor of the houses, the fire having been kept up even after the bodies had been deposited in the graves. These were mainly the graves of children, some of them infants. There were water jars, earthen pots, shell beads, handsome pebbles of quartz and chalcedony, implements in the shape of a child's foot and other imitative pottery vessels, were found in these graves. "From them are obtained the best specimens of pottery, also shell beads, pearls and polished stones, which were probably playthings." This custom of placing the children beneath the family hearth seems very suggestive. Does it not show that fire was the divinity of the hearth and that the children were put under the protection of this divinity?

## THE RUINS OF IXIMCHE.

BY GUSTAV BRUHL, M. D., LL.D.

Iximche, or Tecpan Quauhtemalan, as it was called by the Nahuatl-speaking warriors who accompanied Alvarado on his expedition, is situated about three miles southwest of the modern town of Tecpan, on the southeastern end of a high undulating plateau, surrounded on nearly all sides by deep, precipitous ravines, 7,700 feet above the level of the Pacific. The mesa received its name, Ratzamut, as Dr. Brinton has correctly guessed, from its resemblance to the beak of a bird, to which the outlines on the south corner somewhat conform. The only approach to the mesa is from the northwest, over a small creek, by a steep winding passage, cut deep into the rock, and just broad enough for a horseman to ascend. The greatest part of the plateau is under cultivation, and the remainder is covered with dense forest. A farm house stands on an eminence to the left of a trail that leads from the edge of the mesa to the ruins, distant about a mile and a half. To the right of this trail rises a low hill that commands a fine view over the ruins. Heaps of stones lie scattered about, as if they had been gathered up for the purpose of cleaning the fields, but no foundations of houses can here be discovered.

In front of the ruins runs a broad trench from northeast to southwest, in a straight line, extending on either side to the ravine. The entrance to the ruins is on the northwest side, over this trench, here partially filled up. On the left, or northeast, side of the entrance is a rectangular embankment, 81 paces long and 14 paces broad, now covered with trees. At the beginning it is from 12 to 15, and at the end from 20 to 25 feet high. On the opposite side are the low longitudinal walls of a rectangular building, of the same width as the embankment, and running likewise parallel with the trench. These walls are doubtless the remains of the guard-house, where, according to Fuentes, sentinels were always stationed. That the gateway, however, was protected, as the same historian states, by two obsidian doors, the one opening inward, the other toward the trench, is probably but a fancy of the author of "The Recordacion Florida." From the gateway runs an elevated causeway, walled in on both sides, about 8 feet high and 132 paces long, in a southeasterly direction, where it suddenly stops. To the right of the same we meet a very small rectangular tumulus and the foundation walls of houses, and near the end of it three round

mounds. Right opposite the latter, on the left or northeast side of the causeway, stands a rectangular structure, 28x45 paces, the walls about 5 feet high and 8 feet thick. A similar structure stands near it, but the longitudinal walls are 8 paces thick, 35 paces long, and 12 feet high; the transverse walls 12 paces long and only 6½ feet thick, still partly covered with cement. Northeast of these buildings, towards the southeast, commences a series of sunken areas and courts surrounded by mounds, raised platforms and embankments. A low semi-circular embankment runs between two of the mounds, 104 paces long. Another angular one, 18 paces broad and 6 to 8 feet high, commences at a raised platform and extends to the mound near the brink of the ravine. It is cut by two gateways, however, both of which are guarded by mounds. The first portion is 86 and the two others are each 114 paces long.

Sixty-six paces from the corner mound, in a south-southwest direction, commences, also near the brink of the ravine, a group of two rectangular and two round mounds, enclosing an area of 14 paces on each side. The round mounds are 54 paces in circumference and are 12 feet high; the rectangular ones are 21 paces long, 8 paces broad and 5 feet high. There is no embankment connecting this group with the mounds, since the horizontal declivity of the mesa on this side makes any approach impossible.

As only this part of the ruins touches the barranca, it must be here that Fuentes places in his description the magnificent building of 500 feet square (*cien pasos geometricos*), with a large plaza in front, on the western side of which (according to his plan) stood a splendid palace, with similar courts and surrounded by the houses of the Ahaguas, and south of it the temple, right opposite the principal street, which he locates between the gate and the trench, the latter dividing the town in the quarters of the principal men and the commoners.

It is no easy task to harmonize the ruins in their present condition with the description of Fuentes, less so with his plan, which differs in certain points from his description. Indeed I cannot conceal the suspicion that both are mere guess-work, made up by hearsay—a suspicion that Brasseur de Bourbourg has already expressed in terms more unfavorable to the veracity of the author of the "Recordacion Florida." The magnificent building he speaks of may have stood where he places it, at the brink of the ravine, although little of it is left. The so-called palace must have occupied then the space northwest of it. The temple, however, if it really stood where it appears in Fuentes' plan, is entirely destroyed, for between the ravine and causeway, which is undoubtedly his principal street, although erroneously placed outside of the trench, no remains can be discovered which indicate the previous existence of such an edifice. From its size and prominence, I am inclined to believe that the high mound

on the northeast side was the temple mound, where sacrifices were offered to the bat-shaped idol of Chamalcan. The houses of the Ahaus doubtless stood southwest of the causeway, where foundation walls are still discernible. It need not surprise us, however, that not a vestige is left of the houses of the commoners outside of the trench, since they were undoubtedly of perishable material and of the same construction as we still meet them in the ancient Cakchiquel country—one-story huts with walls of reed or wooden sticks, covered with straw or palm leaves. There is a strange contradiction in the plan and description of Fuentes concerning the location of the tribunal. While in the former he places it at the southeast side of the ruins, he states in his description that it was a quarter of a league to the west (*hacia al oeste*) of the trench on a small hill. There is, indeed, as stated before, an eminence which overlooks the ruins in that locality, but not where he marked it in his plan. Or, perhaps, was the group of mounds near the ravine the hall of justice? As to the watch-towers on the hills opposite the plateau, which according to his statement, guarded the avenues to the town, I saw to the right of the road leading to Patzun, a mound near the barranca, which may have served for that purpose, since from this direction the Zutugils would have approached when making an inroad.

The mounds in the ruins consist of earth and stone, without being terraced or having any steps. Hewn brick-shaped blocks of porphyry and tufa (10x10x4 inches, 13½x10x8 inches and 8½x6½x5½ inches) were scattered about, indicating the building material of the houses. A few of the walls were still partly covered with cement, likewise some of the floors of the courts. But nowhere could I detect sculptures. Stephens, who visited the ruins fifty years ago, found yet two of them very much defaced. One of them could be distinguished by the nose and the eyes as that of an animal. Bastian, too, who was there in 1876, says that he saw a few stones ornamented with sculptures. In spite of the most painstaking search I discovered only a few obsidian arrow-points. Thus a dozen mounds, a few embankments and raised platforms are all that are left of the once-famous town on the Ratzamut, built at the beginning of the fifteenth century by the head chiefs Huntoh and Vukubatz as a stronghold against the Quiches and Zutugils, their hated neighbors. Indeed its strong position, and the steep and easy defensible approach, the deep surrounding ravines, the trench, the embankments and gateways guarded by mounds, show conclusively that it was a fortified pueblo or tinamit. Similar strongholds had been erected by the kindred tribes. The historians mention among others Utatlan, Mixco, Uspantan, Zacaleu, Ruyalxot and the penol of Atulan in the lake of Panajachel.

According to Ximenez's description of Utatlan, they contained the principal temple, the habitations of the priests and the

houses of the head chiefs and those of the Ahaus. But the latter, who formed the tribal council, congregated there only when the religious festivals and tribal meetings were held. At other times they lived on their milpas amongst their "gentes". It appears, however, from Xahila's Annals (edited by Brinton) that one of these clans or sub-tribes occupied part of the mesa. At least the chronicler relates that when the Tukuchees under their Ahau Cay Hunapuh revolted against the Ahpototzil and Ahpoxahil, they withdrew from the city to the other side of the ravine, where they were totally defeated. The few remaining escaped to the Quiches and Zutugils. They were probably the maceguales or commoners Fuentes speaks of, and lived outside of the fortifications proper.

The view from the mesa over the green, forest-clad mountains that surround it on all sides, is grand beyond description. Therefore it is easily comprehended why the Ahpototzil, when he had discovered the true character of Alvarado's invasion, made an obstinate resistance to the Castilian adventurers. But then it was too late, and the brave warrior ended his life on the gallows. Had he joined the Quiches and Zutugils right in the beginning, the Spaniards, in spite of their superior arms and tactics, would very probably have been doomed to annihilation, instead of conquering one by one the native tribes, divided by internal feuds.

## Correspondence.

### ANCIENT STONE FORTS IN INDIANA.

*Editor American Antiquarian.*

"The high bluffs\* and second bottoms along the Ohio River and those of its principal tributaries in the southern part of this State, were famous places of resort for the ancient race of people known as Mound-builders."

The following map and diagrams are reduced copies of a most elegantly executed map of Lawrenceburg and its surroundings, made and presented to the Indiana Archæological Society by Mr. Samuel Morrison, C. E., of Indianapolis, and presented in the Geological Survey of Indiana, 1878, E. T. Cox. Plate G† shows the location of two remarkable earthwork enclosures, named on the map prehistoric forts; one of these works is shown, enlarged on Plate H.‡ This fort is situated in Hamilton County, Ohio, a short distance from the Indiana boundary line. It is on the last hill between the Ohio and Great Miami rivers, and on land belonging to the heirs of the late President, General William Henry Harrison. The hill is 200 feet high. The area enclosed contains about twelve acres. It has an open space called a gateway, and two projecting narrow arms, which Mr. Morrison calls bastions. The table-land within the enclosure is from ten to twenty feet higher than the walls, which appear to be of material scooped from the brow of the hill. The situation of this work is admirably chosen to command a view of the extensive level bottom lands which surround it, rendering the inmates secure against sudden surprise. The wall is followed by a ditch on the inside.

Plate I;‡ gives an enlarged plan of the ancient fort on the hill north of Hardensburg, in Dearborn County, Indiana. The wall is four feet high in places, and is partly constructed of loose stones and partly of earth. There are two gateways on the north end, formed by an earth-work that is nearly circular. The hill is nearly two hundred feet high, and at the former fort commands an extensive view over the country around. On the ridge leading to the northeast and northwest there are eight mounds. There is also a mound on the hill to the south, and two mounds close to the road leading from Lawrenceburg to

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Geological Survey of Indiana, 1878; E. T. Cox.  
\*See p. 122. †See p. 122. ‡See p. 127.



Hardensburg. There is also a mound northeast of Lawrenceburg, near the track of the Ohio & Mississippi railroad. All these mounds are shown on Plate G, p. 130. J. B. Gerard, M. D., in connection with others, opened a mound near the mouth of Laughery Creek, in Ohio County, which was about one hundred feet in diameter and fifteen feet high; excavations were made at several places, and they found human bones, one whole earthen pot and a great many fragments of pottery.

Going down the Ohio River to the mouth of the Wabash River, there are a great many mounds and earth-works of small magnitude. One of the most remarkable works south of those above mentioned is called the "Stone Fort."\* It is on a hill at the mouth of Fourteen-mile Creek, in Clark County.

On page 132 will be found a map of this remarkable stone fortification. The locality selected for this fort presents many natural advantages for making it impregnable to the opposing forces of prehistoric times. It occupies the point of an elevated narrow ridge which faces the Ohio River on the east, and is bordered by Fourteen-mile Creek on the west side. This creek empties into the Ohio a short distance below the fort. The top of the ridge is pear shape, with the part answering to the neck at the north end. This part is not over twenty feet wide and is protected by precipitous natural walls of stone. It is 280 feet above the level of the Ohio, and the slope is very gradual to the south. At the upper field it is 240 feet high and one hundred steps wide. At the lower timber it is 120 feet high. The bottom land at the foot of the south end is sixty feet above the river. Along the greater part of the Ohio River front there is an abrupt escarpment of rock entirely too steep to be scaled, and a similar natural barrier exists along a portion of the north-west side of the ridge facing the creek. This natural wall is joined to the neck by an artificial wall made by piling up, mason fashion, but without mortar, loose stone which had evidently been piled up from the carboniferous layers at the point marked.†

This made wall at this point is about one hundred and fifty feet long. It is built along the slope of the hill and has an elevation of about seventy-five feet above its base, the upper ten feet being vertical. The inside of the wall is protected by a ditch. The remainder of the hill is protected by an artificial stone wall built in the same manner, but not more than ten feet high. The elevation of the side wall above the creek bottom is eighty feet. Within the artificial walls is a string of mounds which rise to the height of the wall and are protected from the washing from the hill sides by a ditch twenty feet wide and four deep. The position of the artificial walls, natural cliffs of bedded stone, as well as that of the ditch and mounds will be better

\* *Annals of the Survey of Indiana*, 1871, p. 132.

understood by a reference to the map\* and cross sections. The top of the enclosed ridge embraces ten or twelve acres, and there are as many as five mounds that can be recognized on the flat surface, while no doubt many others existed which have been obliterated by time and through the agency of man in his efforts to cultivate a portion of the ground. The section through E F shows the relation of the stone wall to the mounds on the south end of the ridge. A trench was cut into one of these mounds in search of relics. A fragment of charcoal and decomposed bones, and a large irregular diamond-shaped bowlder, with a small circular indentation near the middle of the upper part that was worn quite smooth by the use to which it was put, and the small pieces of fossil coral—*Savastites goldfussi*—comprised all the articles of note that were revealed by the excavation. The earth of which the mound is made resembles that seen on the side of the hill and was probably in most part taken from the ditch. The margin next to the ditch was protected by stone set on edge and leaning at an angle corresponding to the slope of the mound. This stone shield was two and a half feet wide and one foot high. At intervals along the great ditch there were channels formed between the mounds, that probably served to carry off surplus water through openings in the outer wall. On the top of the enclosed ridge, and near to the narrowest part, there is one mound much larger than any of the others, and so situated as to command an extensive view up the Ohio River, as well as affording an unobstructed view east and west. It is called the "lookout." There is near this mound a slight break in the cliff of rock which furnished a narrow passage way to the Ohio River. Though the locality afforded many natural advantages for a fort or stronghold, one is compelled to admit that much skill was displayed and labor expended in rendering its defences as perfect as possible at all points. Stone axes, pestles, arrow-heads, spear points, *totems*, charms and flint flakes have been found in great abundance in plowing the field at the foot of the old fort.

E. S. EDWARDS.

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\*See p. 127.

## Editorial.

### PHALLIC WORSHIP AND FIRE WORSHIP.

In our last number we spoke of the phallic worship and of fire worship which prevailed in various parts of the Mound-builders' domain, and which connected itself with the various symbols and tokens and works and effigies which prevailed among that mysterious people. We confined ourselves, however, mainly to one particular district, the district of the northern Mound-builders, and especially to the domain of the serpent worshippers. Let us say here that there are on the banks of the Mississippi River three different classes of structures, showing that three different forms of worship or of superstition prevailed, and giving indications also that three different races of people formerly occupied the territory. These classes are as follows: First, the animal effigies which are found in Wisconsin and in the upper part of the great valley. Second, the great serpent whose form is occasionally seen on the bluffs in the central part of Illinois, mingled with the burial mounds, which are so numerous. Third, the pyramid mounds, the largest specimen of which may be seen at Cahokia creek opposite to St. Louis. These three classes of mounds the writer has had the opportunity of studying, and in connection with the last two has recently made some important discoveries.

A description of the finds will now be given. It will be noticed that the serpent effigy which is situated on the bluffs just above Quincy is not altogether a solitary and single specimen, but there are evidences that the serpent worshippers inhabited a wide region and frequently placed the tokens of their presence on the high bluffs which border the river, especially upon the Kansas side. The mounds, which are very numerous and which mark their presence on the landscape, are, to be sure, not often in the shape of serpents, and yet they are frequently arranged in long rows, near to one another, and are practically conformed to every turn or twist of the bluff so as to give rise to the idea that the serpent was in mind when they were erected. The peculiarity of the burial mounds seems to be intensified as one goes southward, and at one point—near Rockport, in Pike county—becomes so striking that it is not difficult to imagine the serpent effigy to be everywhere present. There are here a series of high rocky bluffs, and on the bluffs many large conical mounds, these mounds being frequently connected with long, low tortuous walls, which form the very spine of the narrow



*Fig. 1. Rock with Symbols of Phallic and Fire-worship, Squibb's.*



*Fig. 2. Two Flat Stones with Fire-generators or Squibbs from Tennessee.*

bluffs, making it difficult to determine which part is artificial and which is the natural part of the ridge. The writer found several such groups or series in the space of five miles, some of the groups containing fifteen and twenty conical mounds with narrow connecting ridges—all of them situated on the highest point and made conspicuous objects in the landscape. At one place a series of conical mounds began at one end of the bluff and continued to the other, each conical mound growing less in height and size, and the connecting ridge narrower and more tortuous until it disappeared, the whole series resembling a huge and tortuous snake, whose head was lifted high above the precipice, but whose body stretched along the whole length and whose tail terminated with the end of the bluff.

These semblances are not altogether imaginary, for the writer has passed over them again and again, and has been impressed with the peculiar situation of each, and especially with the conformation of each to the very shape and twists of the bluffs on which they are placed, and has become convinced that this was the superstition which embodied itself in the region. It was an animistic faith which thus peopled every bluff with the spirit of the animal which it resembled, but it was a modified animism which here only recognized the one resemblance—that which is made to represent the guardian divinity of the region, the totem of the people and the great serpent of tradition.

This was undoubtedly the spirit under whose protection their graves were placed and their villages were built; the divinity whose shadow was always present and whose power was always felt.

The second find was different from the one which we have described, and one which introduces us to a very different class. We now pass out from the domain of serpent worshipers into the midst of the works of the sun worshipers. We are near the great Cahokia mound, which lifts its head so high above the valley, and in the midst of the numerous pyramids and platforms and conical mounds which marked this great settlement of the sun worshipers. It is a very little thing which we see here before us, an insignificant piece of coarse sand stone, a mere fragment and apparently worthless, yet there are certain figures upon it, and it may prove significant. What do we see here? This fragment which was plowed up in a field near this mound deserves our study.

It is now in the possession of Mr. Ramsey, the owner of the mound. This tablet is only two inches wide and three inches long, and is a very rude-looking piece of stone, but it has some very remarkable figures on it, figures which may yet prove to be of great service in solving some of the dark problems of American archaeology. It is well known that the great Cahokia mound is regarded as the work of a people who resembled in

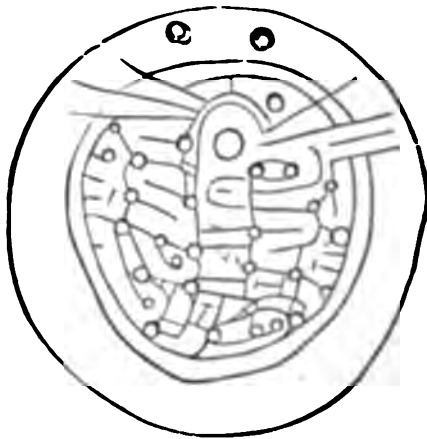


Fig. 1. — Inscrbed Shells from Tennessee.—Serpent and Human Figures.


many points the pyramid-builders of Georgia and Alabama and Mississippi. It is also well known that these Georgia mounds have lately yielded from their lowest depths tablets of a remarkable symbolic character—human figures with bird's heads and with large wings extending from their shoulders, being the most noticeable in several of them. The tablet which we have the privilege of describing, also contains two human figures and two figures of birds' heads, but the birds' heads and the faces are separate from one another. The tablet had been broken, and only the half has been found. This half is divided into two parts, the parts on one side containing birds' heads, and on the other side human faces. There is a band running lengthwise of the tablet and a cross band near the broken edge, showing that the other half was also in all probability divided in the same way, and so there may have been four figures of birds and four faces, instead of two, the number four being significant here as in all other symbols of the sun worshipers. The bands which form the half of a cross are full of small circles, sun symbols, the conventional dot in the center of each circle, and cross lines separating the circles. The birds' heads have the conventional shape which is common in the southern tablets, the sharp pinnated feathers above the head, the mouth open as if in conflict, as usual; but on this tablet the bird seems to have a tongue which extends beyond the bill and curves around above the beak, ending in a peculiar scroll or circle which reminds one of the sign of speech in the Aztec pictures and codices. The human faces are on the reverse side of the tablet. They are also separated from one another by a band with circles or holes, but are looking away from one another instead of toward one another as the birds are. Each face has a lozenge-shaped eye, a beaked or sharp rounded nose, a low, retracting forehead, the forehead being partly hidden by a sort of turreted crown or head-dress, from which the usual pendants or tassels are made to fall. The features of these images are peculiar, resembling those which are sometimes seen among the Aztecs. The mouth of each is wide open, and from the mouth a very singular symbol seems to project. This symbol could not very easily be made out on account of the worn condition of the tablet, but it resembled a horse-shoe, and was at once suggestive of the phallic symbol. We do not state this positively, but if this is the case, we regard the tablet as one of the most remarkable which has been found in this country. It is well known that the horse-shoe was originally a symbol of the generative organ, but in India it came to assume an entirely conventional shape and thereby lost all its erotic significance which was very remote from the original sexual idea. It became, in fact a symbol for the "principle of life," and might be supposed to stand for the "breath," and so for the "soul," which is supposed

to have dwelt in the breath. It is known that in Mexico at times pieces of jade are found in the mouths of the dead, it being a superstition that the jade might receive the soul, and so perpetuate the spirit of the individual. We do not say that this or any such superstition was embodied in this symbolic tablet, and yet we throw out the suggestion and ask others to examine the tablet with this thought in mind.

It should be said here that the land in the immediate vicinity of the Cahokia mound is full of bones, and a vast multitude seems to have been buried here first and last. There is no doubt that the builders of this mound were sun worshippers, and that they had the usual symbolism of sun worship, though where that symbolism came from no one at present can tell. Still, if the tablet should prove to be as significant as it seems to be, we should conclude that that symbolism must have come from some other continent, and that we have in it another evidence of contact with the people which once filled the far east with this strange cult and who carried it to the extreme portions of Europe and possibly brought it to America also.

In favor of this supposition, we here mention the fact that nearly all the shell gorgets and inscribed tablets which are now becoming quite numerous, have an amount of conventionalism which in itself must convince us that the symbols in them had become thoroughly systematized and carefully regulated and controlled. We have no doubt that each one of the figures on these gorgets and tablets—whether a figure of a serpent or of a bird or of a human face or figure—had a significance which was thoroughly understood by the chiefs and priests and ruling classes, and that they became almost equal to a series of hieroglyphics to the people. It will be noticed that there are loops and bands and circles and dots and crosses and crescents in all of the tablets, and that as a general thing the order of their arrangement, the number of the divisions, and even the very combinations of the different symbols, can be recognized as having a significance, each tablet becoming even to the uninitiated white man a sort of coat-of-arms or symbolic shield the native locality having embodied itself in this way. We may say, however, that the contrast between the symbolism contained in the conventionalized heraldry is much more elaborate and complicated than that found in the larger and ruder effigies, and that it requires a much nicer discrimination to select its different parts and to understand the significance of each. The same custom of erecting pyramids which had reached such perfection in Mexico had here exercised itself in erecting this immense earth work. The same elaborate system of sun-worship had here embodied itself and the same conventional symbolism which appeared in the codices also impressed itself on the tablets and other symbolic ornaments.





We would here call attention to a few additional facts. Our supposition has been that the Mound-builders combined the phallic worship with fire worship, but that the symbols of the two cults had become conventional and the ideas remote from those ordinarily associated with either physical or material objects. Confirmatory of this supposition we would now refer to the specific figures which are to be seen on the inscribed shells and tablets taken from the mounds and to the various markings and lines which are seen on the inscribed rocks, whether in the Mississippi Valley or elsewhere. It will be noticed that there are many shell gorgets on which the serpent is inscribed, and that these serpent figures always have loops running from the body and neck to the head, including the dotted circle, as a representation of the eye. This loop is a conventional figure, which reminds one of phallic worship. Again, the serpent is often divided into four parts; between each part there is a dotted circle, the number four reminding us of the four points of the compass and the four parts of the heavens, the circles reminding us of the four suns. Among the shell gorgets there are many which have the suastika or fire generator plainly marked, showing that the figures which have become so conventional and the ideas which are so hidden must have come from an eastern country. The same thought is also suggested by the presence of the cross in America, a symbol which was evidently as common in prehistoric times as in historic, but one which then had an entirely different significance. It will be noticed further that these symbols—the loop and the dotted circle—are to be plainly seen in the human figures, which are becoming quite common, and, what is more, that the figure of the tree is also apparent in these figures, showing still more conclusively that there was a mingling of eastern symbols with the native aboriginal emblems in these human tree figures. It will be noticed that the symbols are more decidedly eastern, at least more emphatically ancient and eastern in the robes of the Mound-builders, but that the conventional symbols of a later idolatry came out in the symbols of the Aztecs, and is especially apparent in the symbols of Central America. It will be noticed still further that the peculiar forms of the cup-shaped perforations, which may be called "troughs," are frequently associated with serpents as well as loops, showing that even in this country the two cults were combined. These figures are not confined, however, to the robes of the mounds, but are also seen in the rocks in Arizona and even as far away as Chiriqui, thus indicating a very wide-spread symbolism.

## THE MOUND-BUILDERS AND ANCIENT MEXICANS

The question of the origin of the Mound-builders has often been discussed in the pages of this magazine, but thus far without advocating any particular theory. We have now, however, reached a point where we are ready to take the position that they were of diverse races, some of them from the northwest, some from the southwest, but leaving the question of the locality or direction of the others open until further investigation shall settle it. The evidence of the affinity of the southern Mound-builders is now before us, and we present it to our readers to decide whether it is conclusive or not. We take it up first in connection with the relics found in the stone graves, and especially in the inscribed tablets.

We now turn to this race question. There are several things about the stone grave people which make it peculiarly favorable to take up this subject at this time. 1. In the first place, the pottery found here abounds, as we have seen, with many portraits, in some respects reminding us of the portraits found in the pipes found in Ohio. This pottery is well wrought, but the fact that different race portraits can be recognized shows in itself that the people were from different race centers. 2. The skulls which have been taken out from these graves confirm the impression formed by the pottery. These skulls are very different, and according to the testimony of all explorers, are indicative of a great diversity in the population of the region. 3. The use of fire in burying their dead reminds us of the fire worship which prevailed in the far east, but which was spread in prehistoric times over Europe and Asia, and possibly into America as well. 4. This people were situated in a region which seems to have been over-run at different times by the wild tribes of the north and the sedentary tribes of the south, the relics and works of both classes having been left mingled together in the same soil and sometimes apparently in the same grave. 5. The location of the stone graves between the habitats of the Cherokees on one side and that of the Muskogees on the other, together with the proximity to the works of the Mound-builders of the Ohio, Illinois and Arkansas districts, make the subject of races all the more suggestive. 6. The discovery of symbolic relics closely resembling the symbols found in the ancient codices gives rise to a conjecture that a common symbolism prevailed here and in Mexico. These symbols have been described by Mr. W. H. Holmes and have been pronounced by him as having "a closer affinity to Mexican art than to that of the north." "So

close are the resemblances that accident can not account for them, and we are forced to the conclusion that it must be the offspring of the same beliefs and customs and the same culture as the art of Mexico." These symbols all seem to be important, as they extend the range of our vision and bring in many factors to the problem which are very significant. 7. We are to make this the center of a diverse population, but are to consider that that population may have come from very widely separated points, even as widely separated as the continents. We are seeking for a solution of the mound-builder problem, and therefore seize upon every clue which may present itself. The clue which we think is presented here is an important one. We do not need therefore, it seems, to discuss longer this question whether the mound-builders were Indians, but should take the broader

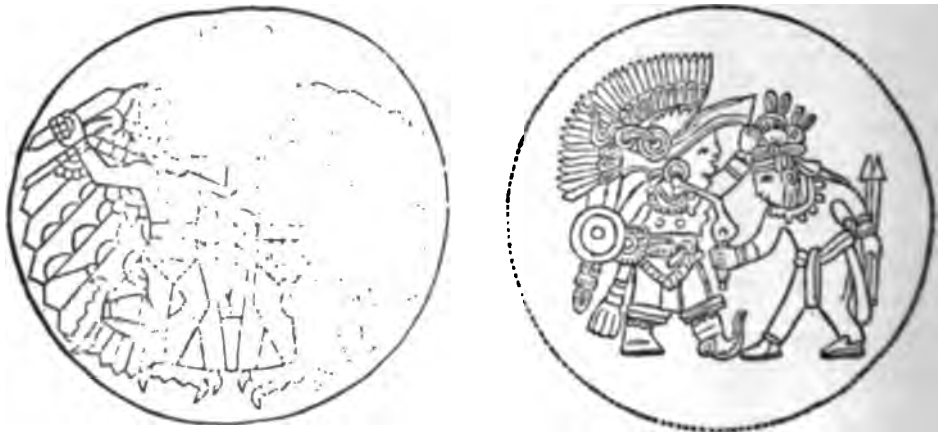


FIG. 7. (Left) Mound on the Cumberland River. (Right) Indians from Mexico.

field, and look about the evidence as to the peopling of America, and just call points, even to mention the Mound-builders, terminology, to seek for the solution of the whole subject.

We do not know for the time being of any great or wide spread population. They may be Indian mound-builders who made their homes on the Cumberland River and their chief center in the neighborhood of Nashville. They were very numerous, however, and of them I have with the signs of an extensive population. Many of their cities have been discovered. One of them was situated on the Big Harpeth River, about twenty miles south of Nashville, another near Lebanon, thirty-two miles east of Nashville, another in Sumner County, twenty miles northeast of Nashville. Here, scores of forts and earth-works are still in a good state of preservation. Within the

protecting circles of these forts the industrious and progressive race of stone grave builders lived through several generations. There are eight localities, which have been described by Dr. Joseph Jones and Mr. Thruston, all of them marked by forts or enclosures, in which have been found pyramidal mounds, earth lodges, stone graves and many relics, to mark the site of the ancient settlement. Prof. F. W. Putnam has explored some of these, especially that at Lebanon. Mr. Thruston has explored the cemetery situated on the farm of Mr. O. F. Noel, near one of the most fertile wells of water and in one of the most beautiful sections of Tennessee. Not less than three thousand closely laid stone graves were found here, and at least a thousand more on the adjoining farms. Many towns, villages and settlements were located in the surrounding country, and smaller cemeteries upon nearly every large farm establish the fact that a widely distributed population once occupied this fertile territory. The remains of the arts and industries and the cranial remains evidently connect the ancient tribes of the Cumberland and Tennessee Valleys with the native tribes of the west and southwest. The pottery is frequently identical in form with that found in southeastern Missouri, Arkansas, southern Illinois and Indiana. It is difficult to ascertain the exact relation to the historical red Indians, but the indications are that they were more progressive and advanced than any of the Indians were at the date of European settlement. Dr. Thomas says their mode of sepulture is so marked in its character as to warrant us in believing it to be an ethnic type, limited in its use to a single stock or a few tribes. The mound-builders of Tennessee probably belonged to the same aboriginal stock as the builders of the mound in Cahokia. No one can compare the pottery dug up at the base of this great mound and at New Madrid, Missouri, without observing that the majority of them are identical in form and material. Many of them are exact duplicates, and seem to have come from the same aboriginal potter.\*

This opinion has been confirmed by a recent visit to this very mound. We discovered there a pottery vase, which is of the same pattern as that which is described by Mr. Thruston as found in Tennessee. We also saw a remarkable inscribed tablet, which has some inscribed figures upon it, which are very similar to those spoken of by Mr. W. H. Holmes, two cuts of which are given herewith. See Figs. 3 and 4.

In reference to the figures contained in the cuts, Mr. Holmes says: "Any one familiar with the curious pictographic manuscripts of the ancient Mexicans will see at a glance that we have here a sacrificial scene, in which a priest seems to be engaged in sacrificing a human victim. In the extraordinary manuscripts of

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\*See *Antiquities of Tennessee*. Thruston, P. 17.

the ancient Aztecs we have many parallels to this design—there is not a single idea, a single member or ornament that has not its analogy. There are similar plumes, with similar ornaments and pennants, similar costumes and attitudes. There are similar features and similar symbols. One figure represents a personage who is decked from head to foot. He is shown in profile, with the arms extended in action and the feet separated as if in the act of stepping forward. Pennant plumes descend to the shoulders and circular ornaments are attached to the hair and the ear. From the waist hangs an apron, a part of the costume of a priest. The right arm is extended forward and the hand grasps a shaft with which a blow is aimed at the severed head of a victim. This severed head still retains the plume cap, from which a long pennant descends in front of the face. The eye is lozenge shape. A curious symbol issues from the mouth, as one does from the priest's mouth above. The shaft held above it seems also to issue from a symbolic circle." This is a relic which was taken from a mound in Missouri and is now in the possession of Prof. Potter, of St. Louis. The figure accompanying it is contained in a manuscript from Mexico, now kept at Budapest, Hungary, but which is of undoubted Aztec origin.

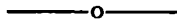
In reference to the figures in the other cut it should be said that they represent an entirely different scene, and yet they are suggestive of certain remarkable resemblances. The two figures are in fierce contest; the right hand is raised above the head, in the act of brandishing a double-pointed knife, just such a knife as is common among the stone graves. At the same time the warrior seems to be receiving a blow from the right hand of the enemy, from a savage-looking blade, with a crooked point, which resembles the so-called "stone sickles" of the stone grave people. A neat pendant or necklace of beads, resembling the shell beads of the Mound-builders. A broad belt encircles the waist and a coat-of-mail seems to protect the abdomen, resembling that common among the Mexicans. Double belts encircle the knees and ankles. Two very interesting features of the design are the highly conventionalized wings attached to the shoulder behind and the well-drawn eagle's feet, armed with vigorously curved claws.

"The engraving of the Mound-builders represents the legendary creatures derived from the myths, and in this respect has its parallel in the bird-man of the Hauds, the war-god of the Zuni; and the mythical deities of other countries. It reminds us, however, of the origin of the southern Mound-builders, for it certainly bears in its conception strong resemblances to the marvellous bas-reliefs of Mexico and Central America, but at the same time its details resemble more the mythical creatures of the Pueblos. Still the Mound-builder stamps upon it, as upon all the relics which have come out from the stone grave region."

## MUSEUMS AND SOCIETIES.

One of the great advantages given to the archaeologists of the present time is the one which has relation to the *museums* and to the larger societies and institutions of the east. These museums have rapidly been filled up with the richest kind of archaeological relics and are now fairly burdened with the accumulations which have so flowed into them. This is well, and at any rate it is far better than if the relics were wasted or carried away to other countries. Still there are some limitations, or rather embarrassments which have arisen from this very source, and of these we are about to speak. It will be acknowledged that there is a liability to a somewhat pernicious rivalry, especially when we consider that several institutions on the Atlantic coast are vying with one another as to which has the most attractive exhibitions, the most efficient body of workers, and which shall be counted as the leader in the department. It will be realized that local ambition has resulted in the organizing of societies in the various centres, and in the starting of periodicals or journals which may be regarded as organs of these societies; but that each society and each organ is very liable to ignore the work done by others than the members of that particular society, an unconscious influence having arisen which may have produced a limitation of the horizon to each local society. It will be perceived that with this increase of the members and of sympathizers of the different societies there may arise a disposition to withhold all patronage, and perhaps even a proper recognition for those who are at a distance; all appropriations of funds being bestowed upon those who are residents of the eastern cities and none upon those who may be in the field. It will be understood that the interior is the great field of exploration, and that there are many intelligent gentlemen who have carried on explorations privately and have made valuable discoveries. It is, however, one of the greatest evils of the localizing and centralizing tendency that, notwithstanding the efforts of the editor of *THE AMERICAN ANTIQUARIAN* for the last twelve years, so many of these gentlemen should remain unrecognized and their work uncredited, and that no pains are taken to have it otherwise. The result is that the workers are liable to be separated and divided in sentiment and the country to be full of local prejudices and local jealousies. The great demand of the hour, it seems to us, is not this segregating into local organizations and the crowding out of *private archaeological journals*, but it is that the workers,

whether in the cabinet or in the field, devise some means by which they can co-operate, and so all the archaeologists, whether connected with some society, or sympathizing with some center, or working independently, may be recognized as having an equal share in the work and entitled to equal credit and honor.



### COLLECTORS AND WRITERS.

We have spoken of the museums and of the societies and the organs or publications which have increased so rapidly on the Atlantic sea board. We now speak of the private workers. There has been a very marked increase in the number of intelligent and liberal gentlemen who have in their own separate fields been engaged in difficult work, and have written freely and published promptly the results of their work. We may say, in fact, that by far the largest number of books which have been written on archaeology during the last ten years have been written by gentlemen who were residents of the interior, and that these books have come to be an important part of the archaeological literature of the country. This is a significant fact. It shows that the workers in the field are not by any means inferior men. It will be noticed that they are not dependent upon others for the means of carrying out explorations or for the opportunity of experiment and publishing the results of their labors.

It is remarkable that while large sums of money have been appropriated by the government, very few of the gentlemen who have done efficient work in the interior have received any aid from the national treasury.

The average American citizen is an independent and self-reliant man, and while he may not be a scholar, even if it is a somewhat limited field, he will do his own work for others nor will he depend upon others to do his. He goes forward and he does it, and he publishes the results of his labors wherever he can find a publisher or a permanent institution. In this way the most important work in the interior of the country has been done. We have now to speak of the institutions which have been established in the interior, and which in archaeology has a claim to be considered as the most important. We can say that the most important work in the interior has been done by the result of the labors of the gentlemen who have done the field and done their work in the interior.





in it three cuts of the Pueblo Chaco Canon, two of the Canon de Chelly, two of the Canon del Muerto, all of them in the highest style of art. These scenes are found in New Mexico and in Arizona. The author says from Chaco Canon, the site of the grandest of the pueblo structures, to Canon de Chelly, Arizona, the ancient home of the most flourishing community of cave-dwellers, was a week's journey. The entrance to Canon de Chelly lies forty-five miles north of Ft. Defiance, the agency of the Navajoes. Our life of eight days in the (Chaco) canon never became monotonous. The finest group of ruins in these canons and probably the best specimen of the handiwork of the cave-dwellers in existence is known as the "White House". It is the only painted cave-dwelling of which I have any knowledge. Its walls are well preserved, and those of the inner building bear evidence in their rude ornamentation of the superior taste of the builders. The largest group of ruins, and perhaps the largest cave-dwelling in masonry in the world, is that near the head of Canon del Muerto, known as the Mummy cave.

MR. F. H. CHAPIN, of Hartford, Conn., spent last summer among these interesting ruins. He says the result of his observation proves to him that there is no more interesting or extensive group of ruins than those which he described in his article, which appeared in *THE ANTIQUARIAN* for July, situated in the Mancos Canon. This group of ruins Mr. Bickford does not seem to have reached.

ANCIENT DWELLINGS OF THE RIO VERDE. — *The Popular Science Monthly* for October has an illustrated article on the subject, "The Ruins of the Rio Verde," by Edgar A. Mearns, U. S. A. Three railroads have penetrated the region, and the ruins are rapidly being riddled of their relics. Descriptions of this group have been given by Dr. Hoffman, W. H. Holmes and others and published in Hayden's Report for 1873 and 1876, but the cuts in the Report are defective. The cuts contained in this article are excellent, and give an excellent idea of the character of the dwellings. The relics from these ancient pueblos are also described. These are rude, and yet they differ from the relics of the Mound builders, especially in the ornamentation of the pottery.

CHICAGO, ILL. — That great interest is taken in the subjects of archaeology and anthropology may be seen in the fact that in that popular summer resort Chicago a course of lectures has been conducted for two years by that distinguished collector, Prof. Mearns, New York, who informs us that it was well attended and is to be a permanent feature in the summer school. This year it should be. We congratulate our co-worker Prof. Starbuck, successful competitor of Prof. Huxley, who is one of our best archaeologists, even at home, together with our friend and Col. Quitt, the historian of the region, as spectators of the season at the place. Principal Lacey, eminent in his field, is lecturing on matters in the line of theology, and as we participate with a keen interest in this subject.

THE NAVAJOS. — The proceedings of the Natural History Society of Boston contains the report of a successful run over the Navajo image. This image is a puzzle. There are no evidences against its genuineness. It seems to have been made of the same clay which came out in balls from the well, and is well authenticated by the men who were engaged in drill-

ing the well. The position of the image in the geological strata is also discussed. Prof. Emmons, of the Geological Survey, says of it: "The Nampa beds are older than the gold-bearing beds. I am unable to give any definite estimate of the age of the beds. I regard them as probably of far greater antiquity than any deposit in which human implements have been hitherto discovered." He is uncertain whether they are tertiary or quaternary, but probably the latter. The moulding of "statutes in the round" during the early quaternary period is the puzzle.

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 BOOK REVIEWS.

*The Characters in Pre-Columbian Times. Fact and Theory Papers.* By Prof. Cyrus Thomas. New York: N. D. C. Hodges. 1890.

Dr. Thomas is doing a good work for the science of ethnology in tracing back the history of the Indian tribes into prehistoric times, though the work which he does for that science seems likely to bring confusion into its kindred science of prehistoric archaeology. In the advertisement of the book it is said that Dr. Thomas will reverse the usual method of dealing with prehistoric subjects—that is to say, he will commence with the earliest recorded history of the tribe as a basis and trace the chain back by the light of the mounds. Now we ask the question, will modern history and Indian tradition and the study of a single tribe in the light of mound testimony really solve the Mound-builder problem? Does it not really beg the question by taking it for granted that because one tribe of Indians built mounds, therefore all mound-builders were Indians. We might illustrate it thus: The State of Illinois contains in its northern borders the works of the effigy-builders, in its central districts the works of the serpent worshipers, in its southern parts the works of the sun worshipers; theoretically the whole process of evolution of native religions the starting point of all native races and the source of all prehistoric development is to be found on the soil of this State. If we take history and tradition as a clue we might decide that because the Illinois Indians were the earliest known people in this region, therefore all this sociological progress must have been with them. Now this is a conclusion which no one would accept without much proof, and yet it might be a result of this plan of reversing the usual order.

Is it not a better plan to put each department of science on its own merits and not allow history or mythology or ethnology to interfere with archaeology, which has a province of its own. Dr. Thomas adopts the other plan and rather boasts of its advantages. He takes the tradition about the Alleghewis and draws some analogies between this and the history of the Cherokees, and concludes that because the Cherokees were found by the early explorers located on the Appalachian mountains that therefore they were the people who formerly lived in Ohio and bore this name. In fact they gave their name to the Alleghany mountains, though we can not for the life of us see any resemblance between the two names. He thinks that the Cherokees built the Grave Creek mound, the altar mounds of Ohio, the large conical mounds of the Kanawha Valley, all the burial mounds of East Tennessee and nearly all of the mounds of North Carolina; makes them to be the Mound-builders of this entire region.

Now we acknowledge that when he comes to the argument from arch-

