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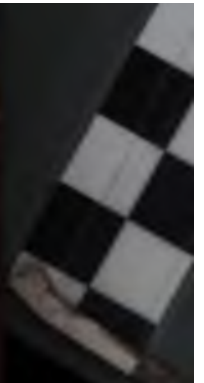
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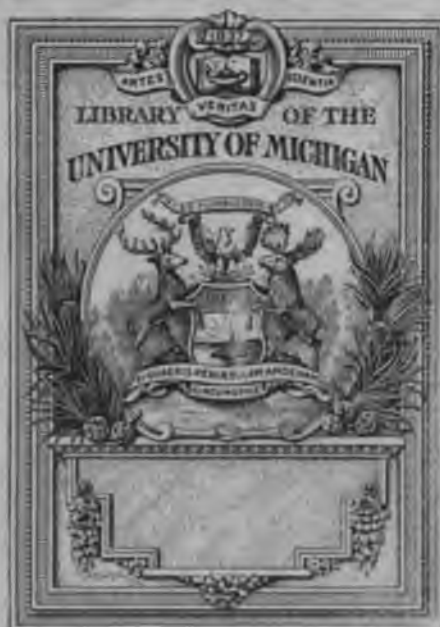


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AND OTHERS.



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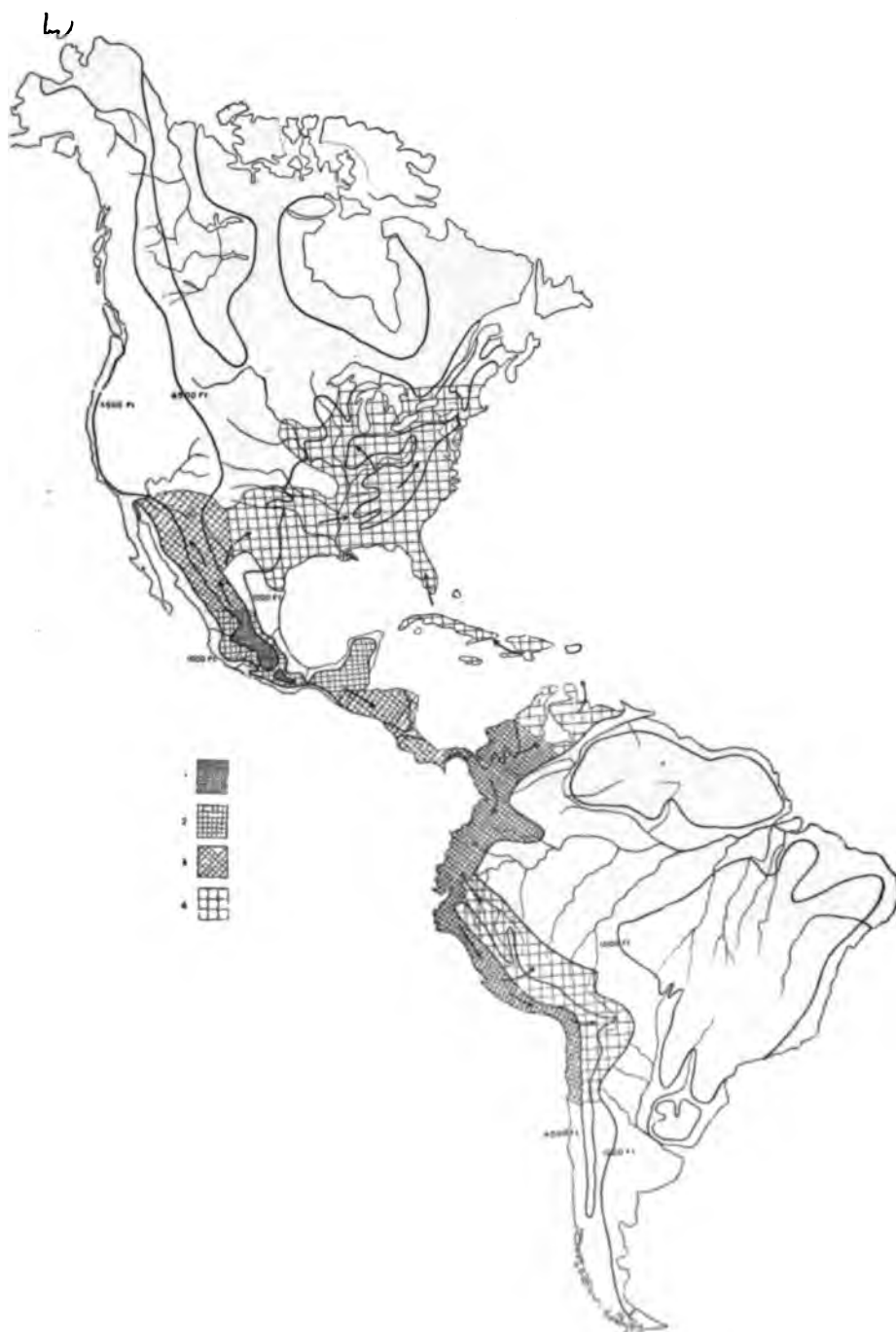
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NO. 1.

DISCOVERY OF CHAUNIS TEMOATAN OF 1586.*

BY WILLIAM WALLACE TOOKER.

"The Countries name is of fame, and is called Chaunis Temoatan"

Many of the puzzling narrations of our early voyagers, explorers and settlers have afforded abundant themes for discussion during many years and for numerous writers. These fore-runners of civilization, in their anxiety to meet with something out of their common knowledge, were ready and willing to accept any seemingly marvellous tale they heard; which, when repeated, was still further magnified, in order to make their discoveries, in this then unknown land, more wonderful to their superiors, or to their employers. But, at the same time, the relations of the aborigines, when stripped of superfluous additions, and viewed from their own station of observation, are found to be for the greater part, true descriptions, and worthy of absolute acceptance. Again, these narrative fields of research are strewn with facts, which hidden, as they have been, in the debris and darkness of centuries, now await discovery. Consequently, when linguistic, historic, and archæologic truths are brought to bear, each contributes its quota towards dispelling the obscurity of years, bringing into the broad daylight of present reality, solutions to the numerous problems which now concern and interest every student of American history, and of American archæology.

The mysterious and unknown is always interesting, and when illusive is continually before us ready to be grasped. But, when the mystery is laid bare before our eyes, and its component

*Read before the American Association for the Advancement of Science, Section H, at Brooklyn, N. Y., Aug. 22, 1894.

parts solved and explained it becomes commonplace, and finally enters into its station in the chronicles of the past, where it properly belongs. Thus it is with the subject of the present paper, a story related over three hundred years ago, repeated in almost the same words after a lapse of over a quarter of a century by Captain John Smith and his contemporary, William Strachey; again and again, quoted with varying comments by many well-known historians and annalists in modern times, until it has been left in just as much a tangle of doubt and perplexity as before. The reason for this bewildering state of affairs is found in the fact that not one of these investigators has touched upon the linguistic points involved in what must be considered its true interpretation. Therefore, it now remains for us to learn how far this kind of evidence—sustained by the historical, confirmed by the archæological—will go towards answering the question, where and what was the province of Chaunis Temoatan of 1586?

Ralph Lane, who was in command of Sir Walter Raleigh's colony at Roanoke Island, in 1585-6, made a voyage of exploration one hundred and sixty miles up a river to the northwest, to a tribe called the *Chawonocks*. While among these people he obtained considerable information regarding more distant tribes and localities, part of which he couches in the following words:*

"And that which made me most desirous to have some doing with the *Mangoaks*, either in friendship or otherwise, to have had one or two of them prisoners, was, for that it is a thing most notorious to all the country, that there is a *Province* to the which the said *Mangoaks* have recourse and trafique upon the *River of Moratoc*, which hath a marveilous and most strange *minerall*. This *mine* is so notorious amongst them, as not onely to the Sauages dwelling up the said river, and also to the Sauages of *Chawonook*, and all them to the westward, but also to all them of the maine: the *countries* name is of fame, and is called Chaunis Temoatan.

The *minerall* they say is *wassador*, which is copper, but they call by the name of *wassador* every mettall whatsoever; they say it is of the colour of our copper, but our copper is better than theirs; and the reason is for that it is redder and harder, whereas that of Chaunis Temoatan is very soft and pale; they say that they take the saide mettall out of a river that falleth swift from hie rockes and hils, and they take it in shallow water; the maner is this, they take a great bowle, by their description, as great as one of our targets, and wrappe a skinne over the hollow part thereof, leaving one part open to receive in the minerall; that done, they watch the comming downe of the current, and the change of colour of the water, and then suddenly chop down the saide bowle with the skinne, and receive

*Hakluyt Voyages, Vol. 3, p. 258

into the same as much oare as will come in, which is ever as much as their bowle will holde, which presently they cast into a fire, and loorthwith it melteth and doeth veelde in fine parts, at the first melting, two parts of mettall for three parts of oare, of this mettall the Mangoaks have so great store, by report of all the *Sauages* adjoining, that they beautify their houses with great plates of the same; and this is to be true. I received by report of all the country and particularly by yonng *Skiko*, the *King of Chawonocks*, sonne my prisoner, who also himselie had bene prisoner with the *Mangoaks* and set downe all the particularities to me before mentioned; but he had not bene at *Chaunis Temoatan* himselie; for hee said it was twentie dayes journey overland from the Mangoaks to the said *Minerall Country*, and that they passed through certain other territories between them and the Mangoaks before they came to the said *Country*."

This story has been characterized by many noted historians, such as Bozman, Bancroft, and others, as an invention of the wily savage, and therefore not worthy of credit. But, as Mr. Henry Lee Reynolds justly remarks in his paper on Algonkin Metal-Smiths:* "But this could scarcely be a mere trick or deception, since Lane asserts that the "mine was so notorious amongst them, as not only to the savages dwelling up the saide river, and also to the savages of Chawanock, but also to them of the maine." And again, he says that he received the report, not only of young *Skiko* alone, but of all the country. The story therefore must have some foundation in fact; but in accepting it we must make allowances by considering, first, the difficulties the English experienced in accurately interpreting Indian reports; and secondly, that Lane doubtless colored his story with reference to a softer and paler metal, because he needed some plausible excuse for undertaking so disastrous expedition."

One late writer interprets the passage as follows:† "It is impossible to understand his statement as it stands. It may possibly have referred to the use of fire in getting out the mica, or may have been a tradition obscured by time and confused by interpretation of some Spanish operations. The story survived into the next century. The English, however, did not see this operation, nor did they see any "great plates" of copper. This mineral, which was not copper, or any ore of copper, occurring in large plates, which were paler and softer than copper, was undoubtedly mica; and the ancient mines which were the cause of the early mining excitement, were re-discovered in the mountains of North Carolina in 1868."

These inferences of Mr. Packard are based upon erroneous

*American Anthropologist, Vol. 1, p. 247.

†R. L. Packard, American Antiquarian, Vol. 15, pp. 162-3.

deductions, which careful and analytical study of Lane's relations do not warrant. The critical reader can not help but to notice in the first instance, that Chaunis Temoatan was "twentie days' journey overland from the Mangoaks," who were then living on the upper Roanoke (Moratoc) River, in Virginia, and are so placed on Wyth's map accompanying Hariot's narrative; consequently the "minerall country" could not have been in the mountains of North Carolina, as he assumes, but in a far more distant locality, as I hope to demonstrate.

Other writers have located the province of *Chaunis Temoatan* in northern Georgia, and say that it is so described by distance and direction in Lane's account. It is utterly impossible to accept this supposition, which is really based more on the stories of early Spanish mining operations in northern Georgia than it is on Lane's narrative. The truth of the matter is this: Lane traveled northwest up to what is now known as the Chowan River, North Carolina, and when one hundred and sixty miles up, which was somewhere about what is now Nottaway County, Virginia, within "one dayes journey from sunne rising to sunne setting" (as Lane says) of the borders of the Mangoaks country in Virginia, learned that "*Chaunis Temoatan*," to which the "*Mangoaks had recourse and trafique up the Moratoc*" (Roanoke River), was still "twentie dayes journey ouerland," which surely, as the careful reader and student must admit, points to the west and northwest, and not to the southwest. This is also confirmed by Hariot,* who remarks: "A hundred and fiftie miles into the maine in two townes we found with the inhabitants divers small plates of copper that had been made, as we understood, by the inhabitants *that dwell further into the country*, where, as they say, are mountaines and rivers that yield also white grains of metall which is deemed silver."

Lane and Hariot were in America from August 17th, 1585, to June 18th, 1586, a period of less than a year's duration, and their slight acquaintance with the language of the natives was acquired during this short stay. Therefore their conferences with the Indians were necessarily almost entirely figurative. When this fact is taken into consideration, it can be readily perceived that all descriptions of this character from the natives were sometimes liable to be misunderstood, however true they might have been in their application as originally stated. Lane, whether intentional or otherwise will never be known, evidently confounded several items not related to each other in his recital. This fact has made it very ambiguous and perplexing to every student of our early history, for the reason that they have attempted to construe the story as Lane seemingly comprehended it. Lane and his companions were in search of mines and talking about them continually. It was the sole object of their

* Narrative, p. 17-18, Quaritch Ed.

desires to carry back to England some knowledge of valuable mines in order to induce further undertakings. There can be no question but that several minerals or metals, including copper, silver and mica, were referred to; also the statement made by the Indians that some of these, more likely the latter, were used for decorating their houses. That the native copper was more flexible, softer and paler than the European, Lane was aware of from personal observation, which fact later discoverers and explorers bear testimony. His calling it "a marueilous and most strange Minerall," however, shows that he did not fully understand the story as related to him, for in no event could copper have been either "marueilous" or "strange" to himself or to his companions.

The description of the manner of obtaining the copper ore in a river, as any mineralogist will admit, could not by any possibility have applied to any method of mining copper, gold, silver, or mica. It was a natural and physical impossibility to have filled a "great bowle" prepared for decanting, full of copper ore by simply dipping it into the river, or in "shallow water."

In fact, salt must have been the "*marveilous and most strange minerall.*" It is, indeed, the only article of great necessity to the natives that could have been obtained in the mode and in the abundance as described. He evidently discloses an early aboriginal method of procuring this greatly desired commodity. The "colour of the water" was the brine, heavily saturated with its salts in solution, gypsum, red sand-stone, and other insoluble matter in suspension, which, when flowing direct from the salt springs, reveals itself in the shallow surface water.* Again, the salt is found in low places, which have formed drains or reservoirs for the higher surrounding ground; after the evaporation of the water, a crust of good salt is left in the bottom, congealed like ice. The color is of the purest white, there is usually a mixture of gypsum, and it is sometimes penetrated with sparry matter.† This crust or crude salt might really have been mistaken for ore, in the relations of the savage story-teller. The "great bowles," with the tops covered with "skinnes," and "one part open," were probably used for decanting, draining and evaporating.‡ Harriot's "mountaines and rivers that yield also white grains of metal which is deemed silver," might, under this light, have meant salt. Breckenridge says:§ "Considerable quantities are also scattered over the prairies in a pulverized state, resembling sand; the Indians gather it with the wing of a turkey."

The aboriginal terms appearing in Lane and Harriot's relations of this, the first English settlement in America, are from the

*Long's Expedition to the Rocky Mountains, 1823, Vol. 2, pp. 397-9.

†Breckenridge Views of Louisiana, p. 66.

‡Jones' Antiquities of the S. I., p. 45.

§Views of Louisiana, p. 66.

Algonquian language, showing that the tribes with whom the discoverers associated, including the *Chawonocks*, who gave them this information, were Algonkins. Those who must concede this fact will find that Lane may be in error in interpreting or applying the term *wassador* to copper, for the reason that copper is called *mattassin*, or *m'caquassin*, "red-stone," in the Powhatan, as well as in the most Algonquian languages. *Wassador*, on the contrary, means "it is bright, clear, or it glistens;" as in the Otchipwe (Baraga), *nir wassikwaton*, "I make it shine." (This word is almost identical with Lane's, the terminal letters *n* and *r* being alternating sounds.) Compare Abnaki (Rasle's) *wasséghen il est blanc; il est clair*. Cree (Lacombe), *wassesikwan c'est brillant, v. q. du cristal de la glace; wasesikwak, alun*. Powhatan (Smith), *usawassin* (bright stone), "iron, brasse, silver, or any white mettall." Thus indicating that the term *wassador*, although used, as Lane informs us, and with whom Smith agrees, to designate "every mettall whatsoever," or "any white mettall," would apply equally as well, if not better to salt than to copper. Furthermore, as mica must have been one of the articles which the *Mangoaks* themselves utilized for the purposes of trade and traffic—for every aboriginal tribe or nation seemed to have had some product for which they were distinguished—which they found in their own dominions, and had in such abundance that they decorated their dwellings with "great plates" of the same, shows how Lane mixed his information, and also that the term might have been descriptive of mica.

Finally, as a suitable sequel to the foregoing analysis of Lane's story, and in linguistic corroboration of the same, I interpret the mineral country *Chaunis Temoatan*, or *Chawnis Temoatan*, as it is varied by Lane—*Chaun-istem-oatan*, as I would divide it, according to the rules of Algonquian phonology, and its synthetical construction—as the "salt-making town," *Chaun*, or *Chawn*, being a verbal signifying "it is sour," as a noun, "salt," paralleled by the Pamticough *chuwon*; Delaware (Zeisberger) *schwun*; Massachusetts (Eliot and Cotton) *sean*; Otchipwe (Baraga) *siwan*; Cree (Howse) *séwun* (Lacombe), *siwaw*; Powhatan (Strachey), as a noun, *sawwone*, "salt." The second element—*istem*, is an intransitive verb in the inanimate object form, "he makes, or prepares;" as in the Cree, *o'osetam*; Otchipwe, *ajisitam*; Massachusetts, *k'esteom*; Delaware, *gischiton*.* Compare Otchipwe (Baraga) *nin jiwissiton*, "I make it sour." The last component—*oatan*, occurs as a terminal in many Algonquian names of places, and is undoubtedly the equivalent of the Massachusetts and other dialects—*otan*, "a town." Thus we have in four dialects of the Algonquian tongue, as the resulting parallel of the *Chawonock*, *Chaun-istem-oatan*—the Cree, *Séwun-*

*See Brinton Lenape and their Legends, pp. 102-3, for various derivatives of this verb.

osetam-oden; Otchipwe, *jiwan-issitam-odena*; Massachusetts, *si'an-esteom-otan*; Delaware, *schwón-ishton-uten*, or *schwón-iton-uteney*, "a town where salt was made." These parallels could be further multiplied from other dialects, but enough are shown to prove their identity.

The question now naturally arises after this presentation, in what portion of the United States, now so well known to us all, can we find and locate the site of this "salt-making town," and where can we find a locality, remarkable above all others for its salt springs? The *Mangoaks*, who were the ancestors of those people who became known years afterward as the *Nottoways* and *Tuteloës* were living, as before stated, on the upper water courses of the Roanoke River, with the borders of their possessions touching the *Chawonocks* on the east, in or about Cambell County, Virginia. The main portion of the tribe, however, were located at the foot of the Blue Ridge Mountains. Lane having been informed that the mineral country was twenty days overland, we must look to the west, following an Indian trail, which must have been a well-traveled one, and its lines well indicated, allowing thirty to forty miles as an average day's travel, would have carried the *Mangoaks* from their towns, six to eight hundred miles over the Blue Ridge and Cumberland Mountains, by tortuous paths and portages over the state of Kentucky, "through certain other territories," to the southern part of the present state of Illinois, or by canoe down the Big Sandy, or other streams, through the Ohio to the same locality, where we find in Gallatin County, some of the most famous and remarkable saline springs in the United States. That within this area was the spot indicated to Lane by the *Chawonocks* all the evidence goes to prove. It is in the direction pointed out, as will be seen on referring to the map. It is in the lines of travel that would be taken in going overland, and it is about "twentie dayes' journey" from the country of the *Mangoaks*.

The mention of the "great bowles as great as one of our targets," or as another writer was informed,* "as large around as the hind-wheel of his wagon, with flattish bottoms," enables me to bring to bear some archæological evidence which points strongly to the fact that his description referred to the manufacture of salt, and to nothing else. None of these large vessels have been discovered in a perfect condition, but many fragments have been found near these salt springs. One of the earliest notices of such discoveries reads:† "About one thousand yards to the east of this well (at Shawneetown, on the Ohio) is a basin or hollow one hundred and thirty feet in diameter. The soil in and about it is intimately blended with fragments of earthenware. In the middle of that basin a well has been sunk, which affords a more

*Pop. Sc. Monthly, No. lxxv, p. 579.

†Long's Expedition to the Rocky Mountains, Vol. 1, pp. 34, 35.

concentrated brine than that before mentioned—one hundred and ten gallons yielding fifty pounds of salt. In digging this well, the first fourteen feet was through a light earth, mixed with ashes and fragments of earthenware, the remaining fourteen through a bed of clay, deeply colored with oxide of iron and containing fragments of pottery. The clay has something the appearance of having been subjected to the action of fire. At the eastern side of the basin appears to have been a drain for the purpose of carrying away the superabundant water. In this drain, about four feet below the surface of the earth, is a layer of charcoal about six inches deep. The stones in the vicinity appear as if they had been burnt." It is remarkable how close this description corresponds with the main facts of Lane's story. Not only that, but Capt. John Smith's version of the same refers to a spout or drain.

Mr. George E. Sellers visited the salt springs on the Saline River, Illinois, in 1854. He relates:* "We found two water-worn ravines, commencing on the hills that rise abruptly on the south side of the Saline River, and drain into it. At the base of the hills they are crossed by the state road, between which and the river their bottoms are level, hard and barren, and here close to the road rise the salt springs. I have been informed by a reliable party, who had personal knowledge of all that was done by the early settlers in working the salines, that in the east ravine they sunk a well and curbed it down to the bed-rock, a depth of forty-two feet, and made a boring of about one hundred and fifty feet in its bottom; that all the way down from the surface to the rock they found pieces of broken pottery, and on the rock a pitcher or jug with a handle within the rim; this jug was sent to the Philadelphia Museum. My informant expressed the opinion that, at the time the aborigines used the waters, the spring had its outlet at or near the bed-rock, and had since gradually filled by surface-washings, just as the well in the west ravine has been filled since my first visit and is now a cattle-tramped salt swamp. The present outlet of the spring is not over six or eight feet above low water of the Saline River, and the character of its bed precludes the possibility of its ever having been on a lower level; for at Island Ripple, within two miles of the spring, the river falls over a broad reef of rocks, which backs the water—forming a pool—up to this place, where there is another slight ripple."

"This, to me, is conclusive evidence that, whoever the people were who left the masses of broken pottery as proof of their having used the salt waters, they resorted to precisely the same means as did their more civilized successors of our time—that is, sinking wells or reservoirs to collect the brine; and the dipper-jug which had been dropped had sunk to the bottom, showing that their reservoirs were down to the rock."

* Pop. Sc. Monthly, No. lxx, p. 575.

"Running nearly in an east-and-west course on the south side, and close to the outlet of the springs, is an upheaval that has brought the carboniferous limestone to the surface standing on edge. The sulphur and fresh-water springs rise south of the line of this dike. On the line of it, about the center of the raised bottom or plateau between the two ravines, say ten or twelve feet higher than the springs, and embracing an area of eight acres, occurs a sink of about one hundred and twenty feet in diameter. It was on the raised rim of this sink that I discovered the heaps of clay and shells, and what I took to be the inside mold or core on which the kettles had been formed. It was then a pool of water, around which I found the most abundant remains of pottery, not only represented by fragments of these large, coarse salt-pans, but by many pieces of small vessels of much finer texture, and of superior workmanship, such as would be used for domestic purposes. From these and large quantities of chippings and of offal, I inferred that *this was the site of the old settlement.*"

"The hills at this point run nearly an east-and-west course, forming a range of upheaval that crosses the state of Illinois, from the Ohio River at Shawneetown to the Mississippi, and at some places attains a height of about 700 feet, being the highest land in Illinois or either of the adjoining states of Missouri, Kentucky and Indiana. Immediately south of the salt springs is a spur of the main hill, its northern terminus being precipitous bluffs of metaphoric sandstone, which Prof. Worthen, the geologist of Illinois, who once visited the locality with me, classed with the Chester group." This agrees with Lane's description of the province and is an impressive corroboration of my belief that the "Saline" was "the river that falleth swift from hie rockes and hils."

Prof. Cyrus Thomas, in his very interesting essay on the "Shawnees in pre-Columbian times,"* also notes the discovery of this salt-kettle ware in the same country. His transcripts bear vigorously on the subject matter of this paper. He says, after referring to Mr. Sellers' find, "Mention of this pottery had previously been made by J. W. Beck.† He remarks that about the Gallatin and Big Muddy Salines large fragments of earthenware were frequently found under the surface of the earth. They appear to have been portions of large kettles used probably by the natives for obtaining salt."

"The settlement of the Shawnees at Shawneetown, on the Ohio, in this (Gallatin) county, in comparatively modern times, is attested not only by history, but also by the name by which the town is still known. But there is some evidence that an older Shawnee village was at one time located at the very point where this 'salt-

*American Anthropologist, Vol. 4, pp. 149-51.

†Gazetteer of Illinois, p. 52, 1834.

kettle' pottery and these stone graves were found. In the American State Papers, Public Lands, Class viii., Vol. 2, p. 103 (Gales and Seaton Edition), is a communication by the Illinois and Wabash Land Company to the United States Senate and House of Representatives in which occurs the following statement: 'On the 5th of July, 1773, the bargain was completed by which these Indians (Illinois), for a large and valuable consideration, agreed to sell to Murray and his associates two tracts of land which are thus bounded: The first begins on the east side of the Mississippi River at the mouth of 'Heron Creek,' called by the French 'the River of Mary,' being about a league below the mouth of the Kaskaskia River. From thence the line runs a straight course, northward of east, about eight leagues, be it more or less, to the hilly plains; thence the same course, in a direct line, to a remarkable place, known by the name of the Buffalo Hoofs, seventeen leagues or thereabouts, be it more or less; thence the same course, in a direct line, to the *Salt lick Creek*, about seven leagues, be it more or less; thence, crossing the creek about one league below the *ancient Shawnee town* in an easterly, or a little to the north of east course, in a direct line to the Ohio River, about four leagues, be it more or less; thence down the Ohio, by its several courses, until it empties into the Mississippi, etc. A copy of the deed is also given, dated July 20th, 1773,* containing same boundaries, and with it proof of record in the office at Kaskaskia the 2nd of September, 1773."

"Although the claim was rightly rejected by Congress and the directions given are slightly erroneous, as the geography of the west was not as well understood at that time, we are justified in believing the localities are correctly named, as it is not likely such a vast claim would have been based on boundaries determined by imaginary places. These were real and given correctly as the information then obtainable would admit of. The location of the 'ancient Shawnee town' is pretty definitely fixed, as it is on *Saline River above where the line crosses, and is about four leagues from the Ohio*, and was at that time (1773) known as the ancient Shawnee town, and in the locality where the above pottery was found. The Shawnee village of modern times was on the banks of the Ohio, where the city named after them now stand; nor was it ancient in 1806, when visited by Ashe. It is also worthy of notice that the ancient town is not included in the bounds given, while the new town is."

Here we find apparently an historical confirmation of our discovery in the fact that a town, or a town site, existed, which was called in 1773 the "*ancient Shawnee town*," at or near the spot where we suppose *Chaun-istem-oatan* was located. The inquiry now confronts us, is there any identity between the two? It is quite within the range of possibility that they are the same

*Ibid., p. 117.

or at least occupied the same site, for this section of the country, including these salt springs were in the possession of the *Chaouanons* a hundred and perhaps two hundred years previous to 1773.

It does not necessarily follow, as supposed, that all those called Shawnees indicated one people. In fact, the interpretation *Ghaun-istem-oatan* brings into the subject of the Shawnees a possible solution of a matter that has seriously bothered many historians. Parkman remarks:* "Their eccentric wanderings, their sudden appearances and disappearances, perplex the antiquary and defy research." Dr. Brinton says:† "The wanderings of the unstable and migratory Shawnees have occupied the attention of several writers, but it can not be said that either their history or their affiliations have been satisfactorily worked out." Since the above was written Prof. Cyrus Thomas, in his essay before referred to, has investigated the subject at a greater length and the result of his researches comprises about all we know in regard to those supposed to have been Shawnees. One fact which has bewildered many investigators is the appearance of what seems to have been the same name, in widely separated localities, at or about the same period. I do not propose to theorize in regard to this particular point, nor to go into the subject to any extent, but simply endeavor to show what seems to me to be a possible answer to the problem.

The *Chawonocks* of Lane, or *Chawons* of Captain John Smith, from whom the eastern name of *Shawanoes* was derived, went north to Pennsylvania in 1693-4,‡ and from there migrated west to the Ohio about 1724.§ Their name, as Dr. J. Hammond Trumbull has suggested,|| was derived from their seat on what is now known as the *Chowan* River, *Chowan olke* "south country," because they were south of the Virginia tribes. Therefore the eastern origin of the name Shawnee means undoubtedly "the southerners." This was also the case with the *Sauwanoos* on the Delaware River, of the Dutch maps of 1656 and previous, for Van Der Donck says:¶ "The *Savanoos* are the southern nations and the *Wappanoos* are the eastern nations." The *Chawonocks* and the *Nanticokes* were intimately connected by many ancient ties, which lends force to the foregoing argument, and are referred to in the *Walam Olum* as follows: "The *Nanticokes* and *Shawnees* going to the south."**

Ralph Lane bears testimony to this fact, although his story has been stamped by some as improbable, on account of the pearl-fishery alluded to. But in the light of our present knowl-

*Life of Pontiac, Vol. 1, p. 32.

†Lenape and Their Legends, p. 20.

‡Col. Hist. N. Y., Vol. 4, p. 90, 96, 99.

§Col. Hist. N. Y., Vol. 6, p. 402.

||Hist. Mag., Vol. 7, p. 48, 1870.

¶N. Y. Hist. Soc. Coll., Vol. 1, 1st Series, p. 206.

**Brinton, Lenape and their Legends, p. 205.

edge, it is not at all unlikely, for perforated pearls have been found in abundance in the western mounds. There seems to have been but little change in the geographical positions of all the tribes of this section in the interval between 1585 to 1613. The probability is, that the influx of settlers in a few years caused more changes in the tribal locations than occurred among themselves in hundreds.

Lane says: "This lame king (of Chawonock) is called *Menatonon*. When I had him prisoner two days he told mee that three dayes' journey in a *conow* up the river *Chawonock*, then landing and going four dayes journey northeast, there is a king whose *country* lyeth on the sea, but his best place of strength is an *island* in a bay invironed with deep water, where he taketh that abundance of *pearle* that not only his skins, and his nobles, but also his beds and houses are garnished therewith. This king was at *Chawonock* two yeares agoe to trade with blacke pearle, his worst sort whereof I had a rope, but they were naught, but that king he sayeth hath store of white, etc."* This passage, as will be observed, describes Captain John Smith's tribe, the *Kuskarawaokes* or *Kuskaroanokes*, "makers of white beads,"† who were the Nanticokes of more recent times. They take their name of *Nanticoke* from their ancient home on "Nanticoke Point," on Nanticoke River, Maryland—the *Nantaquack*—"point of land on a tidal river" of Smith's map.

The "island in a bay" was, without question, one of Smith's islands in Tangier Sound, not far from the mouth of the Nanticoke River—in direction and number of days' travel agreeing perfectly with Lane. Some suppose, without critical analysis of the description given, that "Craney Island," near Norfolk, Virginia, was meant.‡ But Lane in a previous trip went to the town of Chesapeake, further north, and had it referred to Craney Island, he would not have written as he did.

The *Chaouanons* of the seventeenth century, who were living on the Cumberland River, and other streams, including the Saline River, tributary to the Ohio, do not seem to have been the same people, any more than to call the Massachusetts Delawares. In 1673 Marquette passed by the mouth of the Ohio, which he called the *Oabouskigou*, "a white flowing-out." He says§ "This river comes from the east, where live the people called *Chaouanons*. They are so numerous that in one direction they have twenty-three villages, and in another fifteen, conveniently near together. They are not at all warlike. They are the people whom the Iroquois are seeking to wage war upon without provocation, and, as these poor fellows can not defend themselves, they are captured and carried off like sheep.

*Hakluyt Voyages, Vol. 3, p. 256; Arbers Smith, p. 312-13.

†Tooker. American Anthropologist, Vol. 6, p. 409.

‡Archæologia American, Vol. 4, pp. 29-31.

§Paris reprint Edition, 1681, p. 32.

"Upon the map the *Ojibouskigon* is traced but a short distance from the Mississippi. On the map attached to the journal published in 1681 the Mississippi is traced to the Gulf of Mexico; and on it the *Chaouanons* are placed on the Ohio near to the Mississippi. Marquette's original manuscript with his own map, 'tracée de sa main,' was preserved in the College of St. Marie in Montreal, and was published by Shea in 1856. On this map '*Ghaouanons*' is placed in the great blank space far to the east of the Mississippi."^{*}

These *Chaouanons*, *Chauanons*, *Chouanous*, or *Chaonese*, etc., as their name variously appears, were inhabitants of a country abounding in salt licks. Prof. Cyrus Thomas further remarks:† "The fragments of the large earthen salt-kettles similar in character to those found in Gallatin County, Illinois, has also been found in connection with the stone graves of the Cumberland Valley, the impression made by the textile fabrics showing the same stitches as the former." Therefore, while the *Chaouanons* were of the same linguistic family and had some of the same ethnic characteristics as the eastern *Chawonocks*, their name, I would suggest, might have been derived originally from the salt manufacture carried on by them, and should be translated the salt-people, "*Chann-anoughs*." This suggestion seems to be supported by the fact that nearly all the Algonquian dialectical terms for "south" and "sour" are so alike in sound that they might have been very easily mistaken one for the other.

^{*}Force. *Some Early Notices of the Indians of Ohio*, p. 20.

†*American Anthropologist*, Vol. 4, p. 151.

SANDERS' INDIAN WARS—VERMONT PRE-HISTORICS, ETC.

BY PROF. JAMES D. BUTLER.

The following extracts must be attractive to readers of the AMERICAN ANTIQUARIAN. They are taken from a work of most excessive rarity. A generation ago a copy of that book, then supposed to be the only one in existence, was sold for more than two hundred dollars. After more than twenty years' search, however, a duplicate was discovered in a garret at Windsor, Vermont, in 1874, by L. E. Chittenden—whose autograph was on all the original greenbacks. Four other mutilated specimens were afterwards detected, but in 1893 Mr. Chittenden exulted in possessing the only perfect copy save one. As it turns out, there is a third copy, completed in all its parts, in the library of the Wisconsin State Historical Society. A reprint limited to 200 numbered copies was issued on March 20, 1893, in a dainty style; but being thus bottled up, it can not be circulated widely.

The title page, besides a Latin motto from Cicero, reads thus: A history of the Indian wars, with the first settlers of the United States, particularly in New England; written in Vermont, Montpelier, 1812.

The volume, 319 pages, was anonymous, but its author was known to be Rev. Daniel Clark Sanders, president of the Vermont University. As embodying something of original local observation, and still more as showing views of American pre-historics prevalent a century ago, the work of President Sanders, which came so near perishing, deserves to live.

Ten years ago officials of the Smithsonian, at Washington, supposing the Madison copy of the edits princeps to be unique, wrote thither inquiring about its "vocabularia comparativa," especially as to the following paragraph:

"The vocabularies which have been obtained offer many evidences not only of high authority, but also of Asiatic descent. 'Num' is the name of God among the Poconchi Indians; among the Semoyads in Asia it is changed to 'Nim.' The Delawares use the name of 'Kitchi,' and the Kamptchadals in Asia say 'Kootcha.' The Indians of Pennsylvania use the word 'anna,' and the Peruvians 'mama,' for mother, while in Asia the Tartars say 'ana,' and the Albanians 'mamma.' The Delawares in America say 'nachk' for hand, and the Akashini say 'nak.' The Chinese name of blood is "molbuen;" in Asia the

Koriaki call it 'moollymool.' The name of ice among Chippeaws in America is 'meequarme,' while among the Karees in Asia it is 'meek.'"

However slight the affinities may appear between American and Asiatic languages, yet the radical affinities "of the Indian languages must be obvious to every observer. But however useful extensive Indian and Asiatic vocabularies may prove, yet the cautious genius of philosophy will not be ready to erect an entire system on a few analogies or obscure etymologies" (p. 191).

INDIAN AFFAIRS IN VERMONT.

"Indian cornfields are plainly to be seen in various parts of Vermont. In the intervalles at Burlington several hundred acres together were found by the American settlers, entirely cleared, not a tree upon them. * Arrow-heads are to be found in almost every spot. They are very numerous on Onion River, and in all the woods in Burlington. Barrels of them are annually ploughed up around Bombareen pond, in Castleton, where are still the vestiges of a once populous Indian village. Here are dug up pestles, pots, and other utensils, in great abundance. Some of these are so common in the state as to cease to be articles of curiosity. * *

At Rockingham are some attempts in a rock to give certain heads of men, women, children, and animals. They are very rude and indented one-third of an inch. * In Kellyvale is yet to be seen something like an attempt at painting. * * Several Indian pots have been found in the county of Chittenden. The most complete of these was lately found in Bolton. It is about three feet in circumference, nearly half an inch thick, without legs or eyes for a bail." * *

President Sanders describes so many pre-historic relics that we are constrained to believe Vermont to have been for ages not only the hunting-ground of aborigines, but their permanent abode to a much greater extent than is admitted by the historians of the state.

AMERICAN ANTHROPOLOGY.

[From the China Daily News, October 8, 1894.]

The opinion that Ameriham culture as it was before the age of Columbus was of Asiatic origin is becoming more widely spread. At the me ting in August, 1894, of the British Association at Oxford, Dr. E. B. Tylor read a paper on the distribution of mythical beliefs. If such myths as that of the Bridge of the Dead are found to be distributed widely in the world, we have in this fact evidence of the linking which exists between the great religions of the world. The weighing of souls in a spiritual balance is another such widely scattered myth. In the religion of ancient Mexico four great scenes in the journey of the soul in the land of spirits are depicted in the Aztec picture writing of what is known as the Vatican Codex. 1. The crossing of the river of death. 2. The passage of the soul between two great mountains that clash together. 3. The soul climbing up a mountain set with sharp obsidian knives. 4. The dangers resulting from these knives being carried about by the wind. There is a close resemblance between these pictures and certain scenes of the Buddhist purgatory depicted on Japanese temple scrolls. Here are seen, first, souls wading across the river of death; second, souls passing between two iron mountains, which are pushed together by demons; third, souls climbing the mountain of knives whose sharp blades cut their hands and feet; fourth, knife-blades flying through the air. Dr. Tylor also referred to Humboldt's argument from the calendars and mythic catastrophes in Mexico and Asia, and to the correspondence in bronze works and games in both regions, and expressed the opinion that the evidence was sufficient to justify anthropologists in considering that ancient American culture was due to a great extent to Asiatic influence.

Mr. James Wickersham, of Tacoma, has advocated in THE AMERICAN ANTIQUARIAN for January, 1894, that Japanese art has found its way to Puget Sound by the drifting that has taken place on the Japanese current of vessels large and small at different periods. Partly this current bathes the Alaskan shore and partly it sweeps majestically to the south, coasting the states of Washington, Oregon and California. There has been a civilizing mission in this great current. The Kurosiwo has carried the knowledge of Asia across the broad Pacific to elevate and educate the Indians of the western continent. It is not only Japanese that have been conveyed to America, mixed with native races there, and taught them what they know. Vessels of other Asiatic nations that wandered so far east as to reach the Kurosiwo have always been liable to a like destiny. Thus the conclusion at which the eminent Oxford anthropologist has arrived is sustained.

COMPARISON OF THE EFFIGY-BUILDERS WITH
THE MODERN INDIANS.

BY STEPHEN D. PEET.

We have in previous papers given a description of the effigy mounds—their shapes, attitudes, locations, and have undertaken to explain their object and interpret their significance, but have not heretofore undertaken to compare them with the work of any other prehistoric people. The recent appearance of two volumes from the Ethnological Bureau, one of which gives a description of the mounds, the other the Dakota myths, leads us to institute such a comparison, with a thought that it may furnish us with a key to certain unsolved problems which have been presented by the effigies. These problems have relation (1) to the area of the tribe which built the effigies; (2) to the religious system which led to their erection; (3) the question whether the effigies contained any record of the people; (4) the question of the clan life and its resemblance to modern clans. There are other problems which we do not expect to entirely clear up; but we believe that the study which has been given to the effigies, taken as a whole, and the comparison of the system contained in them will have removed the mystery which has heretofore covered them, and that a satisfactory basis may be reached, on which we may build the record of the prehistoric age.

I. We shall begin with the consideration of the tribal area of the effigy-builders.

1. This people were situated in the state of Wisconsin, a state which in many respects resembles the state of New York, especially in the fact that there are so many beautiful inland lakes within its borders.

2. The effigy-builders seem to have been composed of a single tribe who held supreme sway in this state for a long time during the prehistoric age, and here developed their social life free from interference from other tribes.

3. The area of the effigy-builders corresponded with the area known to have been occupied by the Winnebagoes as late as the beginning of the settlements by the whites.

4. Effigies are found in Iowa and Minnesota, showing that the people were at peace with the people who were then occupying that region. This confirms what we have said about the Winnebagoes, for they were a branch of the Dakotas and were at peace with them.

5. The custom of building effigies in stone prevailed in the

region occupied by the Dakotas, making it probable that this wide-spread stock were the actual effigy-builders.

6. The comparison of the effigies to the inscriptions contained in the caves of Iowa show a remarkable resemblance, making it probable that the same general people left their records in the entire region.

These are the points which are brought out by recent discoveries. They confirm what we have already said in reference to the effigy-builders, and we shall, therefore, take them up in their order.

1. Let us first take up the location of the different groups outside of the state.

It is due to Mr. T. H. Lewis that these groups have been brought to light, and we shall refer to his descriptions and quote them in detail. Mr. Lewis says on examining the delineations very important differences in class and style from those farther east are discernible. These differences, however, are not such

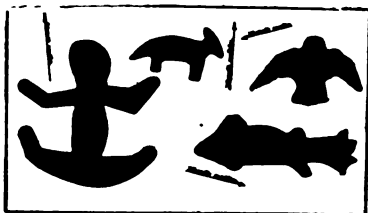


Fig. 1.—Effigies near LaCrescent, Minn.

as to conflict with what we have said, for the same animals are represented and the effigies are built in the same way, and prove to be the totems of the very same clans.

We shall begin with the group opposite LaCrescent. See Fig. 1. This group

was situated on a terrace above the Mississippi River. It consists of a number of round mounds. Among them is an effigy of a frog. Near it is the effigy of a bird, and within a quarter of a mile there are five other bird effigies and sixty-nine round mounds. The frog is about ninety-eight feet long. It is near the site of Hokah, on the Root River, (Heyokah is the name of a Dakota divinity). He is represented in a sprawling attitude. Its full length is sixty-two feet.

There are two bird effigies on a terrace some 10 feet below this, and formerly there existed several other effigies, 30 or 40 round mounds and several embankments. Near Richmond Station, on a terrace 24 feet above the river, is a bird effigy with wings spread, measuring 76 feet from tip to tip and 44 feet from head to tail, and a number of ordinary mounds in the vicinity. Near the village of Dakota, Minnesota, also on a terrace, is the effigy of a fish with fins in the midst of 19 ordinary mounds. It measures 110 feet in length and $2\frac{1}{2}$ feet in height. Mr. Lewis says this is the only fish effigy in which the fins are visible.

These effigies are opposite Trempeleau County, Wisconsin, and may help us to decide as to the totem of the clan which dwelt there. Judge Gale, of Galesville, states that there are

about one thousand effigies in the county, but he does not specify what animals are imitated. We may say that the frog is rather an unusual effigy, but the birds resemble those to be found on the Lemonnier River, where the pigeon clan is supposed to have had its habitat.

These are all of the localities in the state of Minnesota in which effigies have been recognized. Mr. Lewis, however, found several localities in Northeastern Iowa, the very region in which the cave inscriptions were discovered. The first group which he has discovered was at MacGregor, opposite Prairie du Chien. This group stretches along the line of the bluff, which forms the dividing ridge between two streams. The bluff is 500 feet high and rises perpendicularly above the Mississippi River. The Yellow River is to the northwest and the Bloody Run is

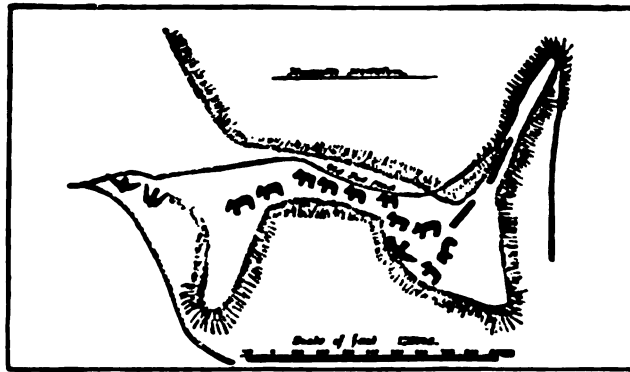


Fig. 1.—Effigies near MacGregor, Iowa.

to the southwest of this ridge. The row of mounds consists of two long embankments, one 190 feet long, 18 feet wide, the other 130 feet long and 18 feet wide, and ten clumsy but tailless animals, which were probably designed to represent the bear. They vary from 79 to 109 feet in length and from 2 to 3 feet in height. These birds resemble the swallow effigies (see Fig. 2) which are found in such great numbers in Crawford County, Wisconsin, and the animals resemble the bear effigies which are found in the same region. The swallow was the clan emblem or totem of the people who lived between the Wisconsin and Mississippi Rivers. Mr. Lewis says that near Mr. McGill's, three miles above Clayton, there is a group of ninety-two mounds, two of which represent animals, two birds; the remainder are round mounds and embankments.* There are also three

*The surveyors of the Ethnological Bureau discovered in the same region several elk effigies. They had horns projecting forward, very much as elk carry their horns, a style of representing them which is peculiar to this particular region.

birds which have their wings spread and their heads near the edge of the bluff. He visited also the group of mounds situated on the Minnesota (St. Peter's) River, (N. W. $\frac{1}{4}$, S. 26, T. 313, R. 2, E.) which Mr. William Pigeon in his famous book has called the black tortoise group. He says the central figure corresponds with the description given by Mr. Pigeon. It is the only one out of all of the groups which were described that could be identified. He says that the location of the majority of the mounds was incorrectly given. The account is entirely unreliable.

Mr. Lewis also visited several localities in Northern Illinois. The following is the list of effigies here: (1.) The well known turtle mound which is situated within the city limits of Rock-

ford, west side. Its length is 184 feet, its height from 3 to 4 feet. Near it is a bird effigy and seven round mounds and two embankments. (2.) On the east side of the river, five miles below Rockford (on N. W. $\frac{1}{4}$ Sec. 14, T. 43, R. 1 E.), is a group of three embankments, two round mounds and a bird effigy. The size of the bird is 45 feet long, 68 feet across the wings. The group is on a bank forty-five feet above the

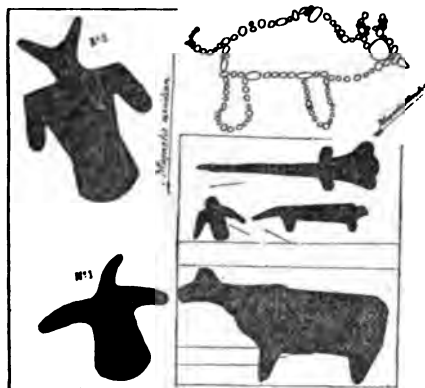


Fig. 3.—Effigies in Illinois.*

river. See Fig. 3. (3.) Near the village of Hanover, in Jo Davies County is a group of twenty-three round mounds, ten embankments and a large animal effigy measuring 216 feet in length, height about 5 feet. There is an embankment running out from the foreleg of the animal 170 feet long. See Fig. 3. Ten miles east of Freeport on the north side of the Pecatonica River (S. E. $\frac{1}{4}$ Sec. 13, T. 27, R. 9 E.) is a group consisting of seven round mounds, an embankment and an animal effigy measuring 116 feet in length. See Fig. 3, No. 3. These groups evidently belong to the same clans as were located in Wisconsin—the turtle at Rockford to the turtle clan whose center was at Beloit, the large quadruped near Hanover to the bear clan, which was located near to the Blue Mounds. (4.) Mr. Lewis describes the groups of effigies on the Fox River, near Aurora. One group consists of several round mounds and two effigies representing birds, one a duck, the other probably an owl, as it has horns

*The outline figure of the buffalo is one which was found by Mr. T. H. Lewis near some lodge-circles in Dakota, and afterwards visited by the agents of the survey. It represents the custom of erecting totems near the lodges or villages, and was probably a clan rather than an individual totem. It contrasts with earth effigies, yet has the animal shape.

above the head. See No. 2. The second group consisted of two bird effigies, one elliptical mound and thirteen round mounds. These two groups are situated on a terrace north of the city limits. They mark the southeast limits of the effigy mounds, but show that the effigy-builders followed the streams and made their habitats in the valleys of the streams.

2. We would here refer to the fact that according to all explorers the construction of these effigies is exactly the same. The quadrupeds have projections on one side which represent the legs, and occasionally two small projections at the head for the ears or horns. The amphibious creatures always have four equal projections for the legs, and frequently have one for the head.* The birds are constructed with projections at either side, which

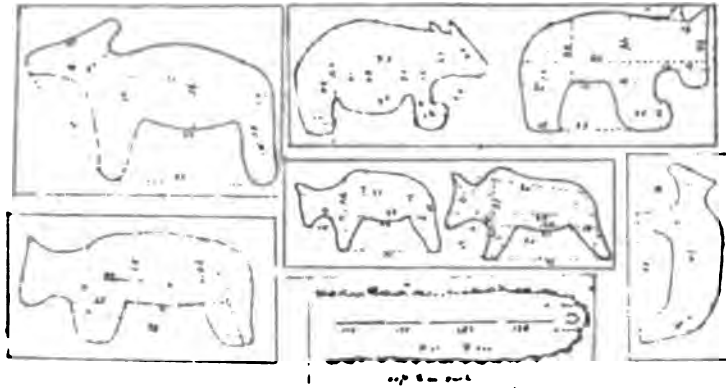


Fig. 4.—Effigies of Quadrupeds brought to a Scale.†

represent their wings, and very seldom have their legs visible. Furthermore, the beauty, symmetry and life-like resemblance of these effigies impress those who see them as do the effigies within the state. The agreement is important, for it confirms the points which have been taken by the writer, though it brings out one or two additional features, especially in reference to the manner of representing the legs of the animals. Mr. Lewis says it is probable that each leg as built was intended to represent a pair of legs rather than a single one. The report says that in some of the effigies in Grant County, Wisconsin, each leg was divided into two by a slight depression, as if the intent

* This is uniformly the method wherever the effigies are found, whether in Ohio, in Georgia or in Wisconsin.

† These effigies were measured by the writer, when in company with Dr. Thomas and a party of surveyors, but were plotted independently. They represent the male and female bear at Hazen's Corners. The moose effigy was found on the bluff above Wyandung. A similar moose was afterward found near Merritt's Landing, also on a bluff overlooking the lake. Two of the buffalo effigies were found in the same region, on the north side of Buffalo Lake, the same and the effigies remarkably corresponding. The two smaller buffalos were found near Mineral Springs, and represent the male and female buffalo. The line of embankments in the cut represents, on a small scale, a line which was discovered near Busseyville, north of Lake Koshkonong. It represents part of a game-drive, the lookout and the elevated runway or roadway for hunters, which was connected with a game-drive near the lake.

was to make the projection represent the two legs. In reference to the shape of the head and the division of the ears the report agrees with the testimony of Mr. Lewis and that of the author. These are sometimes plainly represented and help us to identify the animal, though the distinction between the horns and the ears is not easily recognized in some of the effigies.*

The report further says. "The feeling for correct form is indicated by the outline which defines the forehead by the curves of the back and belly; and of the gambol joints of the legs, as well as by the relief which expresses the rotundity and relative prominence of the parts." This agreement in the testimony of the explorers is important. It shows that there are no great differences between the effigies on the two sides of the river. It shows further that the descriptions which we have already given of the beauty and variety of the effigies were correct.†

2. Now in reference to these groups of effigies we make this point, that they only extend the area of the tribe a little way beyond the state, but do not break the unity of the system. From them we learn the exact boundaries of the habitat of the effigy-builders and find that it corresponds most remarkably with the boundaries of the territory of the Winnebago tribe, and not only this, but they correspond with the location of the Winnebago villages.‡

Still we must remember that there were effigies in other states—two bird effigies in Georgia; an alligator at Granville, Ohio; and a quadruped on the Scioto River; bird track at Newark; a serpent effigy in Adams County; a thunder-bird in Clermont County. Mr. Lewis thinks he has discovered effigies on the Missouri River and in Minnesota. These effigies are all made after the same plan as those in Wisconsin—the birds with projections on two sides, the alligators with two projections on each side, the quadrupeds with two projections on one side, serpents with no projections, but with tortuous bodies.

The most of these effigies were placed upon hill-tops over-

*We would refer here to the figures of the moose and bear effigies as compared with the moose discovered by Mr. Lewis near the town of Hanover, Illinois. The plating brings out the peculiar shapes of the bear effigies and shows the variety of expression which was given to them. The same figures are given in the report, but they fail to bring out the attitudes.

†We here refer to the celebrated elephant effigy, which has been so often visited and furnished so much material for discussion in reference to the age of the mound-builders. The members of the Ethnological Bureau have surveyed this effigy and produced a cast of it for the exposition at New Orleans. This survey confirms what we have said about the effigy. It is a gigantic figure of the clan totem of the region, which was the bear. We first mentioned the buffalo and bear as associated together, and were not certain as to which was represented. Subsequent exploration satisfied us that it was the bear.

‡There were Winnebago villages laid down on the early maps, especially in Farmer's map, at several of the places where these groups have been discovered. Furthermore, the trail which was followed by General Long in his early exploring expedition crossed the various rivers, such as Fox, Rock, Pecatonica and the Mississippi, at the very points where these groups are situated, and the map of the expedition contains a record of the mounds at these very points. Mr. Lewis, to be sure, thinks he has discovered effigies on the Missouri River and on the Crow Wing River, 150 miles distant, and he fixes the limits of the effigies at these points. The territory of the effigy-builders did not, however, extend to these points, but these are detached from the tribal area, just as are the great serpent and alligator mound in Ohio and the serpent mound near Quincy, Ill.

looking river valleys. They show in their location, as well as in their shapes and manner of construction, that they were built by the same or a similar people as the effigies of Wisconsin were, and render it probable that the ancestors of the effigy-builders originally had their seats upon the Ohio River, and before that, east of the Alleghenies. This is in accord with the traditions of the Dakotas that their ancestors formerly dwelt on the Ohio, and many hundred years ago migrated westward.

3. The resemblance of the effigies to the rock inscriptions is to be considered. We have spoken of the fish effigies. There are many figures of fishes in the sides of the pictured caves of Iowa; also figures of deer in the caves of Wisconsin. These are made

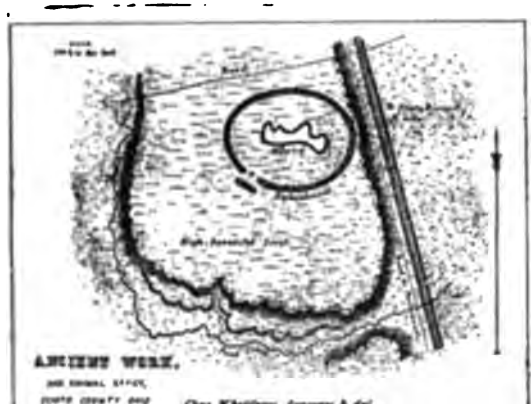


Fig 5.—Quadruped Effigy near Portsmouth, Ohio.

with more regard to the details of fins and horns than was possible in the case of the effigies; but there is, nevertheless, a striking resemblance. There are deer effigies at Madison in which the two horns and the four legs are visible, and elk effigies in Grant County in which the projecting horns are plainly seen.

There are also some fish effigies on the west shore of Lake Koshkonong which have the fins as plainly marked as these in Minnesota. Moreover, these fish effigies resemble the inscriptions found in the caves of Eastern Iowa, giving the idea that they were erected by the same people as those who left the inscriptions. Possibly they were both designed to be pictographs which contain the record of successful fishing, or the claim of the clan to the fishing ground.

There are also fish effigies at Delevan Lake and Lake Monona, and the west side of Lake Koshkonong, localities where there are good fishing grounds at the present time. The particular kind of fish is not discoverable in the effigies, for they are so worn by the elements. But so far as they have been recognized they are the same as those which still abound in the lakes. This

constitutes one point of difference between the effigies and the pictographs. The pictographs contain the figures of suckers, red-horse and buffalo, species which abound in the Mississippi River; while the effigies seem to represent pickerel, which abound in the lakes. See Figs. 1 and 6.

4. The history of the Winnebago tribe is next to be considered. The earliest that is known of this people is that at the time of Nicolet's first visit, in 1634, they were situated at Red Banks, near Green Bay. They were afterwards called Puants by the French missionaries, but by the Algonquins, Winnepekoak, which means people of the fetid water, "winne," "water," and "pekoak," "foul." The proper meaning is "salt water." And it is believed that they once reached the salt water. They were a branch of the Dakotas and were, less than a thousand years ago, a part of the same people.* Allouez says that in



Fig. 6.—Fish in Pictured Cave, Iowa.

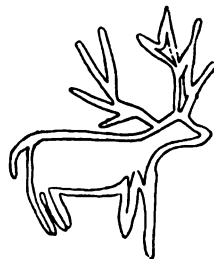


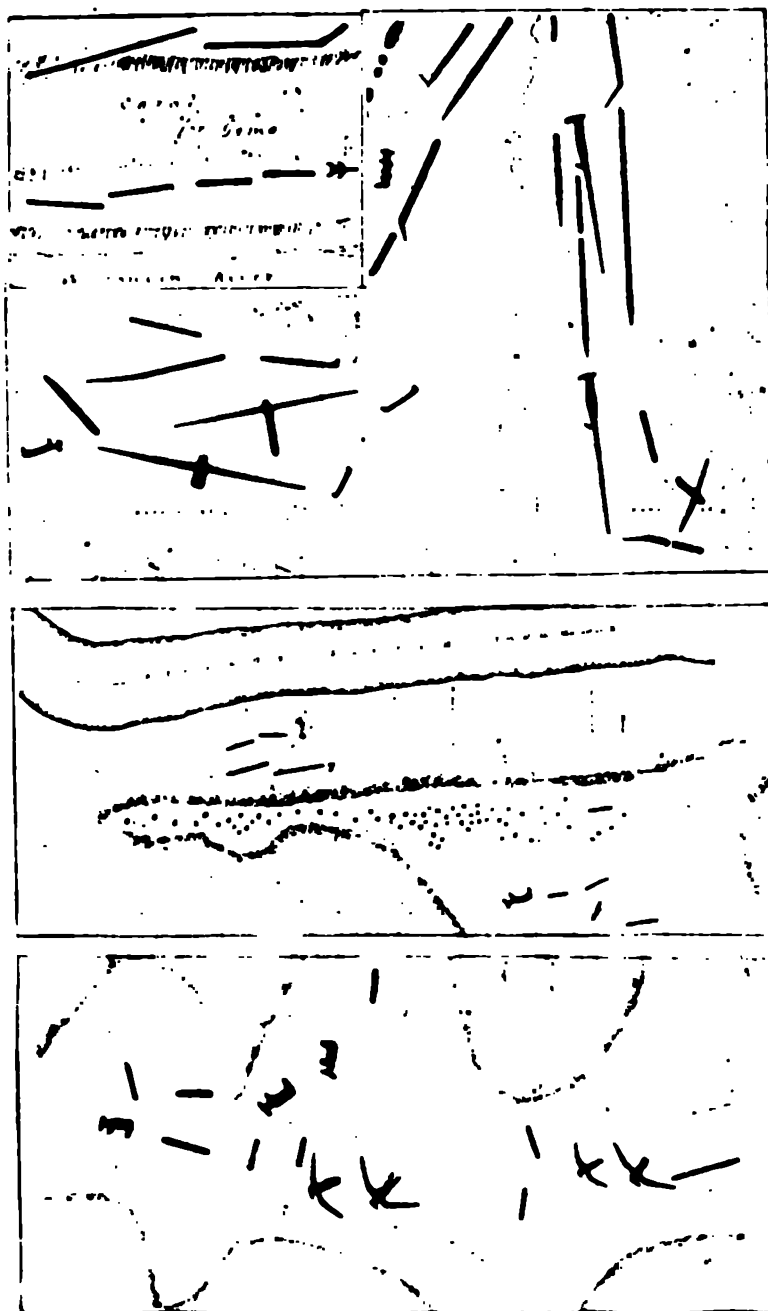
Fig. 7.—Deer in Pictured Cave in Wisconsin.

1640 they had almost been destroyed by the Illinois. But he found the Ojibwas in council whether to take up arms against them. They had long held their position and were on good terms with the Mascoutens, Menominees, Ottawas, Chippewas, and Pottawattamies, who lived in different parts of the state, and held it as a common possession between them. Paul LeJeune, in speaking of the tribes that dwelt on Lake Michigan, says, "still farther on dwell the Quinipegon, who are very numerous." "In the neighborhood of this nation are the Naduessi (Sioux), and the Assiniponais (Assiniboines).

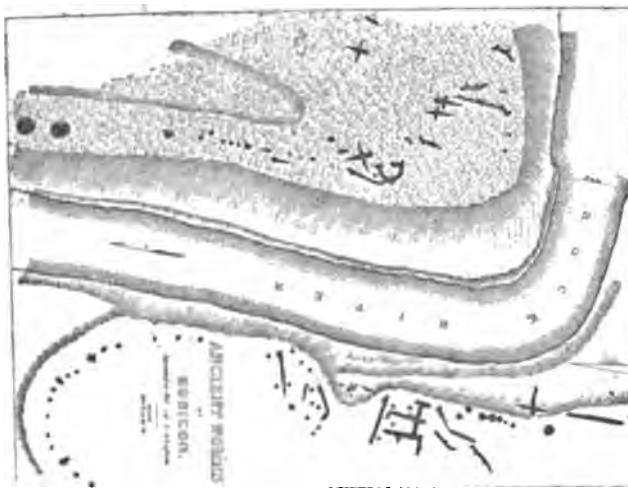
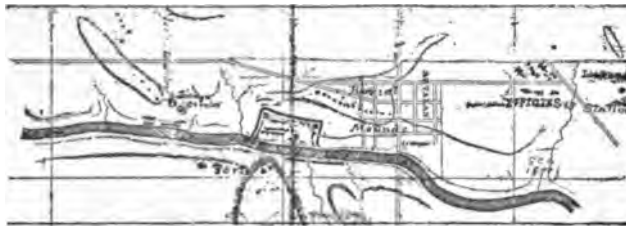
Green Bay was occupied by the Menominees and Sauks, and the adjacent Lake Winnebago by the Winnebagoes, which was a great centre of population. Allouez and Dablon paddled up to Lake Winnebago and the mouth of Upper Fox, which they ascended to visit the town of Mascutens. At the time of Carver's visit in 1766, he found a village at Red Banks, though the band had moved westward and had their village on the Wisconsin River.

Jedediah Morse in 1820 says that they had five villages on

*Dr. S. R. Riggs, in contributions to North American Ethnology, Vol. ix. p. 189.



GAME DRIVES ON THE WISCONSIN RIVER AND ITS TRIBUTARIES



MAP OF EFFIGIES ON THE ROCK RIVER AND ITS TRIBUTARIES.

eral divinity—the symbol of the nature powers, such as the rain or lightning?*. This question we shall not undertake to answer, but shall only refer to the fact that the serpent was a common effigy throughout this entire region, and serpent worship was an important element in the religion of all the effigy-builders, wherever they were.

3. The surrounding of their forts with serpent effigies is another point. We have spoken of Ft. Ancient as having the serpent effigy embodied in its walls. There is, according to the report of the Ethnological Bureau, an enclosure in Pipestone Co., Minn., which has two crescent shaped embankments, each of the embankments being in the shape of a tortuous serpent. The circumference is 2,386 feet. Inside of the enclosure is a mound twenty feet in diameter and four feet high. There is a bastion-like enlargement to the wall and two openings or gateways to



Fig. 10.—Serpent Rings near Mineral Springs.*

the enclosure. Now it is remarkable that the small enclosure or circular earthwork which we discovered at Mineral Springs, near Utley's Quarries, Wisconsin, has its walls in the same tortuous shape as this one in Pipestone County. See Fig. 10. The measurements, which were carefully made, indicate that the bends in the serpent were more regular and uniform than those in the larger enclosure. Mr. Lewis has discovered many serpent effigies in Minnesota. These are important facts, for they bring out the point. This confirms what we have said elsewhere about the sense of protection which was enjoyed by the effigy builders in connection with the serpent. It was not merely an object of fear and a place to be avoided; but the serpent effigy was a familiar form which was as sacred and dear as any other animal tokens, and its effigy was mingled with the animal effigies indiscriminately. We refer here to the fact that there are many serpent figures in caves of Iowa, and these resemble in appearance the serpent effigies in Wisconsin. Some of them appear to be rattlesnakes, others are without rattles. We give cuts of two of these taken from Mr. Lewis' drawings, and will call attention to the resemblance to the effigies discovered in Grant County and Green Lake County.

4. It is noticable that the Dakotas had a system of mythology which embraced serpent worship. The Hidatsa make occasional offerings to the great serpent that dwells in the Missouri

* For this see Twelfth Annual Report, Bureau of Ethnology last chapter.

† At this place a stream, which falls into the ground above the spring, bursts out again, suggesting the idea of the serpent divinity, which was a subaqueous or subterranean god.

River by placing poles in the river, attaching to them sundry robes or colored blankets. It is probable that the robe which Hennepin saw and took away from near St. Anthony's Falls was an offering to the same divinity. The Mandans and the Winnebagos both had a tradition about a certain youth who was changed into a huge serpent.

Oonktaha is the god of the waters. His external form is said to resemble the ox or buffalo, though his horns and tail reach to the skies. The dwelling place of the male is in the water; the spirit of the female animates the earth. One of these gods, it is believed, dwells under the Falls of St. Anthony.† These divinities have been described by Rev. A. L. Riggs, J. O. Dorsey, Rev. Gideon Pond, Mrs. Eastman and Miss Alice Fletcher.‡ The

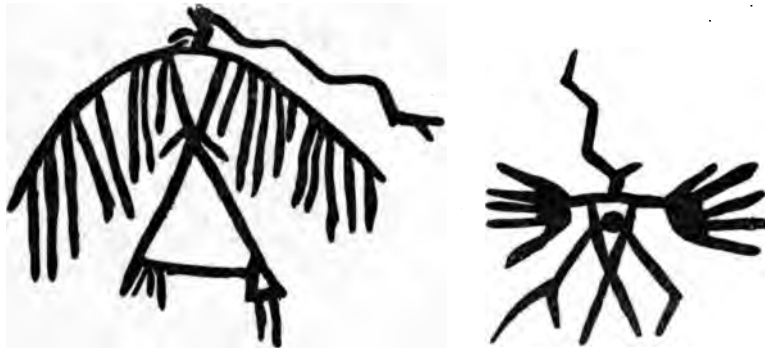


Fig. 11—Thunder-Bird and Lightning God.

following is the description given by Mr. Riggs: Wakinya is the god of thunder, or the thunder bird. He is represented with drooping wings §

¶ There are four varieties. One is black with a long beak, four joints in his wing; another yellow, who has six quills; a third, scarlet, which has eight joints; the fourth is blue, and has semi-circular lines for eyebrows, from beneath which shoot downwards two chains of zigzag lightning.|| This divinity dwells in a lodge on a beautiful mound, which has a doorway toward each of the cardinal points, with a watcher at each door—a butterfly at the east, a bear at the west, a reindeer at the north and a beaver at the south.

*Maximillian Travels in N. A., p. 369. Bourke's Study of Siouan Cults, p. 508.

† The Winnebagoes had a clan which was called the *Wakiceki*. They believe that there are subterranean and aquatic powers which dwell under the ground and in the high bluffs, as well as in subterranean water, and that they uphold the earth, trees, rivers, and are the enemies of the thunder beings. They have long bodies, with horns on their heads. (See Eleventh Annual Report.) The thunder beings are birds called *Wakicara*. One of the divisions of the bird gens is a thunder being sub-gens. This accounts for the serpent effigies which are found upon the summits of tortuous bluffs. They represent a mythologic divinity which was common among some of the Dakota tribes, though among them it was a sub-aquatic buffalo instead of a serpent.

‡ The mythologies of the Winnebagoes seem to be less known than any other branch of the Dakotas.

§ Gospel among the Dakotas, by Rev. S. R. Riggs, D. D.

|| This reminds us of the Omowuh, the rain cloud of the Moquis.

The moving god, Tu-ku-skan, lives in the four winds. His symbol is the boulder. To his retinue belong the buzzard and raven, fox and the wolf. The Toonkan, the stone god, dwells in the boulders and his symbol is the round or oval boulder, about the size of a man's head. The Heyoka,* the anti-natural god, assumes the human form. He is armed with bow and arrow, but has various animals, such as frogs and birds, flying from his bow. He is represented as having two heads, or a cap with two peaks. This agrees with the testimony of J. O. Dorsey. He adds that the messengers of Unktehi* are serpents, serpents, lizards, frogs, owls and eagles. He also mentions the horned water monsters, called Wahmenitu, the god of the water. This monster has four legs. Its backbone is like a cross-cut

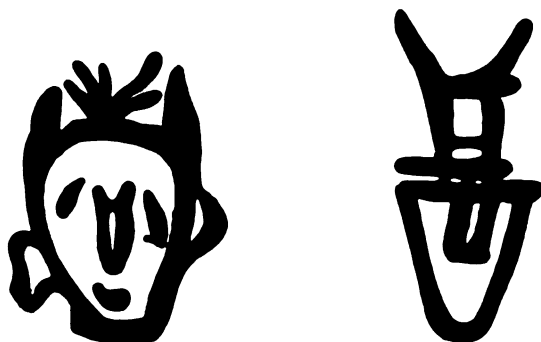


Fig. 18. — *Male and Female Water Divinity.*†

saw. It has red hair all over and one eye. They think that it causes the ice in the river to break up in the spring of the year. The thunder gods are birds of terrific proportions. They created the wild rice and prairie grass.‡

It is very remarkable that there are pictographs or rock inscription in eastern Iowa which embody these very myths, and these can be identified with the particular Gods of the Dakotas.§ One of these has the shape of an immense bird with drooping wings, and with a serpent shooting out from the head. The feathers in the wings were probably intended to symbolize the rain, and the serpent to symbolize the lightning. Another of these is in the shape of a massive human face, with horns rising above the face. Another figure designed to represent the same god has the horns very prominent, the rude semblance of a face,

*Unktasha is Dr. Riggs' spelling.

† These are from the rock inscriptions, but they may be compared to the effigies. The effigy near Aurora has horns and body like one of these. There are wings or arms in the effigy, but they are lacking in the inscribed figure. See Fig. 3. The Unktehi are subaqueous and subterranean beings.

‡ See *American Antiquarian*, Vol. II., No. 4, p. 270. Also 11th Report Bureau of Ethnology, p. 445.

§ These have already been described in the work on *Myths and Symbols and Personal Gods*.

and a figure which may be intended for the body. These possibly may represent the male and female—the abode of the male is the water, and the female, the earth.

In Reno Cave, Houston County, Minn., is a figure which represents a man with large hands; a body in the conventional way; a disk in the center of the body, and a crooked head—the hands representing the clouds, the crooked head, the lightning, the disk, the sun. In Lamoille Cave in Minnesota is a figure of a man with upraised arms. The upper parts of the arms are in shapes of trees or plants. See Fig. 13. These figures evidently embody the mythology of the Dakotas, and were probably made by the Winnebagoes. The comparison of certain effigies with these



Fig. 13.—Human Tree.

pictographs proves quite suggestive. To illustrate: There is an effigy in Clermont County, Ohio, which seems to represent the thunder bird or Wakinya. This effigy is situated upon a hill-top overlooking a series of earth-works or enclosures, and is itself contained within an enclosure whose gateways are all guarded by double walls. It has the shape of a bird with outspread wings and is furnished with four projections on either side to represent the plumes, the whole enclosure with its elaborate gateways and its lofty situation and the effigy within it conveying the same impression—that the bird was held sacred by the builders. We will add to this, one more, namely, the man with two heads, which was discovered by Mr. Taylor on the banks of the Wisconsin. Wonderful stories are told among the Dakotas of



Fig. 14.—Heyoka and Anungtite.*

a being with two faces. It is possible that the effigy of the man with two faces, which was discovered near Muscoda, was intended to represent this divinity. These may seem to be mere conjectures, and we do not build much upon them, but there is no other explanation of these figures, nor of the composite mounds in which the various animals and birds are mingled

* Being with two faces.—Dorsey, Eleventh Report of the Ethnological Bureau.

together, than that they represented some mythological creatures. The human effigy described by Mr. W. H. Canfield may possibly represent one of these divinities, as it resembles the pictographs in some respects. The best specimen, however, at least the one that is most suggestive, is the human effigy which was discovered by the writer in company with F. W. Putnam near the schoolhouse at Baraboo. This effigy was situated at the south end of a line of burial mounds; was lying on a slope of a hill. One arm was partially raised, the other was akimbo. Only one leg could be seen. The only explanation of the effigy is that it was an effigy of the divinity Heyoka, who is always represented as having one leg and an arm partially raised. See Fig. 15.

5. The customs of the modern Indians in celebrating their dances and feasts and sacred mysteries clear up many points. These dances and mysteries have been described.

If we compare these descriptions with those that are furnished by Catlin and other earlier writers we shall find a remarkable correspondence, and not only this, but we secure a very satisfactory explanation of certain groups of effigies.

Now it is to be noticed that there are certain groups or lines of effigies which can be easily explained on the supposition that they were the place where mysteries were held. One such group is situated near Blue Mounds. It consists of a long line of effigies at one end, a lookout mound at the other and a circle in the middle. Another group was discovered by the writer at Port Andrews. There was a high mound which commanded an extensive view at one end, an enclosure at the other end, a line of swallow effigies which extended nearly a mile along the river under the overhanging cliffs.

Miss Alice Fletcher has described the mystery of the elk lodge and the dances connected with it. One peculiarity of these dances was that the members occasionally emerged from their tents and marched along through certain familiar spots in procession, making a route sometimes two or three miles and then returning to their dancehouse. "They wore masks resembling heads of elk, antlers shaped from boughs. They followed in a general way a pretty wooded creek and went three or four miles up the valley. Over four hours were passed in this tortuous dance. The whole movement of this dance with its queer posturing and actions was not without grace and produced a lasting impression." It is probable that this group of effigies marked the site of a similar ceremony, and that the march of the dancers



Fig. 15.—*Man Effigy, Baraboo.*

was along this line. The lookout mound commands a view of the entire group and of another group situated five miles distant on the opposite side of the river.

The explanation of this group is that here on the summit of the hill there was an important tribal burial or other religious ceremony of the tribe, and the various clans assembled here and left the effigies as clan totems upon the surface. We will say



Fig. 16.—*Heyoka, Dakota Divinity.*

further that there are many localities where effigies are clustered around some central ring, and these groups are generally located near some village site, conveying the idea that the members of the different clans were accustomed to assemble in the council houses and on the dance grounds and make a common feast together.

Another specimen of a sacred dance circle or mystery lodge is the one which has been discovered at Green

Lake. Here there is a ring or circle on the hill-top not far from the village site, and around the ring a number of effigies in various attitudes, among which were recognized the squirrel, fox, eagle and pigeon, all of which were the totems of clans near by. It is possible that these indicate the presence of clans at a dance or feast, and yet the ring suggests a medicine lodge, and reminds us of Catlin's picture of the medicine lodge of the Mandans. Another group is situated at Lake Koshkonong. Here there is a platform mound which has about the same proportions as the sacred lodge of the Dakotas, which was elliptical in shape—twenty feet across and forty feet long.

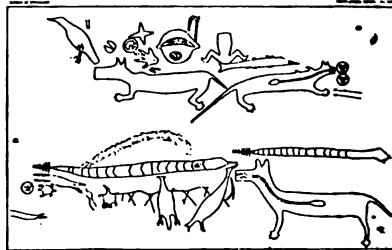
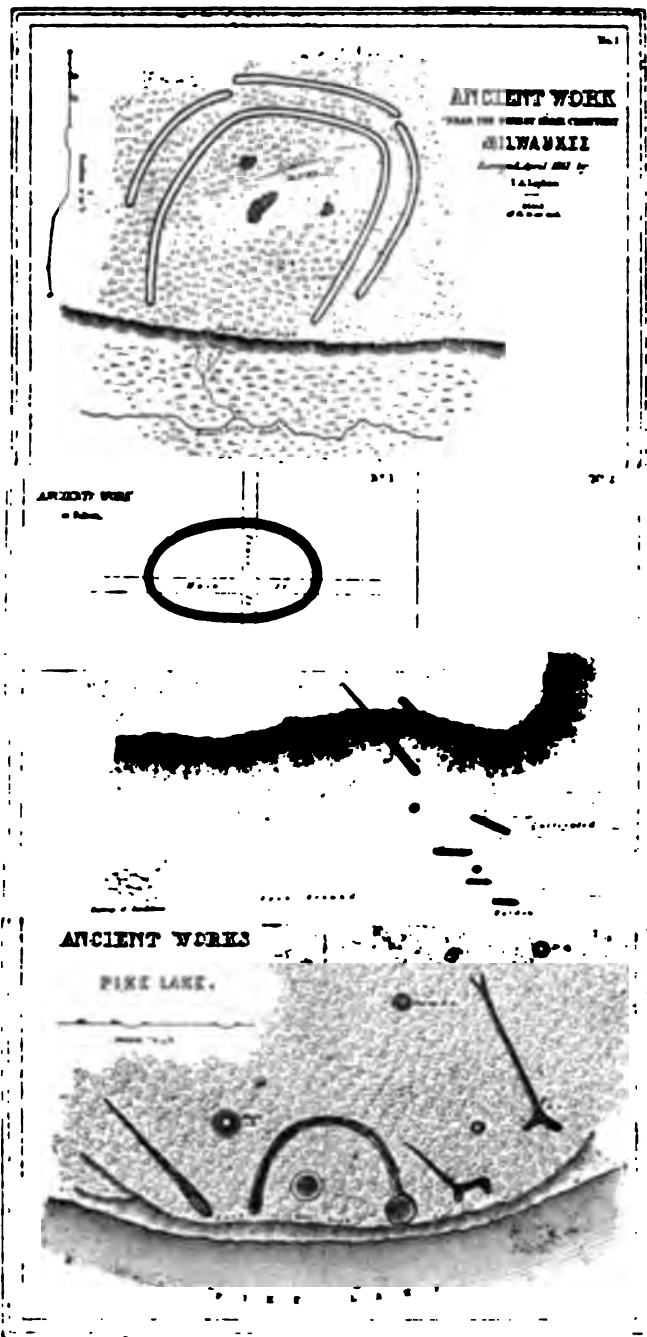


Fig. 17.—*Medicine Lodge in a Shelter Cave.*

Another specimen is one found on the north side of Lake Mendota. This is a group which extends along the edge of the lake for a mile and a half or two miles. There is, at one end of it, a cluster of effigies, in the midst of which was a high conical mound. The effigies are situated on lower ground, but all of them near the water. Among them were recognized the clan totems of all the adjoining clans—the panther, weasel, buffalo, fox, pigeon, bear, eagle, squirrel, and turtle. There are four or



FORT. DANCE CIRCLE, GAME DRIVE, MEDICINE LODGE.

practices of the people, and even the names of the divinities which they worshiped. These were facts concerning which there was no intent on the part of the effigy-builders to preserve a record, and it is only incidental to the life they led, and especially to the custom of erecting effigies wherever they were, that so much has been preserved upon the soil. Still they bring the people who built the effigies very near to us, and help us to identify them with the people who were occupying the region at the time of the first settlements. (5) We maintain, however, that there were certain events in their history concerning which the effigy-builders did make a record, and that they left this record upon the soil, and that if we compare this with the other records which have been brought down to us from the prehistoric times by the tribes, we shall find the correspondence as striking as before.

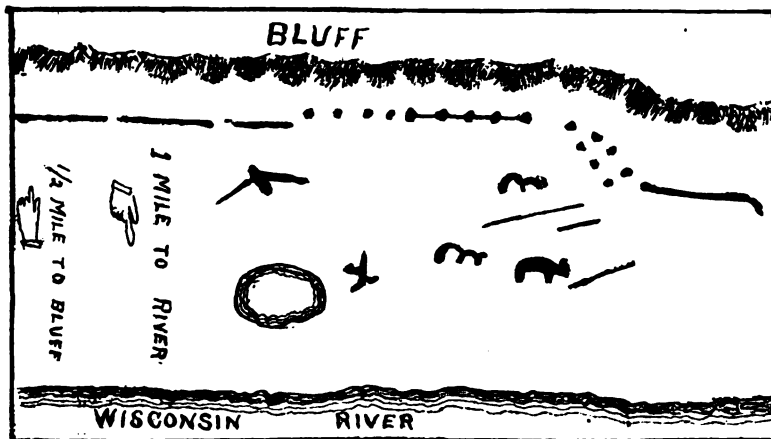


Fig. 19.—Pictograph of a Game Drive.

The comparison of the effigies to the pictographs or mnemonic charts which are extant among the modern tribes, especially among the Dakotas, will then be in place. These pictorial charts may be divided into several classes. (1.) Those which contain the myths and traditions, and especially the migration myths. (2.) Those which relate to the sacred mysteries and which perpetuate the songs and sacred symbols of the aborigines. (3.) Those which contain the names of chiefs and private individuals in a list which may resemble the roster roll of modern armies. (4.) Those which relate to the events which have occurred in the history of a tribe. These are all very valuable and furnish many clues to the interpretation of the effigies, but it is with the fourth class that we have especially to do in the comparison. According to the testimony of Colonel Mallery, the Dakotas had certain persons among them who were trained to the art of picture-writing, or record-keeping, and

were really the tribal historians. They filled an important office, and resembled in this respect the keeper of the sacred pipes, whose office was hereditary. Their records related to very trifling events, or events that seem to us very trifling—such as the appearance of certain diseases; killing a small number of Dakotas by their enemies; the hardships of certain seasons; the stealing of a certain number of horses; the celebration of certain dances; the building of trading posts; the appearance of soldiers—most of them modern events. It is through these charts or pictographs that we learn the method of recording events and the kind of events which were regarded as worthy of record, and by studying these we find there was a very general resemblance to certain groups of effigies which are found in the state.

We find that in these groups there are records, but they are records of a clan which occupied certain villages and claimed



Fig. 80.—Game Drive near Madison.

certain habitats, and which held the right to certain garden beds, cornfields, caches and game drives, the burial of chiefs, and the celebration of the dances, and pertained to the prehistoric period. The most striking record is that which relates to the conducting of successful hunts, especially by members of the clans which have wandered from their own habitats, and have killed certain animals in remote out-of-the-way places. This last method of making a record is, to be sure, one which brings some confusion into the clan map, for it presents the animal totem of distant clans on the habitats of other clans and associated with animals which are not clan totems at all. Ordinarily a game drive will contain the effigies of the animals hunted, as well as the totem of the clan on whose territory the game drive is situated. There will also be the animals which may be regarded as prey-gods, such as the fox, eagle, hawk, buzzard, panther, and wolf. These are all beasts of prey, but were, nevertheless, invoked by the hunters as aids. It was the custom to defer the hunt for the large animals, such as the elk, buffalo and deer, until after a dream had appeared and all the signs were favorable, for hunting was as much a religious exercise as dancing or the burial of a chief. If we examine the groups of effigies which are plainly game drives, we shall find this to be the case in the majority of instances. The game drives have the animal hunted

and the people hunting surrounded by the animals who are attending the hunters, thus making an actual pictograph, in which the clan totems and the animals are mingled together, the number of animals slain being sometimes recorded in the string of circular mounds. The game drives were made up of mechanical contrivances, (a) such as embankments covered with screens of brush for hiding the hunters;* (b) also groups of conical mounds, on which lookouts were stationed, and long lines of mounds situated on the bluffs, which served as elevated ways and runways for the lookout messengers; (c) also conical mounds surrounded by embankments on which fires could be lighted at night for the purpose of attracting the game;† (d) also embankments which surrounded the feeding places of the grazing animals; (e) a series of game drives or traps through which the animals would be chased until they became confused and were slaughtered by the hunters;‡ (f) occasionally the building of a lodge near the screens, in which the hunters could stay while the duck and wild fowl returned from their flight. All of these have been noticed by the writer in different places. These were important, for they show what the contrivances were, and where they were placed, and they furnish an explanation of the map of the effigies.

These we regard as specimens of picture-writing, for they are groups in which we may read the story of a successful hunt, and can tell the clan of the hunters, the animals hunted, the number of animals slain, and the animals which followed the hunt and fed upon the slain carcasses. These were evidently intentional records and could be interpreted by the effigy-builders. It may be that there was claim of possession in some of the game drives, as the clans placed their totems near the different game drives as much as they did their villages, but the most remarkable of the groups are pictographs. We shall endeavor to illustrate this by certain specimens. We would here refer to the various groups we have called game drives, in which animals seem to be chasing one another; bears chasing the deer, as at Green Lake; also deer flying among squirrels and wolves, in the same locality; deer running among eagles and long mound embankments, as at Eagle Township; elks surrounded by eagles and mink at the Stone Quarry at Madison; elks or buffalo surrounded by eagles, and swallows, as on the Kickapoo River; moose fleeing among the embankments, as at Honey Creek; birds, foxes, squirrels,

*The plates illustrate this contrivance, which was very common. Such embankments were scattered over the state, but according to Dr. Thomas' testimony, are rarely found elsewhere.

†Fig. 21 illustrates this contrivance. There are other localities in which the same contrivance may be seen. One at Merrill's Springs, near Madison, another on the east side of Lake Monona.

‡The map of the "works" at Eagle Township, as well as that of the works at Madison, illustrate this contrivance. It will be seen that these were "game drives" scattered over the entire region so that the animals could be driven from one before they were driven into another. See

coons and wolves apparently in motion, as at Mayville; elk surrounded by eagles, hawks and foxes at Honey Creek; bears and buffalo among swallows, near Hazen's Corners; elks surrounded by minks and wolves at Merritt's Landing; panthers running among round mounds and long mounds, as at Potosi; buffalo among bears at Shooting Park at Madison, panther among foxes or coons at New Lisbon.

These are all of them picture writings on a large scale, for some of them cover several hundred feet of ground, the effigies in some cases being from 100 to 600 feet in length. We cannot help thinking that these groups were records, as well as mechanical contrivances. They commemorate the place where certain animals were hunted and killed, as well as marked the place where the animals were accustomed to make their runways.

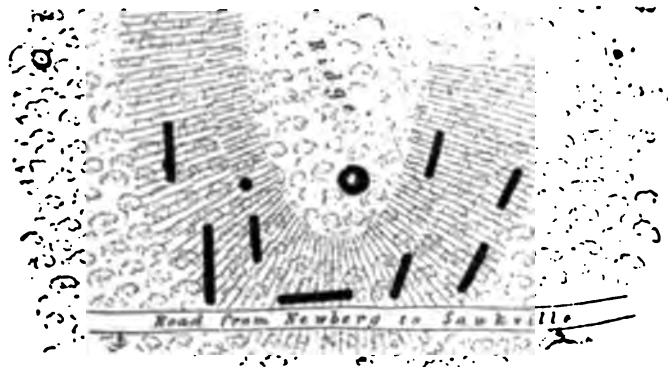


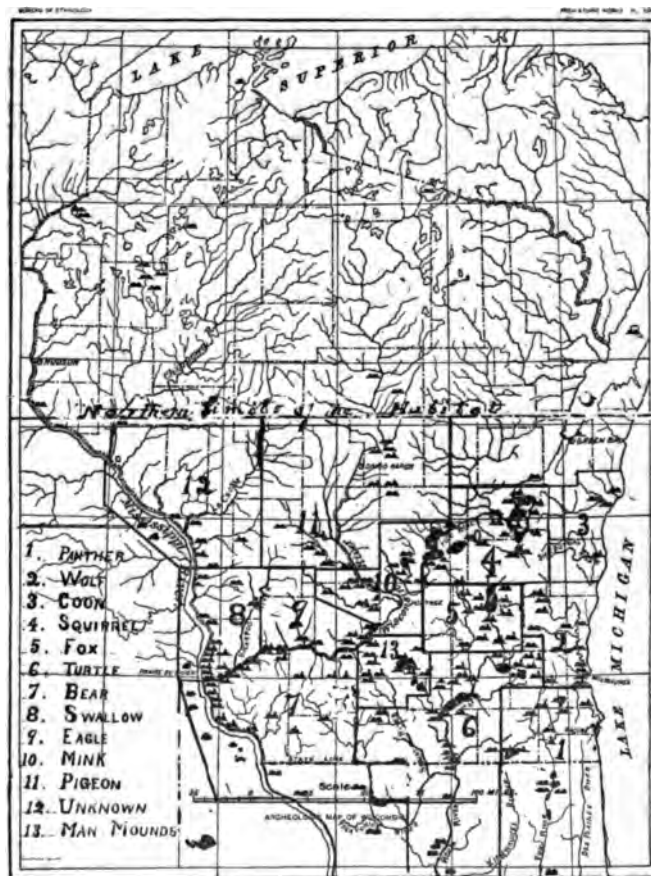
Fig. 11—Signal Station or Fire Decoy.

They may represent the place where certain clans had their game drives, and so be signs of possession; but there are groups in which clan totems are remote from the clan habitats in which the clan totems of distant clans are mingled together. These we take to be the record of certain eventful hunts in which the clans met together.

IV. The comparison of the clan habitats and the clan villages of the effigy-builders with those of the modern tribes of Indians will next be considered. We may say that the effigy-builders differed from the modern tribes in that their clans occupied river valleys and covered the valleys with clan totems, while among the later Indians whole tribes occupied the villages and gave their name to the rivers, for the Mianii, the Illinois, Menominee, Iowa, Kansas and Arkansas all bear the names of tribes which formerly lived on them. There are also entire states which take their name from the aboriginal inhabitants—Illinois, Dakota, Kansas and Arkansas. This, however, only shows the changes which have occurred.

Now this is the point which we are to bring out by the map

which we furnish. See map. This map is based mainly upon the study of the effigies; but for the purpose of comparison with the work which has been done by others, we have selected the diagram published by the Ethnological Bureau in connection with the catalogue of the mounds and earth-works in the state,



CLAN MAP OF THE EFFIGY-BUILDERS.

and which is covered with the symbols which mark the location of the mounds. This catalogue has been carefully made out by Mrs. Thomas, the wife of Dr. Cyrus Thomas, after examining all that had ever been written upon the effigy-builders, and the locations of the mounds noted. We have added to the map certain straight lines, which, according to our study of the effigies, mark the habitats of the clans. The map itself will illustrate the river system and the conformity of the clan habitats to the system. We will only mention the name of the clans and

the number of effigies which were left by them, and then leave the reader to decide as to the identity of the clan with the locality. The following is the list: (1.) There are in the Fox River valley over twenty panther effigies, located as follows: at Burlington, one; Big Bend, nine; Racine, five; Milwaukee, five. There are in this region no wolves, deer, foxes, elk, or even eagles, though there are a few birds resembling prairie chickens and several turtles. The evidence is that the panther was the totem of the clan. (2.) The valley of the Milwaukee River contains many wolf effigies, showing that it was the habitat of the wolf clan. They are as follows: Milwaukee, seven; Waukesha, seven; West Bend, eight. There are a very few panthers, very few turtles, but several wild geese in this district. There are more wolves here than in any other part of the state. (3.) The Sheboygan River seems to have been the habitat of the coon, for coon effigies are numerous, though squirrel effigies are as numerous, making it somewhat doubtful as to which was the clan totem. There are at Sheboygan five coons and four squirrels; West Bend, two coons, fourteen squirrels and eight wolves, showing that the clans mingled together and were at peace with one another. (4.) The squirrel habitat was in the vicinity of Lake Winnebago and Green Lake, for squirrel effigies are very numerous here. It was a clan which seemed to frequently go beyond its borders, for there are groups in which squirrel effigies abound in the following places: Lake Winnebago, fourteen; Sheboygan, eleven; West Bend, twelve; Green Lake, east side, fourteen; Green Lake, west side, six; Utley's, six; Buffalo Lake four; Lake Puckaway, four—seventy in all. (5.) The habitat of the fox clan was in the vicinity of Lake Monicou and Rock River, with its branches. It contains about seventeen fox effigies: Mayville, five; Monicou, seven; Ripley Lake, two; Fox Lake, three. (6.) The habitat of the turtle clan was in the Rock River valley, for there are here twenty-five or thirty turtles; at Beloit, seventeen; Lake Koshkonong, seven; Aztalan,* five; Fort Atkinson, three; Delevan Lake, five; Lake Geneva, one. (7.) The bear clan was situated south of the Wisconsin River and on the dividing ridge. Here are thirty-eight bear effigies, as follows: at Madison, three; seven miles west, seven, Blue Mounds, six; Mount Horeb, two; Banfield Place, eight; on the Wisconsin River, five; on the Iowa bluffs, seven. (8.) The

* The tribal capital was undoubtedly situated at Aztalan, for this was centrally located and was connected with all the other clans by trails and water courses. The platform mounds, the walls, with bastions, and the outworks are similar to those in the village site in Vanderburgh County, Indiana, which have been recently described by Dr. Thomas in the book on Mound Exploration. It only shows the resemblance between the tribal villages or capitals in prehistoric times. There is a resemblance between clan villages which have been identified among the effigies and the ancient village of Secotan, which was painted by the artist Wyeth and described by DeBry. This proves that the clan villages were very similar to tribal villages: clan villages having garden beds, corn fields, look-outs and guard posts in the field, ponds and springs of water, places for shooting game, dance circles, places of sacred incense, and burial places. Some of them were surrounded with bastions, some with heavy earth walls, as in Ohio; some with effigies, as in Wisconsin, and some of them without any defence, as in Virginia.

swallow clan was situated north of the Wisconsin and on the Kickapoo River, with twenty-seven effigies, as follows: On the dividing ridge Sec. 6, T. 8, R. 5, one; at Prairie du Chien, three; Hazen's Corner's ten; on the Kickapoo, three; Port Andrews, eleven; on the Iowa bluffs, five; Honey Creek, four; Sec. 19, T. 9, R. s 1. (9.) The eagle clan had its habitat north of the Wisconsin, Indian River and Honey Creek, with thirty-six eagle effigies at the following places; Eagle township, twenty; Muscoda, five; Honey Creek (Sec. 5, T. 10, R. 7), three; at the Delles, three; Madison, five. (10.) The mink clan had its habitat on the Baraboo and on the Wisconsin, with twenty-two mink effigies as follows; Devil's Lake, three; Baraboo, thirteen; Endeavor, on Buffalo Lake, three; Madison, three. (11.) The Pigeon clan was on the Lemonweir, with effigies at Mauston, seven; One-mile Creek, three; New Lisbon, three. (12.) The clan occupying the Four Lake region seemed to have the man mound for its totem.* There are fifteen man mounds: Lake Mendota, four; Lake Monona, two; Devil's Lake, three; Baraboo, two; Seven-mound Prairie, two; on the Wisconsin River, two. There are no man mounds outside of this region.

We see then from this map that the clans were widely scattered, but were at the same time closely connected, for the river system of the state forms a unit, which favors the abode of a single tribe divided into clans. There is no disputing the evidence. There may be mistakes in reference to the exact locations of the villages, and occasionally a mistake in reference to the identity of the animals whose effigies surrounded the villages. but the correspondence of the clan habitats to the river valleys is too well marked by the grouping of the effigies for us to doubt this point. We therefore call attention to the grouping of the effigies as evidence that the clans occupied the river valleys and had the names or totems we have ascribed to them.

We are convinced that great changes have occurred since the mound-building age. If the ancestors of the Indians were the Mound-builders, as many claim that they were, the Indians have degenerated and their former state may be better learned from the study of the effigies than from the tribes that are still living. The same lesson is impressed upon us from the study of the maps of the pre-historic works in the State of Ohio. These

* The man mounds are very suggestive of a myth which prevailed among the Osages, a branch of the Dakotas. This myth was one which attended the tree of life. This tree grew beside a river and above the four houses or caves which constituted the original home of the human race. The tree itself was surrounded by the seven stars—morning star, evening star, sun and moon—and was in the upper world. According to the myth, the souls of men were at first without bodies, but as they passed up the ladder from one cave world to another they applied for bodies, but did not receive them until they reached the fourth world. They then did not receive human bodies, but the bodies of birds, the wings serving for arms; the birds' bodies and beaks for human heads and bodies; the birds' toes and claws for human feet. This accounts for the many figures in the inscribed rocks which resemble both birds and human beings (see Diagrams XIII and XIV); also for the many bird effigies which so resemble human forms, the birds shading more and more into the human shape. See Fig. 12; also Plate.

works were arranged along the valleys of the different rivers, such as the Muskegon and Scioto, the two Miamis, with their tributaries, the White and the Licking, and were divided into different classes, showing that the rivers were occupied by tribes which were gathered into a confederacy, very much as the Iroquois tribes were later in history. The peculiarity of these tribes was that they were all divided into clans, each clan having a village by itself and a limited habitat which it filled with the totems of clan life. There are, however, contrasts, as well as resemblances, between the two maps. The people of Ohio were agriculturalists and sun-worshippers. They made their villages along the banks of the rivers and cultivated the soil, but protected themselves by building walls from the village sites to the river banks and to the fields, and lived within the defensive works, which in their shapes were perhaps symbolic of their worship, for the walls are nearly all of them in the shape of crescents, circles and squares, all of which are supposed to be symbols. The effigy-builders also placed their villages on the banks of the rivers, and made them clan residences; but they were hunters, and so needed more room. Their clans dwelt in the villages, and they filled whole river valleys with their game-drives and spread the signs of their claims for possession over the hill-tops, making their presence known in the effigies, which were clan totems.

The comparison is profitable, for it shows that there was a time when the mound-builders of Ohio and the effigy-builders of Wisconsin were alike in their clan system, even if they were unlike in their religious worship. The map of the Scioto valley is especially significant, for here there are some ten or twelve village sites; each village having its own walled enclosure, burial place, dance circles, graded ways, temple platforms, and method of defense, the circle and the square being the predominant form of earth-work.

"ORIGIN OF THE INDIANS."

BY CYRUS THOMAS.

In the December (1894) number of *THE ANTIQUARIAN*, Mr. James Wickersham takes occasion to offer some strictures on previous articles presented by me in regard to the probable origin of certain customs, arts, etc., of the Pacific Coast tribes.

Possibly I may have expressed myself more strongly in some directions than really intended, and possibly the title given to the article, "Origin of the Indians," was broader than it should have been. The object I had in view in presenting those papers did not embrace in its scope the exact route or mode of migration. What I had in view was to call attention to certain customs, arts, beliefs, traditions, etc., which render it highly probable that there was prehistoric contact between the West Coast tribes of North America and some one or more of the tribes or peoples of the Oceanic Islands. If we can show by satisfactory evidence that there must have been contact between the West Coast tribes and the people of the Oceanic Islands or Asiatic Coast, the question of the route must be worked out subsequently.

My last paper (*American Antiquarian*, March, 1894) was confined to comparisons of certain Mexican and Central American types with those of Polynesia, particularly those relating to their calendar or time systems.

As I am not wedded to any particular theory, but am simply in search of truth in this respect, it is of little moment to me what the route was by which the peoples of those too distant regions came in contact with one another. It is possible, if the theory of contact is correct, that the Polynesian and Central American types were both derived from the same source. That is to say, they may have come directly from this source to America without having passed through Polynesia. For example, we may suppose that both were derived from some peoples of the Malayan Archipelago. It would follow, then, that a comparison of these types as found in America would resemble those found in Polynesia, which would lead us, until the proper explanation was found, to suppose that the American was derived from the Polynesian. This, I am at present rather inclined to believe, is the true solution of the problem.

The first point, however, to be established, is that the types as found in America and in the Oceanic Isles, or along the Asiatic Coast, bear such strong resemblance to one another as to forbid any other explanation than that of prehistoric contact. This, at present, is the contested point. I have been

inclined to believe that a more thorough and complete comparison of the languages of Central America and Mexico with those of the Malay Archipelago and Southern India would result in throwing some light on this debated question. It must be admitted, however, that the linguists do not believe that, as yet, any satisfactory evidence of relationship between any of the languages of the two regions has been presented.

The only safe course for us to pursue in this investigation is to follow the conceded data so far as these will lead us, and from this as a basis construct what would appear to be the most likely theory, keeping in view, however, the fact that no universally accepted data as to prehistoric contact has yet been presented.

As a first step, we may assume, as now generally conceded, that the Polynesian Islands derived their population in whole or in part from the Malayan Archipelago. At least, I believe there is no one who denies prehistoric contact between the peoples of these two regions. The connection between the Malayan and Polynesian languages, whether by derivation or by an intrusive element of the former into the latter, is no longer denied, but is accepted by the best linguistic authorities. John Crawfurd, although an early authority, was thoroughly acquainted with the languages of Oceanica and the data relating to the inhabitants of this region. In regard to the question of the distribution of the members of the Oceanic linguistic stocks, he remarks as follows:

"There remain two difficult questions for solution, respecting which rational conjectures only can be offered: How did the Malayan languages, and those that spoke them, find their way to the fair isles of the Pacific, inhabited by the Polynesian race, the nearest of them 2500 and the most remote 6500 miles distant from the nearest point of the Archipelago? and how comes one race, speaking one tongue, to occupy, exclusively, most of the islands scattered over the vast tract of ocean which lies, in one direction, between the Sandwich Islands and New Zealand, and in another, between the Fijis and Easter Island? I shall attempt to solve these questions in the order in which I have stated them.

It has already been seen that the Malayan nations, or two leading tribes of Sumatra and Java, have for ages been pushing their enterprises, whether commercial or predatory, to the Phillipine Islands, to the Moluccas, to New Guinea, and even to the northern shores of Australia. We find them, therefore, on the extreme eastern confines of the Archipelago, from which they might find their way into the Northern Pacific through the Philippines, or into the Southern between New Guinea and Australia; or into either of them through the Molucca Islands. They, most probably, did find their way into the Pacific by these three several routes; but, in so far as concerns the Polynesian race, the probability, under all circumstances, is that they entered the Pacific by the southern route.

The course of the winds is a most material element in this inquiry. Periodical winds or monsoons prevail to the north of the equator, blowing during the winter solstice, from the northeast, and during the summer solstice from the southwest, and extending from the equator to the tropic of Cancer and from the continent of Africa to the Japan Islands. Periodical winds also prevail to the south of the equator, but blowing from the southeast and northwest. These last are more limited than the first, blowing no further south of the equator than the tenth or twelfth degree of latitude, and in longitude usually from the southern extremity of Madagascar to the north-

ern shores of Australia. The southeast monsoon is but a continuation of the southeast trade wind, which, at its height, blows sometimes for two degrees north of the equator, while the northwest occasionally penetrates a considerable way to the south of it.

Such are the winds that prevail within the Archipelago. In the Pacific the northeast tradewind prevails to the north of the equator, and the southeast to the south of it; but in a broad zone, of from seven to eight degrees on each side of the equator, the winds are variable, and blow even more frequently from the west than from the east.*

By the help of the monsoons the Malayan nations at present traverse the Indian Archipelago from Sumatra to New Guinea and the Philippines. They were found doing so when first seen by European nation, and there can be little doubt but that they had been pursuing the same enterprises for many ages before. Even now the praus of Celebes pass yearly through Torres Straits in pursuit of the Tripang fishery, on the coast of Australia.

That the Malayan nations effected a certain amount of settlement in the islands of the Pacific is sufficiently attested by the admixture of their languages, which is found in almost every tongue of these islands, while its alien character is proved by the corruptions which the words have everywhere undergone. The extent to which the intermixture of Malayan has been carried, is, indeed, nowhere very large in the remoter languages, yet in the Polynesian, at least, it is such as could not have taken place without some amount of settlement, and intermixture of race. Who, then, were the parties that effected this indispensable settlement? The most likely, I think, are the rovers, who at present for plunder always, and sometimes for settlement, range over the whole bounds of the Archipelago. The most formidable of these rovers, in our times, are a people called Lanuns, natives of the great island of Mindanau, but the Malays were the sole pirates on the first arrival of Europeans, and continue to be more or less so, down to the present day. I shall describe a Lanun pirate prau, according to the authentic account given by the most competent judges; and the vessels employed by the Malays in early times, and before they were checked by European power, were still more formidable. A Lanun war prau is usually of 56 feet in length, with a breadth of 18 feet beam, and a hold 6 feet deep. She is fortified by a strong bulwark, has a double row of oars, or is a bireme of eighteen oars to a side. She has two tripod masts of bamboo cane, with a light and manageable sail of matting on each. The crew consists of about 100 men, the rowers being slaves. The combatants are armed with kris, spears, swords, shields, and firearms, and the vessel carries some cannon. The bucaniers sail in fleets of from half-a-dozen to twenty, thirty, or even more, and a few women accompany the men in the most of the vessels. The plundering cruises of these fleets often last for two and three years.

Now, such a fleet as now mentioned, when at the southeastern extremity of the Archipelago, might be tempted, in search of adventure and plunder, to pass through Torres Straits and enter the Pacific. There a continuous chain of islands extends from New Guinea eastward, over eighty degrees of longitude. The northwestern monsoon, adverse to its returning to the Archipelago, would push this fleet a considerable way into the Pacific, until it encountered the variable winds and light airs along the equator. After a voyage by one-third part shorter than that at present often performed by the rovers of the Archipelago, the adventurers would meet, for the first time, the Polynesian race and language at the Friendly Island group, and if the fleet consisted of but ten sail, its thousand well-armed men would be sufficient to insure it from destruction by the rude inhabitants. If not enough for conquest, such a force would be sufficient, at least, to insure a compromise. Settling in these islands, their small numbers would soon be absorbed by the mass of the population, and their nationality be lost; but it is not unnatural to suppose that the small portion of their language which we find in the Polynesian would be communicated to the native tongue.

*This account of the winds is taken from the introduction to the directory of the great hydrographer, James Horsburgh, F. R. S.

That Malay adventurers did pass over the broad ocean-stretch of 3000 miles between the Malayan Archipelago and Madagascar, is proven by the elements of the Malay language found in the latter. That, step by step, the same element extended over the islands of the Pacific is proven beyond question by linguistic evidence. Even the natives of Easter Island, as we are informed by the latest authority, Wm. J. Thompson (*Te Pito te Henua, or Easter Island*, p. 546), "speak a dialect of the Malayo-Polynesian language, which is so widely spread in the south sea and Malay archipelago."

One difficulty in the minds of many persons in believing that the islanders of the Pacific could have traversed such long ocean stretches arises from the erroneous supposition that their ancient vessels were all of the same diminutive type as those of comparatively modern times. Nothing could be farther from the truth than this idea, as the little vessels of modern times, as compared with those of more ancient days, are but as Lilliputs to giants, or minnows to tritons. Judge Fornander, in his "Polynesian Race" (Vol. II, p. 8), calls attention to this objection as follows:

It has been objected by not a few writers to the long voyages of the Polynesians, either on their first entering the Pacific or at this period of tribal commotion and unrest, that they could not possibly be performed in their frail canoes, incapable of containing stores and provisions for a long voyage, and for want of astronomical and nautical knowledge of those who navigated them. Those writers judge the Polynesians as they found them one hundred years ago, isolated, deteriorated, decaying. Had those writers been acquainted with Polynesian folklore, they would have learned that, at the time we are now speaking of, the Polynesians were not only possessed of open canoes, hollowed out of a single tree, and seldom used except for coasting or fishing excursions, but of vessels constructed from planks sewn or stitched together in a substantial manner, pitched and painted, decked over, or partly so, and with a capacity of hold sufficient to contain men, animals and stores for any projected voyage.

In a foot note, same page, he gives the following statement:

Rev. J. Williams relates that during his residence at Tahiti there arrived at Papeete, about 1819-20, from Kurutu, one of the Austral group, 700 miles distant, a large canoe, planked up and sewed together, whose hold was twelve feet deep. This peculiar method of planking up or sewing together the different pieces of which the large sea-going canoes in olden times were made, prevailed throughout Polynesia, and is still retained at the Navigators', Paumotu and other groups, besides in Micronesia, and is still customary among the Buguis of Celebes and Ceram. In the Hawaiian group this manner of making large canoes was not wholly discarded as late as the middle of the last century; for it is credibly reported by some of the old natives, whose grandparents lived at the time and saw it, that the principal war-canoe, or admiral's ship, of Peleiholani—the famous warrior-king of Oahu, who died about eight years before the arrival of Captain Cook—was a double canoe built in that manner; its name was "Kaneaaiahi," and that on Peleiholani's expeditions it carried on board from one hundred and twenty to one hundred and forty men, besides provisions, water, stores, armament, etc.

In the New Zealand legends collected by Sir George Grey, and also mentioned by Taylor in his "*Te Ika a Maui*," mention is made of a Samoan expedition of five large double-canoes,

decked over, or partly so, containing the different chiefs and their families, their retainers and their families, provisions, etc., which were bound to New Zealand, where they embarked and settled. The tradition also mentions that some of them returned to Samoa, and finally came again to New Zealand.

That the ancient Malay vessels were superior to those of Polynesia may reasonably be inferred, and this inference is in accord with their traditions. Sir Stamford Raffles, in his "History of Java," quotes the following from their ancient traditional records:

When *Prabu Jaya Baya*, of Astina, died, he was succeeded by his son and descendants, named *Ami Jaya*, *Jaya Ami Sena*, *Pancha Dria*, and *Kasuma Chitra*. During the reign of the last of these princes, either the seat of government had been removed, or the country had changed its name, for it was then called *Kuj'rat* or *Guj'rat*; and it having been foretold that it would decay and go to ruin altogether, the prince resolved to send his son to Jawa, and possessing the written account of *Aji Saka*, which had been preserved in his family, he gave it to his son and embarked him, with about five thousand followers, for that island. Among these followers were people skilled in agriculture, artificers, men learned in medicine, able writers, and military men.

They sailed in six large ships and upwards of a hundred small vessels, and after a voyage of four months reached what they conceived to be the island of Jawa, and many landed; but as it did not accord with the account given by *Aji Saka*, they re-embarked. In a few months, however, they came in sight of an island with a long range of mountains, and some of them, with the prince at their head, effected a landing at the western extremity, while a part were driven to the southward.

It appears, therefore, that the Malay influence has reached, at some time in the distant past, all over the Polynesian area, to its extreme outposts. By what means, and by what routes, and at what time this was accomplished, may be questions difficult to answer. Yet the fact that they did so can no longer be questioned. Dr. Brinton, in his "Races and Peoples," says:

All the Polynesian languages have some affinities to the Malayan, and the Polynesian traditions unanimously refer to the west for the home of their ancestors. We are able, indeed, by carefully analyzing these traditions, to trace with considerable accuracy both the route they followed to the Oceanic Isles, and the respective dates when they settled there.

Thus, the first station of their ancestors on leaving the western group, was the small island of Buru, or Boru, between Celebes and New Guinea. Here they encountered the Papuas, some of whom still dwell in the interior, while the coast people are fair. Leaving Boru, they passed to the north of New Guinea, colonizing the Caroline and Solomon Islands, but the vanguard pressing forward to take possession of Savai, in the Samoan group, and Tonga, to the south. These two islands formed a second center of distribution over the western Pacific. The Maoris of New Zealand moved from Tonga—"holy Tonga," as they call it in their songs—about six hundred years ago. The Society Islanders migrated from Savai, and they in turn sent forth the population of the Marquesas, the Sandwich Islands and Easter Island.

The separation of the Polynesians from the western Malays must have taken place about the beginning of our era. This length of time permits the best adjustment of their several traditions, and is not so long as to render it difficult to explain the similarity of their dialects and usages.

Although Dr. Brinton's conclusion as to dates may not be

generally accepted, yet this language shows his views as to the origin of the Polynesians.

It is, therefore, a settled conclusion that adventurers from the Malay Archipelago, or southeastern Asia, have, step by step, in prehistoric times, traversed two-thirds the breadth of the Pacific Ocean. Taking these facts into consideration, should it be thought impossible, or even improbable, that some of the vessels of one or more of the numerous expeditions passing from group to group, or some of those from the parent hive, had been driven by winds or currents to the shores of Mexico or Central America.

Pickering and Taylor mention the fact, which is also quoted by Mr. Wickersham, that in 1845 the United States frigate *St. Louis* took from Mexico to Ningpo, in China, three shipwrecked Japanese, survivors of the crew of a junk which had drifted from the coast of Japan entirely across the Pacific Ocean, and finally stranded on the coast of Mexico, where they remained for two years, until taken back by the *St. Louis*. Mr. Wickersham also quotes, from Brooks, accounts of numerous vessels which had drifted across the ocean to the American shore.

It is therefore not unreasonable to assume, if evidence of contact can be otherwise shown, that some Malay vessels, during their expeditions to the Philippine or Molucca islands, or other points in the Pacific, may have been driven by the winds into the very same current which stranded the Japanese junk on the Mexican coast. I call attention also to the following remark by Prof. Dall (3d. Ann. Rept. Bur. Ethnology, p. 147):

The great congeries of islands known to geographers as Polynesia and Melanesia, stretch toward South America in latitude 25 south, as in northerly direction. Here we have a stream of islands from Papua to the Paumotu, dwindling at last to single islets, with wide gaps between Elizabeth, Ducie, Easter Island, Sala-y-Gomez, San Felix, St. Ambrose, from which comparatively it is but a step swept by the northerly current to the Peruvian Coast. We observe also that these islands lie south from the westerly south equatorial current, in the slack-water between it and an easterly current and in a region of winds blowing toward the east. Here, then, is a possible way.

This course of reasoning leads us back to the crucial test, to-wit: Are there such resemblances between customs and arts or other special features of the Malay and Central Americans as can not be reasonably accounted for except upon the theory of former contact between these widely separated peoples? It is not my intention to enter at this time upon the discussion of this particular point, as this will be reserved for a future communication. However, I may add that since the preparation of the article published in the March (1894) number of *THE ANTIQUARIAN*, I have discovered some evidence on this point which does not appear to have been heretofore brought forward.

I limit the discussion to contact with the people of Central

America because I find that the peculiar calendar of this section prevailed only over a portion of Mexico and Central America, and hence if introduced by an intrusive element, this must have taken place at a comparatively recent date. At least it must have taken place after the population was differentiated into stocks and tribes. It must also have taken place after these stocks and tribes had reached substantially the same localities as those they were found occupying when discovered by Europeans at the commencement of the sixteenth century.

It will be seen by this that the object I had in view in presenting my paper published in *THE ANTIQUARIAN* of March, 1894, had no reference to the original peopling of the American continent, but was simply a suggestion in the way of explaining the similarity in the time systems of certain Polynesian islands and tribes of Mexico and Central America. Since the publication of that article I have obtained other data relating to this subject which lead me to believe that the true explanation of this similarity is to be found in the probability, or possibility that the peculiar features of both localities were derived from Malayan sources, or from Southeastern Asia.

If this supposition be correct (assuming that there is satisfactory evidence of prehistoric contact), then the introduction of this foreign element into Central America will be direct from the original Malayan or Asiatic source, precisely as Quatrefages supposed, and hence will not come within the scope of Mr. Wickersham's criticisms.

The next step will be to bring forward evidence of prehistoric contact between the peoples of the two regions. This, in order to be satisfactory, must be something more than those generalities which have been so often presented. What I have to offer in this direction will be presented in a further communication.

PALESTINE EXPLORATION.

BY THEODORE F. WRIGHT, U. S. SECRETARY.

The Palestine Exploration Fund seems now to have the opportunity of its whole career. Its early excavations were made under the frown of the Turkish government, and were very limited in extent. For many years no further leave to dig could be obtained. All this time the Fund was not idle, but carefully observed the results of private work done in laying the foundations of buildings, and it kept up the study of inscriptions which were brought to light and all matters relating to its field. No issue of the Quarterly Statement during these years caused any disappointment. Moreover the great work of surveying the land, making maps, and identifying sites went on steadily until it reached its goal in the great relief map. It is remarkable that, as soon as all this work was out of the way, excavation reopened.

The work at Lachish was not favorably regarded by the government, the first permit extended only for six weeks, and the Turkish inspector caused five of these to be lost by lingering in Jerusalem; but, by persistent effort, an extension of the permit was gained and great results followed.

Now, however, the door stands wide open. The very ground on which Biblical archaeologists have set longing eyes for a generation is in the hands of Dr. Bliss; all official suspicion seems to have vanished, and there is no sort of obstacle in the way. It is unscientific to predict, but it is taking no risk to say that the whole Jerusalem problem is likely to be solved before this work ends. That it is a time when subscriptions should be promptly made and steadily maintained goes without saying.

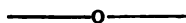
It does not appear how Dr. Bliss will find time to study the many objects brought to light as he goes. In fact, he cannot do so, but must follow his men as they dig along the well-defined line of the old wall; but in due time all objects will receive due attention and we shall have the full account. Meanwhile the Quarterly Statements will give his illustrated reports, enabling the reader to follow him and see just what he is doing.

While the Turkish government has thus relaxed its opposition, it may be said of the United States, that it has withdrawn the disreputable duty which it laid upon our books, placing itself between the London office and our subjects and demanding a heavy toll for admitting the publications; but now, under the new tariff, books devoted to "original scientific research" come in free, and the last case sent to me was not subject to duty. If this can be continued, and there is no reason to doubt the propriety of the application of the exemption to our books, I

shall be able to save our subscribers something on every purchase. I have an unusually large stock of books now on hand and the transactions for books are now amounting to something, although evidently what is most wanted is an enlargement of the subscription list.

Our Fund, and the German organization as well, devote a good degree of attention to inscriptions, and this is obviously wise, since these are the actual records of the past. Every one discovered adds a little to our knowledge of the past. Since the great work of Waddington was published in 1870, scores of important inscriptions have been brought to light and seem to call for a special work. Here is a fine field for our American scholar.

As I write, word is received of a Latin inscription just found on the southern wall of Jerusalem where a gate, closed back, has long covered it. The stone was a votive tablet, erected by the Third Legion to Jupiter, praying his favor for the Roman Empire, and especially the Roman Trajan. No one suspected the existence of this inscription until a storm blew down the door.



RECENT PALEOLITHIC DISCOVERIES IN FOREIGN COUNTRIES.

BY HENRY W. HAYNES.

The discussion in regard to the primitive character of certain flint implements, found in large numbers at elevated points of the Chalk Plateau of Kent (the North Downs), started by the veteran geologist, Professor Prestwich, before the Anthropological Institute of Great Britain, in February, 1892, is continued by Mr. A. M. Bell, before the same society, by "Remarks on the Flint Implements from the Chalk Plateau of Kent," to be found in their *Journal* for May, 1894. The article contains a vigorous defense of both the positions taken by Prestwich, that geological evidence shows the worked flints found on the plateau to be of an earlier date than those found in the gravels of the neighboring river valleys, and that their shape and workmanship (in which they differ from the ordinary types of palæolithic implements), point to an earlier age in the development of man. Both these positions have been disputed by Professor Boyd Dawkins. Mr. Bell subjects his arguments to a very searching scrutiny, and endeavors, by reasoning and by setting forth the results of his own discoveries, to show that Dawkins' views are not only inconclusive, but inconsistent. To me Mr. Bell appears to have the best of the argument. It would take too much space to give a *resume* of his reasoning, which we commend to

the careful consideration of all students of the subject. We quote, however, a single specimen, to show his style of argumentation. "So with *surface finds*; if they possess definite characteristics of form, of wear, of weather, of material, of working, of position when found, each of which places them in a class by themselves, much more when all taken together, then these are certainly local accidents, but they have their importance. * * * Beyond doubt it is at once more delightful and more satisfactory to find *in situ*, and the more numerous and perfect the associated remains of extinct animals, so much the better. But let us recognize that we cannot always be so fortunate. Nature does not create deposits simply to further palæontological research."

Mr. Bell's article is illustrated by three excellent plates, and his conclusion in brief is that "in the ochreous drift, which can * * * be traced for miles along the gently sloping surface, man appears using the palæolithic axe, but using much more largely tools of a ruder and simpler type, which point back to a previous time, when he was unable to shape his tools to a form already conceived by his mind."

Mr. O. B. Shrubsole extends the area of discoveries of similar objects by his article in the August number of the *Journal* "On Flint Implements of a Primitive Type from old (preglacial) hill gravels in Berkshire." These deposits, from five to ten feet in thickness, lie between the valleys of the Wey and the Blackwater, at a general level of about 400 feet above the sea. None of the ordinary types of palæolithic implements have as yet been found in them, but they have yielded (1) large implements with rounded butts; (2) grooved or hollowed scrapers; (3) fragments of flint worked at the point only; of all of which specimens are figured. "Taken as a whole," the author thinks, "they indicate a decidedly rudimentary style in the art of flint-working, * * * and it seems highly probable that they are the work of an older race than that which is associated with the pleistocene gravels."

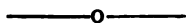
From a note by Marcellin Boule, in *L'Anthropologie*, V. 459, of an article by De Fonseca Cardoso on "A Chellean Station in the Valley of Alcantara," we learn that Portugal must be definitely included among the countries whose river valley gravels have yielded palæolithic implements of the common types. Hitherto only two such objects have ever been discovered there, one on the surface, the other in a cavern. M. Cardoso now reports finding two implements of the Chellean type in the gravels of the Tagus, at Alcantara, a short distance to the northeast of Lisbon.

If evidence of the existence of the tertiary man is ever to be found, it probably will not be in Western Europe, but in some of the warmer regions of the globe, where the conditions of living are more favorable, and where the lower animals which

shall be able to save our subscribers something on every purchase. I have an unusually large stock of books now on hand and the transactions for books are now amounting to something, although evidently what is most wanted is an enlargement of the subscription list.

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Editorial.

"THE MISSING LINK."

According to Dr. D. G. Brinton, in his "Notes on Anthropology" in *Science*, January 11, a fossil has been found which may prove to be "the missing link." This creature has been unearthed by Dr. Eugene Dubois, a surgeon in the Dutch army, stationed in Java, and he describes his find in a quarto of forty pages just issued from the local press of Batavia under the title "*Pithecanthropus Erectus*. A Man-like Transition-form from Java."

"This noteworthy essay contains the detailed description of three fragments of three skeletons which have been found in the early pleistocene strata of Java, and which introduce to us a new species, which is also a new genus and a new family, of the order of primates, placed between the *Simiidae* and *Hominidae*,—in other words, apparently supplying the 'missing link' between man and the higher apes which has so long and so anxiously been awaited.

"The material is sufficient for a close osteological comparison. The cubical capacity of the skull is about two-thirds that of the human average. It is distinctly dolichocephalic, about 70°—and its *norma verticalis* astonishingly like that of the famous Neanderthal skull. The dental apparatus is still of the simian type, but less markedly so than in other apes. The femora are singularly human. They prove beyond doubt that this creature walked constantly on two legs, and when erect was quite equal in height to the average human male. Of the various differences which separate it from the highest apes and the lowest men, it may be said that they bring it closer to the latter than to the former."

This discovery has an interesting bearing upon the original birthplace of the human race. The author believes that the steps in the immediate genealogy of our species, as shown by the find, indicate the southern aspects of the great Himalayan chain as the region in which our race first came into being. This accords with the traditional view that Asia is the cradle of mankind, and by no means contradicts the Biblical story. Still it is placing a good deal of independence on a few bones, when it is stated that "the missing link" has been discovered.

THE RELIGION OF THE INDIANS.

Mr. J. O. Dorsey, in the concluding chapter of his report, uses the following sub-title: "Peet on Indian Religions," and devotes the chapter partly to a reply and partly to the restatement of his own conclusions. This is an honor which is fully appreciated by the editor, for it is the only chapter in this or any other report devoted to any individual's opinion. The occasion of the use of the sub-title and the "concluding remarks" was that the writer had prepared in 1886, at the request of the Victoria Institute, or Philosophical Society of Great Britain, a brief review of an article already in print which had been furnished by Rev. M. Eells, of Washington, and which purported to give the Bible ideas in the aboriginal religions of America. The paper was designed as a mere review and not as a statement of the writer's own opinion, though it was esteemed worthy of separate publication as a pamphlet, and has been somewhat generally circulated. The following are the remarks which were quoted from this review and made the basis of comment. Referring to Mr. Eells and Mr. Williams, who have been laboring among the Tinnehs, the writer said:

In reference to the form of religion which is called Shamanism, a definition is given which was never intended. Shamanism has never been represented by the writer as the *worship* of a *Shaman*, but merely as the supreme rule of the Shaman. The term demonism would perhaps be more suitable, for the exorcising of spirits and the control of demons was supposed by the northern tribes to be altogether in the hands of the Shamans. Animism is another term which might be used, but the animistic faith was by no means confined to the northern tribes. This interpretation is entirely out of the way. The following are points on which we think an agreement will soon be reached and which will be recognized as the fundamental principles of the aboriginal religions. (1) The cosmic conception which was embodied in the tree of life was very similar in all parts of America, and in fact in all parts of the world. (2) The recognition of a great unseen divinity, who was equivalent to the "master of life," the "earth maker" and the great spirit," the "Kitchi Manido" of the Ojibwas, but who went by different names among the different tribes. (3) The eternal conflict between benevolent and malignant beings symbolized by the "great rabbit" and serpent by the Algonkins, Dzhe-manido and the malignant gods of the Ojibwas, but expressed among other tribes and races by varied symbols and myths. (4) The doctrine of the soul which was embodied in the sacred mysteries and found a more complete development in the nagualism of the Mayas. (5) The connection of these various doctrines and divinities with the "world spaces," the elements, the colors and the creation epochs. (6) The probability that there was an esoteric system which was transmitted from tribe to tribe and which had very similar symbols and somewhat similar foundation myths. All of these are proofs that the subject of comparative mythology is very important, but the comparison should not be confined to one country or to one period, nor should there be a discouragement to the workers in the field wherever they are or whatever their opinions may be. Co-operation is decidedly important. This is the best part of the essay. Nearly every worker has been recognized and kindly words have been written.

"There are four or five points on which both missionaries seem to be agreed: Four doctrines—the existence of God, immortality of the soul, the sinfulness of man, and the necessity of sacrifice—seem to have been held in various modified forms by all the tribes in North America." Now, this remark which is quoted was merely designed to represent the opinion of others and can hardly be taken as expressing the definite and complete belief of the writer, and should not have been so stated, and if so used, certainly should not have been subjected to an interpretation which was never intended. The writer will say that American ethnologists have been making a great advance in their knowledge of aboriginal religions, and are really bringing out many new facts.

ARCHÆOLOGICAL NOTES.

BY MARSHALL H. SAVILLE.

DISCOVERY OF AN ANCIENT CITY IN HONDURAS.—The following notice appeared in *Le Nouveau Monde*, Paris, Dec. 1, 1894: "Word has been received from Honduras of the discovery of an ancient 'Toltec' city in the depths of a forest near the Rio Grande. The remains of this city are very well preserved and reveal an advanced civilization. The city was well constructed; possessed three great temples, more than 150 feet in length and 35 feet in width; the streets are large and well paved." The Rio Grande mentioned is probably that which flows not far from Tegucigalpa, the capital of Honduras. Squier is the only person who has given us any information regarding the ruins in Honduras, and with the exception of the ruins of Copan, which being but five miles from the boundary of Guatemala, more properly belong to the Guatemala group of ruins. No archæological work has ever been carried on in the Republic.

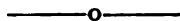
PEABODY MUSEUM HONDURAS EXPEDITION.—In connection with the reported discovery of an ancient city in Honduras it would be well to notice the expedition which is now in the field at the ruins of Copan, sent out under the decree given several years ago to the Peabody Museum of Harvard University. This decree gave to that institution the care of the ancient remains of Honduras, and the exclusive right of excavating for ten years. Two expeditions have already been sent out directly by the Peabody Museum. This year, however, the work will be carried on jointly by the Peabody Museum and the American Museum of Natural History, New York. This, the third expedition, has been placed under the charge of Mr. G. B. Gordon, who was associated with the late Mr. Owens as civil engineer on the second expedition. The wealth of inscriptions, and numerous tombs in Copan, make it as important a field for research as any to be found in Central America.

GUATEMALA ANTIQUITIES.—The extremely interesting and valuable collection of antiquities formerly owned by Sr. D. Manuel G. Elgueta, of Guatemala, has become the property of the California Academy of Science, San Francisco, and has been installed in their rooms. This collection was exhibited in the Guatemala Building at the World's Columbian Exposition, and was taken to San Francisco and exhibited at the Mid-winter Exposition. It was made by Sr. Elgueta, among the ruined cities of the Quiches, in Northern Guatemala, the material largely being found in tombs, which were subterranean chambers, with either mounds of cemented debris or buildings erected over them. It comprises a small collection of vases of great value, as they bear hieroglyphic inscriptions and pictures painted in colors. In view of the small number of such vases to be found in our museums, these vases should be carefully studied and reproduced in color, in the same manner as Hr. E. P. Dieseldorff has reproduced a vase from Copan, Guatemala, in *Zeitsch. f. Ethnol. (Verh. der Berliner Anthropol. Gesellsch.)* Bd. XXVI, 1894. Such vases properly reproduced are miniature Maya or Quiche codices. In addition to the vases in the Elgueta collection are a

number of jadeite beads, ear ornaments, and other ornaments, obsidian implements, household utensils and a few stone carvings.

ARMOUR EXPEDITION TO YUCATAN.—An expedition under the auspices of Mr. Allison V. Armour, of Chicago, started for Yucatan the middle of December. Mr. Armour has, for several years, taken a deep interest in the ruins of Yucatan, and has made a number of visits to the country. This year, accompanied by Prof. W. H. Holmes, curator of anthropology at the Field Columbian Museum, Chicago, and Prof. Allan Marquand, of Princeton University, he has sailed in his yacht *Ituna* for Progreso. They will visit the ruins of Labna, Kabah, Uxmal and Chichen Itza, in company with Mr. E. H. Thompson, ex-U. S. consul who has been many years a resident of the state, and has recently purchased the hacienda upon which the ruins of Chichen Itza stand. The party will visit Palenque, in Chiapas, and will try to make a landing at Tuloom, on the eastern coast of the peninsula of Yucatan. Mr. Thompson's intimate knowledge of the Maya people and language will facilitate work among the hostile Indians who live near the ruins, and if the landing is successful the photographs and observations regarding this almost unknown city will be a chapter added to our knowledge of the ancient cities of Yucatan.

DR. PHILLIP J. J. VALENTINI, after a long absence from the field of Central American archaeology, presented before the American Antiquarian Society, Worcester, at its last meeting, a paper entitled "Analysis of the Pictorial Text Inscribed on the Palenque Tablet (Temple of the Sacred Tree)." This tablet, miscalled Tablet of the Cross, has been studied for many years by Dr. Valentini, and his valuable paper will be published in the Antiquarian Society proceedings in April.



BOOK REVIEWS.

A Primer of the Mayan Hieroglyphics. By Daniel G. Brinton. Boston, U. S. A. 1895.

The study of symbolism as contained in the various charts, pictographs and ceremonies of the wild tribes, also contained in the sand paintings of the Navajoes and the dramatization of the Moquis and Zunis, and especially those contained in the codices and the hieroglyphics of the Mayas, has been followed by various gentlemen in this country and in Europe. Great progress has been made in interpreting the symbols and in identifying and naming the gods. The best work, at least the most interesting and the most satisfactory, is the one by Dr. Daniel G. Brinton. He brings out briefly the different opinions which have been advanced by Dr. Seler, Schellhaus, Fostemann, in Germany, Dr. Thomas, Dr. J. W. Fewkes, M. H. Saville and others in this country, about the Maya codices and hieroglyphics. There is no attempt at drawing a comparison, and yet the statements which are made have already proved suggestive to the writer in reference to the analogies.

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THE HIDERY STORY OF CREATION.

BY JAMES DEANS.

In a previous paper I showed that the Hidery had two phratries or brotherhoods, and that the representative crests of these two were the raven and the eagle. I also showed that these two were divided into twenty-five clans, who were each of them distinguished by certain coats-of-arms or crests, and these crests were represented by certain animals, fishes and birds,—also by the rain-bow, the sun, moon and the thunder-bird. While speaking of phratries I may say that the neighboring tribes of the Hidery are somewhat different, to this extent: the Tsimshians have, I believe, four—the raven, eagle, wolf and bear; the Klingat of Southern Alaska, like the Hidery, only two, the raven and wolf—Yehl and Kanuk—phratries. Each of these has almost all the same coat-of-arms. Connected with nearly all of them is a story. These two phratries, to a certain extent, represent good and evil, positive and negative. Every phratry and clan had an instrument with which they could imitate the call of their respective crests. The ravens were not allowed to use those of the eagle, nor the eagle those of the raven. They also had certain dances. The movements in the dances corresponded more or less to those of the animal, bird, or whatever was the subject of the crest. There were certain degrees belonging to these crests, into which a person had to be initiated. These degrees entitle them to a Tuden Skeel of two or more degrees, as the case may be. The Tuden Skeel is shown on the houses and totem posts by a head with a hat. From the center of it rises a sort of cone, with a lot of pieces all of one size, joined together. Each piece represents one degree. They also had masks, or false-faces, cut out of a block of wood. Also a mortuary column with a number of black and white stripes on it. These are all of the same width and encircle the shaft of the column. I saw one at

Skidegat's town, on which were fourteen of these black and white circles. A chief, or a person of high standing, had to wear a sort of cloak, attached to a head-dress. On the front of the head-piece was carved one of the crests of the wearer. Set into its face were a number of abalone shells. Fixed into the top of this head-gear, standing upright, were a number of sea-lion bristles. These were put in to form a small circle, within which were placed a lot of eagle down-feathers. While dancing and jumping about and shaking their heads, this down would fly about, covering everything. Attached to this head-gear was a yard or two of calico. This had a large number of ermine skins sewed to it. This usually hung down the back of the wearer. The Hidery name for this is *chillka*, the Tsimshians call it *am halloid*, (good or nice halloid). With this I shall finish my description of their social ways for the present, and take the raven phratry.

The raven which is used is the one common to this coast, and is by some ornithologists classed as *corvus calotoß*. Yet he is more than a mere raven, or phratry, in their estimation, because he has always been considered as the embodiment of the creator and preserver of all.

Every nation on this coast has a name for him in their own language. The Sangus, Sauich, Cowitchians and others give the name *Spaul*; the Fort Ruperts, Billu Billus, call him *Cov-e-ah*; the Southern Hidery call him *Chov-e-ah*; the Northern Hidery and the Southern Alaskans call him *Yehl*; the Tsimshians call him *Cauck*. According to the Hidery, the god Ne-kilst-luss, in all of his works of creation and providence, assumed the shape of a raven. All of the above mentioned nations had a god to whom was ascribed the same functions; all of them when asked if they had a god, and what was his name, would always give the name as raven. All the others except the Hidery seem to have lost the old god name for the raven. This god, Ne-kilst-luss, under different names, represented good and evil. As the creator he is known as Ne-kilst-luss; as goodness he is known as Sun-i-a-tlai-duss, and as the evil principle he is known as Haidu-tan-ah. In the shape of a raven he existed from all eternity. Before this world came into being, as a raven he brooded over the intense darkness which prevailed, until after æons of ages, by the continual flapping of his wings, he beat the darkness down to solid ground. After this he gave the new found earth a principle of evolution. For a long time the only light in the world was a dim, hazy one given off by the earth. When the earth was in a condition to receive the stronger light from the sun, moon and stars, he set himself to get hold of them. They were in possession of a great chief named Settin-ki-juss, who lived far up on the Skeeun. He had them in three separate boxes, and kept them only for his own use.

He (Ne-kilst-luss) sent to this chief and told him that the earth was now in a condition to receive more light, and for that purpose he wanted the contents of his three boxes. On no account would the old fellow part with them. So being determined to obtain them, he took the following means: This old chief had a daughter. So, in order to become one of the family, the better to gain the long-wished-for prize, he turned himself into the leaf of a spruce tree and floated on the water she drank, and was swallowed by her. In due season she gave birth to a son, who, of course, was Ne-kilst-luss. He rapidly grew up to be a fine, sturdy boy, and became, not only a great favorite with his grandfather, but a spoiled child. So much did the old man spoil him that he could not refuse him anything. Seeing this, the boy asked for one of the boxes to play with. This the old chief sternly refused to give. The boy, however, raised such a row in the family as only spoiled children can do. He gave the old man no peace. So, in desperation, he pointed to a box, saying, "Take that one, but be careful and do not break it." The boy, after rolling it about for some time, lifted it up and threw it on the floor and broke it open. He took it in his beak. It happened to be the sun he had gotten. Just as he was about to fly away with it he saw that the kinct or smoke hole was shut, but he called to some one, *Ah, ah, kinct, ah, kinct*. So soon as the kinct was opened he picked up the sun and placed it in the heavens, where it has been ever since giving light to the world.

Having got the sun, his next step was to get possession of the moon and stars. These he obtained in the following manner: Hearing that the chief had gone up Naas river in order to lay in a stock of small fish (*ooluchans*), and to enable him to see, had taken the other two boxes with him. Determined to get hold of, at least the moon, he prepared a small false one. Having got a canoe, he started up the river, to find Sittin-ki-juss, being anxious to get some of these fish, in order to have his canoe covered with scales, because he meant to make believe he was fishing likewise. Going along he saw a shag which he knew had an ooluchan in its stomach. In order to get the fish, he caused the shag and a sea gull to fight. This they did until the shag vomited up all the fish in its stomach. This was all that Ne-kilst-luss wanted. So he took and rubbed his hands and face, and canoe as well, with the fish scales. Having done so, he kept on up the river until he met the old man. When they met the chief asked him where he had been. To this Ne-kilst-luss replied: "I have, like yourself, been fishing; look at my canoe." "How did you see to fish in the dark? You have no moon." Ne-kilst-luss having all the time hid his moon under his feathers. "I have," he replied, letting out a little light, "one of my own, as good as yours." Settin-ki-juss, seeing an-

other moon, apparently as good as his, became so disgusted that he left, leaving the other two boxes behind. This was Ne-kilt-luss' opportunity. So he broke open the other two boxes and let out the moon and stars. These he placed in the heavens, where they have been ever since.

* *

HOW YEHL GOT FRESH WATER.

At this date the water on the earth was all salt, and unfit for use. So he, Ne-kilt-luss, or Yehl, as I shall call him in the following story, following the usages of the people of Southern Alaska, from whom I have this story, hearing that Kannuc Wolf had plenty of water, he went off to get some, and a drink as well. This chief, Kannuc, lived on an island to the east of Sitka. He had his house built over his well, in order to prevent any one from stealing his fresh water. Yehl took his canoe, and crossed over to the island. Going over he met Kannuc, so together they went to his house. In order to find where he kept his fresh water, Yehl asked him for a drink. This he got, reserving the residue for further use. After spending the evening in conversation both fell asleep. After awhile Yehl awoke. Seeing his host still asleep, he got up and drank what was left in the bucket, and flew away with it. So full was he with the water that he stuck fast in the smoke hole. Some say he picked up the bucket and flew away with it in his beak. This mishap awoke Kannuc, who, in order to punish him for stealing his fresh water, piled a lot of green fir boughs on the fire. This made such a smoke that Yehl was not only nearly suffocated, but was changed from a beautiful white bird to one of sooty blackness.

When he got out he flew over to the mainland, letting fall as he went along a few drops of water. Wherever those drops fell a large river commenced to flow, and has done so ever since. When he reached Hidery land only a few drops of dirty water remained. This accounts for most of the streams on Queen Charlotte's Island being black and dirty, unlike the others.

Having made the rivers, his next step was to stock them with fish. Having learned that Tsing, the beaver, had plenty of salmon, but kept them in a lake and river where no one could find them. He turned himself into a pretty little boy, and wandered away to the beaver's house. The old chief, seeing him to be a rather nice looking little fellow, made him welcome. The better to suit his purpose the boy, as I shall name him, was attentive to the old beaver's every want, and in all things tried to please him.

One day they had for dinner what the old beaver called his nice salmon, and asked the boy how he liked them. He replied they were the nicest fish he ever tasted, and asked where they

were to be got. To this the old beaver replied he had a lake full of them, and a river of his own, where every season he got a plentiful supply, but no one knew where they were, and he would take care no one ever should know.

As time passed onward he grew more and more fond of his adopted son, and would take him along with him when he went fishing. After awhile he became a better fisher than the old beaver himself. After this he would stay at home and send the boy alone. For a long time the boy never failed to return nightly, bringing with him a supply of the salmon. All this time the boy was nearing the fulfillment of his long-cherished scheme. Getting together one day a lot of fine salmon, he started on his mission, putting in each river as he passed along a quantity of his fish, until his stock was exhausted. This is how Ne-kilst-luss cheated old Tsing out of his fish for the benefit of mankind, and broke his monopoly.

* *

THE RAVEN'S CONNECTION WITH THE ORIGIN OF MANKIND.

When the raven (Ne-kilst-luss) had this world prepared for the reception of a being who was to be in his own image, part of himself, mankind, he went to seek for that being. Accordingly, as he walked in the shape of a raven one day along Nicoon's well-known point he found lying on the sand a cockle (*Cardium Nuttalli*) and had several connections with it. Returning that way at the end of nine months he found the cockle in the same place. Looking at it he heard a sound like "peep, peep," issuing from it. These noises was the cockle in labor. It gave birth to six beings, of whom he was father. These six partook of both sexes. In order to put them to rights he took the female principle from three, making them males. On the abdomen of the other three he placed six sea snails, or Beches de mere, making them females. Having by these means got the representatives of three families, he told them to have children and replenish the earth, because it was theirs. At first these people were dark-skinned and thickly covered with hair, had long arms and legs, and were unable to walk upright. After many generations, these people, so low in their first estate, by a continued selection of the best and fairest looking, were freed of hair, and became the people of to-day. The people of to-day, though far advanced, have a deal yet to learn, and have a great future before them, because, as descendants of God, they are always progressing and urged onward by a principle of evolution implanted in them by their father and creator.

At first and for many years or ages the land they lived in was always warm and nice, consequently they never were in need of anything wherewith to warm themselves.

But a change came after many generations; it grew colder; then they were in need of something to afford them warmth, and latterly to cook their food. So in order to give them fire, Ne-kilst-luss learned that all the fire was in the possession of a chief who lived on an island far out at sea. So donning his coat of feathers, he flew over to the island to get a supply. Seeing a brand with a nice glow on it, he picked it up in his beak and quickly flew over to the mainland. Before he got over a part of his beak was burned off. As soon as he reached the other side he let the brand fall among some sticks and stones, breaking it into sparks. As soon as these sparks fell on the sticks and stones they quickly absorbed the fire. So ever since whosoever strikes two of these stones together, they will give out the fire, also if any one rub two of the sticks together, they, too, will do the same. This is how the Hidery got fire.

* *

THE SCAMSUM AND MAMMA CHICKA.

Long ago, as I have said, the climate was warm, and at the same time the land was very moist, and consequently brought forth mosquitos of an enormous size. Their bites were terrible and deadly, many of the people dying from their bites. A sad cry went up to Ne-kilst-luss for relief. He heard their prayer, and sent the Scamsum (mosquito hawk), and gave him the mosquitos for food. This hawk was unable to eat them all. Seeing this, Ne-kilst-luss sent the Dragon Fly (*mamma chicka*), to help him. So there soon was relief from their tormentors; likewise, the climate growing colder, very much helped to do away with them.

The laws of evolution established by Ne-kilst-luss were immutable. So in course of time this Northern climate not only grew colder, but ice began to form, and snow deeply covered first the hill tops, then afterward, the lowlands. Finally the cold became so intense that they had to move farther south. This they did, led by a woman whose name was Call-cah-jude (woman of the ice). They left in a body for a warmer home, where they lived for many generations. Afterward, when the climate again got warmer, they moved to Alaska and to Queen Charlotte's Islands.

* *

AN ACCOUNT OF A GREAT FLOOD.

The same laws which brought the snow and ice brought also a terrible rush of water, which finally covered the whole earth, at least Hidery land. Thunder and lightning and rain which fell in torrents on the earth, quaked and rent it everywhere. Out of these rents came fire and water. The people, terribly afraid of the rising waters, made for their canoes and for the high mountain near Gumshend, Queen Charlotte's Islands, which

was above the rising waters. Many of them lost their lives before they reached the mountain, because their canoes were broken by the floating drift wood. Those who were fortunate enough to reach the mountain remained there until the waters dried up. Then they ventured down again and tried to find the homes they left, but all was so changed no trace of them was to be seen. Being few in number, the survivors became quite disheartened. Seeing them in such a state Ne-kilst-luss, in shape of a raven, appeared to them and advised them to be of good cheer, saying if they would do as he told them they would soon have plenty of company. They replied they would be glad to do anything for the best. Well, then, all of you gather together a pile of stones. Then stand with your faces toward the pile. Then all of you pick up the stones and throw them over your head backward, and await the result. This they did, all of them. Each stone as soon as it touched the ground jumped up either a man or a woman. So they soon had plenty of companions and felt much better.

Yehl, or Ne-kilst-luss, himself, in shape of a raven, was preserved during the flood by sticking his beak into a cloud and holding on until the waters left.

For a long time the people lived in fear of another flood. As time passed onward without another visitation, they felt more comfortable, and soon everything went on as before, always getting better as time passed.

When Yehl wished to regulate the seasons, he called together in council all the animals, in order to have their opinion with regard to the number of months in each of the four seasons. There was a deal of argument as to the length of the summer and winter quarters; some wanted three months of winter and four of summer, others of them, more especially the sleepers, wanted three months of summer and four of winter. While the subject was being discussed Yehl asked Saugh the (raccoon) for his opinion. Holding up his hand with his five fingers upward, he said, "I want five months of winter and four of summer." As soon as the Saugh expressed his opinion Yehl took a hold of his thumb and wrenched it off, saying, "four months of winter we shall have forever." And so it was decided. Of course, this refers to Southern Alaska.

When Yehl had finished his labors he retired to the east in order to have a long rest. In the far east, near the source of the river Naas, there is a very high mountain with a large hole in it. He lives in this hole, from which he often flies when the east wind blows. The name of this mountain is Naas Shieky Yehl—that is, Yehl's dwelling on the Naas.

This is all I can say about the raven as a crest or clan and phratry. In my next paper I shall take the Sun clan and tell its story.

NOTES ON THE KOOTENAY INDIANS.

By A. F. CHAMBERLAIN.

III.—MYTHOLOGY AND FOLKLORE.

Besides a few legends published by Dr. Franz Boas in the "Verhandlungen der Berliner anthropologischen Gesellschaft" for 1891 and some abstracts of myths by the present writer in the "Report of the British Association for the Advancement of Science" for 1892, there has been very little written of the mythology and folklore of the Kootenays. In this paper (and in others to follow) an attempt will be made to give a brief account of the mythology of this little-known tribe of Indians, based upon the writer's own notes, made whilst resident among them.

COSMOGONY AND WORLD IDEAS.

As the Algonkian Chippewas use *aki*, so do the Kootenay Indians use *amak*, whose primitive signification is "earth, mud, dirt," in the extended sense of "land, country," then "earth, world." In his version of the Lord's Prayer, De Smet renders the words "on earth" by *yuno amak* (in his spelling *younoamake*; *yuno*, "on"). The Indians use the following expressions: *Kitonaga amakis*, "the land of the Kootenays;" *na amak*, "the land, this country," etc. There is also in use the expression, *K'ape amak* (lit., "all lands, the whole earth"), which is a fair equivalent of our "world." There are two words, *natanik* and *nukkua*, which mean both "sun" and "moon;" the last, however, is obsolescent, occurring chiefly in compounds. Whenever ambiguity would otherwise arise, the "moon" is called *K'tsilme yet natanik*, "night sun." The words in use for "sunrise" are, *Kiyuakumi nukkua*; *yua kumi nukkua ne*; these may mean "the sun is painting." The "aurora" is called *Kanos itlme yet*, "red sky," and the "red sky" at sunset is termed *Kitenus itlme yet*, from *Kitenustik*, "to paint (red)," and *aqkitlme yet*, "sky." The "sunset" is called *Kiwatum nukkua*, the signification of which is "sun over (behind) the mountains." Another word for "sunset" is *watl koet*, which also signifies "evening," and is related to *watlkoa*, "yesterday." The "full moon" is *K'ape ne natanik*, "there-is-all the moon;" the "moon in the second quarter, *tciko-saka natanik*, "piece of moon." The "rising" of the heavenly bodies is expressed by the general term *owokine* ("it rises"), and the moon is now" is rendered by *tlaowokine natanik*, "the moon rises again (*tla*)." The word for "star" is *aqkitlnohos*, which is

evidently a derivative of *nokos* (*nos*), "red." The "morning star" and the "evening star" are both termed *guxwill illnokos*, "big star." The "north star" is called *llantla*, "grizzly bear;" the "Pleiades" are called *aqkill kanka*;" the "milky way" is called *aqkemas qaeltisin*, "the trail of the dog." A "meteor" or "falling star" is *Kanuqo* (from *Kanuqo'ne*.) "it falls." The "thunder" and the "thunder-bird" are termed *numa*; the lightning is caused by the arrows which this bird shoots. It is interesting to note that in the Kootenay vocabulary published in 1841 by Prince Maximilian the word given for "God" is *numa*; this has been driven out by the missionary-made term, *Yakasin Kinawaska*, "He who made us," which is now in use among these Indians. The sun is looked upon as a man, the moon as a woman, while the stars are Indians who, from time to time, have ascended to the sky.

* *

ORIGIN OF THE SUN AND MOON.

In the beginning there was no sun and an Indian tried to make it, as did several after him, but without any success. Finally the Coyote (Skinkuts) tried his hand, and next morning the sun rose over the tops of the mountains. Another version of this legend makes the Coyote manufacture the sun out of some grease made into a ball; the sun rises all right, but does not last very long, and the people are angry at him. Then the Chicken-hawk (*Accipiter Cooperi*), called *Intlak* by the Indians, a male character, essays the task, and the sun is created in all its glory. But the Coyote is so angry at the success of the Chicken-hawk that he shoots an arrow at the sun and set the earth on fire, and the coloring of his fur bears evidence of the fact to this very day, for he had great difficulty in escaping with his life. A variant, recorded by Dr. Boas, makes the two sons of the Wild-cat try to create the sun and the moon. The elder turned himself into the sun, and by his brightness dispelled the gloom which the great black body and outspread wings of the raven had caused in the world; the younger, rising behind the mountains, became the moon. The Coyote, whose efforts had been attended with no success, got very angry and shot an arrow at the sun, which, however, did not strike it, but fell upon the dry grass and caused the first prairie-fire. The version obtained by the present writer ascribes the making of the moon to the Chicken-hawk. Probably the Chicken-hawk is identical with the younger of the Wild-cats. The Coyote and the Chicken-hawk appear to be the most conspicuous figures in Kootenay mythology and are both males, the wife of the Chicken-hawk being a little bird called *Sukpeka*. The Coyote's wives seem to have been quite numerous; among them was the dog. Some Indians say that the Chicken-hawk made the stars and the rainbow (*inismin*), as well as the moon.

The Great Bear constellation, called *tlantla*, is looked upon as a female grizzly bear, formerly an Indian woman in the time man and the animals were pretty much the same kind of beings.

* *

ORIGIN OF THE CLOUDS.

In the beginning there were no clouds. There was only *numa*, the great thunder-bird, in the sky. By and by along came the Coyote and his daughter. The thunder-bird had no wife, so he took the daughter of the Coyote. The Coyote then made a little sack or bag, which he gave to the thunder-bird's wife for a blanket. This blanket is the clouds which we now see in the sky. This story appears to have arisen from the resemblance of the word "aqk'atl," cloud, and "aqkatl," sack, cloth for making sacks.

* *

ORIGIN OF MEN.

According to a legend obtained by Dr. Boas, when men were first created they rose up before they were quite finished and began to dance, and kept on dancing till they fell down dead. Then new men were created, from whom the present race of Indians is descended. The story of creation given by the Kootenays to the writer of these notes, states that the first male Indian came out of a hole in the ground somewhere east of the Rocky mountains, while the first woman was obtained by an Indian from a spirit in the mountains.

Rev. E. F. Wilson has recorded a very curious legend of the Canadian Kootenay Indians, between some of whom and the white Americans of the adjoining portions of the United States there is no great love lost. "Once upon a time, they say, they (Kootenays) and the Pesieux (French-Canadian voyageurs) lived together in such happiness that the Great Spirit above envied their happy condition. So he came to the earth, and as he was riding on the prairies on the other side of the Rocky mountains he killed a buffalo, and out of the buffalo crawled a lank, lean figure, called a 'Boston man,' and from that day to this their troubles commenced, and there never will be peace again till they go to the land of their fathers." This is so strange a story that one might almost suspect it of being un Indian.

* *

ORIGIN OF ANIMALS, ETC.

The animals apparently existed long before men were upon earth, but it is very difficult sometimes to say whether these creatures were not more human than bestial in their characteristics. Kootenay mythology is largely concerned with the doings.

and exploits of animals, of which the Coyote, the Chicken-hawk, the Turtle, the Grizzly Bear, the Fox, the Rabbit, the Wolf, the Owl and the Frog are the chief.

A legend obtained by Dr. Boas states that when the muskrat killed his wife, he made the animals believe that the arrow which was found sticking in her body came from the sky. After all the other animals had tried, the hawk shot an arrow into the sky, and by shooting another into the end of the first one and so on made a chain of arrows, by which the muskrat, followed by all the other animals, climbed up. But "when the muskrat got to the top he began shooting at the other animals, but they returned the fire and killed the muskrat. Then the chain broke, and all the arrows were piled up in a heap and became the Rocky mountains." The legend goes on to say that "the animals were nearly all left up in the sky and did not know how to come down again. They made a sling and caught the great thunder-bird and pulled out its feathers. The feathers were distributed to the animals as far as they would go, and they made for themselves wings and flew down and became birds; and others, who could not get feathers, fell into the sea and became fishes. The sucker fell upon a rock and broke all his bones, and had to borrow new ones from all the other animals; that is why he is so full of bones."

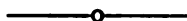
The story of the origin of horses, as related by the Kootenays to the present writer in 1891, is as follows: Formerly the Indians had no horses. Once upon a time a medicine man cut a piece of wood into the shape of a horse and threw it on the ground; it became alive, and was the first horse.

Of the origin of mosquitos and flies there are two accounts. The first is that they sprang from the ashes of a child-stealing witch, whom some of her would-be victims (or, in one version of the myth, the coyote, who has changed himself into a child,) manage to tumble into a fire-pit and thus destroy. The second makes them spring from the body of the first mosquito, who ate so much blood that his body burst into pieces. The writer of these notes has treated of these legends in his articles on the "Owl and the Coyote" and on the "Origin of Mosquitos."

Appended is a brief bibliography of Kootenay mythology and folklore:

1. Boas, Franz.—British Association for the Advancement of Science, Newcastle-upon-Tyne meeting, 1889. Fifth Report on the Northwestern Tribes of Canada. London, 1889, 103 pp., 8vo. Contains, p. 46, notes on birth, marriage and death customs of the Kootenays; p. 52, religion; p. 59, shamanism.
2. Boas, Franz.—*Einige Sagen der Kootenay. Verh der Berliner Gesellsch. f. Anthrop.*, etc., Jahrg., 1891, S. 161-172.
3. Chamberlain, A. F.—British Association for the Advancement of Science, Edinburgh meeting, 1892. Eighth Report on the Northwestern Tribes

- of Canada. Report on the Kootenay Indians of Southeastern British Columbia. London, 1892, 71 pp., 8vo. Part II., pp. 31-38 devoted to mythology and folklore.
4. Chamberlain, A. F.—Der Wettlauf: Eine Sage der Kítonáq̄. *Am Ur-Quell*, III., Bd., (1892) S. 212-213.
 5. Chamberlain, A. F.—Sagen vom Ursprung der Fliegen und Moskiten. *Ibid.*, IV., Bd. (1893), S. 129-131. Contains abstracts of Kootenay legends of origin of mosquitos.
 6. Chamberlain, A. F.—The Coyote and the Owl (Tales of the Kootenay Indians). *Mem. Intern. Cong. Anthr.* (1893), Chicago, 1894, pp. 282-284.
 7. Chamberlain, A. F.—A Kootenay Legend: The Coyote and the Mountain Spirit. *Journ. Amer. Folk-Lore*, Vol. VII (1894), pp. 105-106.
 8. Wilson, Rev. E. F.—The Kootenay Indians. *Our Forest Children*, Vol. III (1890), No. 13, New Series No. 11, April, 1890, pp. 164-168. Contains on pp. 166-167 abstracts of a few Kootenay legends, chiefly derived from Dr. Boas.



"AN ABORIGINAL WAR CLUB."

BY JAMES WICKERSHAM.

A very fair display of aboriginal weapons was made by private collectors at the Inter-State Fair held at Tacoma in 1894. In the collection exhibited by the Pullman College of the State of Washington was a plaster cast of a stone implement found in a mound in Bent County, Colorado, by J. B. Aldrich, the original being now in the Smithsonian Institution. This weapon is fifteen inches long, and bears this astonishing legend: "Patu-Patu or Merai, said to have been found in a mound, Bent County, Colorado; believed to have come from New Zealand, Pacific Ocean; original No. 61,959 in U. S. National Museum; collected by J. B. Aldrich!" Upon a careful examination I was satisfied that this cast was not of a New Zealand specimen, but of a typical Indian war club, quite common throughout that vast stretch of country from Alaska to Peru, via Puget Sound, Columbia river, Great Salt Lake, Pueblos, Mexico, Central America and thence to the land of the Incas, where it was reproduced in bronze. My opinion was strengthened upon an examination of a descriptive catalogue issued by the Smithsonian Institution in 1892, in which a history of this identical weapon is found. The catalogue is entitled "Labels for Collection of Casts of Prehistoric Implements," and the following extract will be interesting for many things found in it, as well as some which are missing: "Patu Patu or Merai. This is the traditional weapon of the New Zealander. They may be made of wood, but usually are of hard greenstone, the jade of that country. They have been polished with a species of corundum found in the island. They are finely and symmetrically made, must have required much labor, and are valued highly. They become heirlooms and are given proper names. A sword knot is attached either by a groove or hole.

This specimen was given by J. B. Aldrich, who describes it by letter from Memphis, June 25, 1883, thus: "It was dug out of a mound under my direction in 1866, while Quartermaster U. S. Army. The mound was situated just south of the Arkansas river near the thirty-eighth parallel, in Bent County, South East Colorado. It was the theory of Kit Carson, who accompanied the command, that it had been secreted there by some of the Comanche or Apache Indians, who then occupied the Territory. The hole was filled with a remnant of the loop made of vegetable fiber."

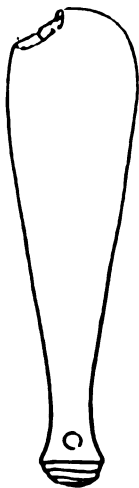


Fig. 1.—Stone "Macana" Colorado.

It will be seen by this testimony of the collector, as well as by a most competent witness, Kit Carson, that the probability is that the weapon did not come from New Zealand, and this assumption of its foreign workmanship probably arose from the fact that it so closely resembled the characteristic weapon of the Maoris. To show this relationship, I have copied a cut of a Patu-Patu or Merai, from "Savage Weapons at the Centennial Exhibition."* It is there described as "the Merai or Patu-Patu of New Zealand is a two-edged club of a prolonged ovoidal shape. It usually has a hole in the neck for a wrist cord. Fig. 7

(Fig. 2 in this article) is of green jade, very symmetrical, and beautifully polished with a species of corundum found in the island. Fig. 10 is a carved weapon, the name of which was *Kaikonoki*, or 'face eater.' It is made from a bone of a spermaceti whale, and has the reputation of having been handed down in the family for twelve generations. Merai of this shape are also made of wood, but are not as much valued as those of harder and more enduring materials." By comparing the cuts, 1 and 2, with the language used in relation to them, it will be seen that the label for Fig. 1 prepared by the Smithsonian Institution was evidently based upon the information in the Report of 1879. Instead of accepting the plain testimony of Aldrich and Carson it was thought better to theorize—hence the mistake. The implement in question is a typical American weapon.



Fig. 2.—Stone Patu Patu, N. Z.

It is much more likely that the Maoris of New Zealand obtained

*Smithsonian Report, 1879, page 219-20.

their weapon from the north-west coast of America than that it came to Colorado from Polynesia. In the *ANTIQUARIAN* for December, 1894, I have undertaken to show that the Polynesians reached their Oceanica homes from the north-east, via the "Kuro-shiwo," or "black stream," of the Japanese, together with its southern flow off the coasts of Washington, Oregon and California, and the return equatorial flow to Asia. The Indians of Alaska to Columbia river travel on the ocean in their splendid great canoes, and it is not impossible that the weapon first reached Polynesia by these people drifting to the islands of the Pacific. Be that as it may, it is a common weapon from Alaska to Southern Oregon, as well as on Puget Sound and the Columbia river, in Mexico and Peru.



Fig. 3—Bronze "Macana," Co'ombia River.

During a twenty years' residence at Umatilla, Oregon, Mrs. Helen A. Kunzie has been an enthusiastic and intelligent collector of the archæology of that locality. Her home lies at the mouth of the Umatilla river, on the banks of the Columbia, about eighty miles east of Dalles, Oregon. In pre-historic times the Aztecs traded in this region, as well as Puget Sound, for Mrs. Kunzie has in her rare and valuable collection a characteristic three-legged "metate," exactly like those of Moqui and Mexico, a similar one having been recently found on Puget Sound. Her collection also embraces the finest display of obsidian knives probably north of Mexico, and her thousands of arrow points are jewels. The most interesting specimen, however, in her priceless collection is a bronze "Macana," or war club. It is exactly like Fig. 1 from the Colorado Mound. I have compared them side by side, and barring the material, they are exact counterparts, and may have been made at the same time by the same mechanic. This bronze specimen was found on the Columbia river bluffs opposite Umatilla, in Klickitat County, Washington, in an ancient grave. It appears to have been cast, and is a finely made implement. It is, like the Colorado specimen, fifteen inches long and of the same width, having the same hole for the string or sword knot. So far as I know it is the only bronze ever



Fig. 4—Wood "Stub-dets," Puget Sound.

found in this region, and only proves two things: (1) That the bronze of Mexico reached the Columbia river, with other characteristic Aztec implements, either by being carried by traders, or by traffic from tribe to tribe; (2) that the Mexican "Macana" was of the same shape in Colorado, Columbia river and northward.

The Nusqually Indian name for this weapon is "slubbets," and the form is well known to all tribes in this region, from the Columbia to Alaska. Fig. 4 is a typical wood "slubbets," and was made for me by an ancient Nusqually mechanic. They formerly made them out of yew wood, whale bone, elk's horn and stone. They made two forms of the stone, the common one being like figures 1, 2 and 3, while a ruder style was also quite often found. This kind did not widen out into the ovoidal shape, but continued about one width to the end, while the cross section was diagonal. It was finished with a hole for thong, and usually embellished with some ornamentation at the handle. I have one of these specimens in my collection, and Rev. Myron Eells of Skokomish Indian reservation has another. The Indian who made the wood "slubbets" No. 4 had not previously seen any of my specimens, and his implement therefore was not finished with any fixed ideas except those derived from his ancient occupation as an arrow and war club maker. I state this because upon his weapon he has placed two lines lengthwise of the implement which are extremely interesting as evidence. He did not finish the weapon before sending it to me, for he did not bore the hole for the string, but only marked it with a pencil.

What other ornamentation he would have placed on it, if any, we may gather from an examination of the next two figures, which contain the same base lines as Fig. 4. Fig. 5 is a whale bone "slubbets" found in an old Indian grave on Puget Sound. The State University at Seattle has one almost exactly like it, of the same material and ornamentation, and the form is quite common. This specimen, like Fig. 4, is finished at the handle

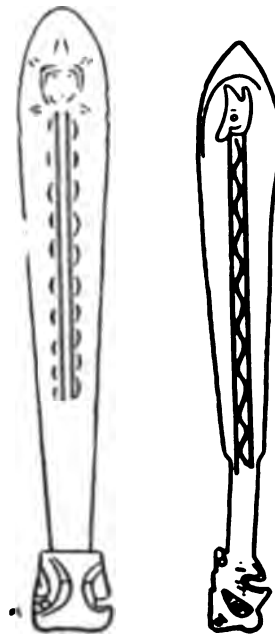


Fig. 5.—Whale-bone "Slubbets."

Fig. 6.—Stone "Macana," Mexico.

to represent a bird's head, while down the length of the blade is found the two base lines. It is ornamented on both sides alike. The upper ends of the base lines support a human head from which extends rays, and I presume it was intended to represent the sun. It is twenty-one inches long and quite heavy. It is a beautiful implement, and has a yellow—almost brown—appearance from age and burial. It was evidently the property of some chief, and was worth many slaves.

Of a common form with Fig. 5 is another specimen of the Aztec "*macana*" found on page 560, volume 4, Bancroft's "*Native Races*." This stone "*macana*" from Mexico and the richly carved whale bone "*slubbets*" from Puget Sound are of one common type. The Athapascan race spread from the shores of Bering's Strait to Hudson Bay and thence southward to Oregon. My opinion is that the Nusqually language of Puget Sound is Athapascan and not Salishaw; a portion of their people at the extreme south end of Puget Sound certainly speak the same language as the Apaches of Mexico, Arizona and New Mexico. Then why need we feel a doubt that Kit Carson was correct when he said that the Colorado specimen (Fig. 1) was an Apache implement—it may have been Aztec, for this race certainly traded even in prehistoric times far north of the Arkansas river. Bancroft says of Fig. 6: "The *macana*, an Aztec aboriginal weapon, shown in the cut, is copied from one of his (Gondra) plates. The material is probably a basaltic stone." He refers for this statement to Prescott, *Hist. Conq. Mex.* tom. III, pp. 82, 87, 99 and 101, pl. 25—30.



Fig. 7.—Copper "*Slubbets*," N. W. Coast.

The "*copper age*" is popularly supposed by ethnologists to have ended in America with the disappearance of the mound-builders in the north and the decline of the Aztec rule in Mexico. But no greater mistake than this has been made, for it yet exists on the northwest coast in its pristine vigor. The Thlinkets and other Southern Alaskan tribes are in the "*copper age*" and yet own what are termed "*coppers*," or large shield-shaped copper sheets marked and carved with heraldic or totemic designs. Then, too, they made war clubs out of this rich material. Rev. Myron Eells of Skokomish, Hood's Canal, is the owner of a copper "*slubbet*" figured herein as No. 7. This was found on Hood's Canal, and passed into Mr. Eell's possession, who kindly made me the drawing from which Fig. 7 was prepared. Mr. Eells writes me that the figure on the handle

of his copper club is a representation of the thunder-bird; that the Clallam name for it is "tin-ting tsetkel." I have no doubt that the bird head on the figures 4 and 5 (and 6?) are also representations of this widespread belief in the mythological thunder bird. In the "Savage Weapons at the Centennial Exhibition" is a description of a copper "slubbets" found in Michigan. I quote the following: "Another of native copper has been found in Michigan, and was shown at the Centennial. It is sixteen and one-fourth inches long, two and five-eighth inches wide for eleven inches of its length, contracts to one and one-half inches, and then enlarges to two inches, to assist the hand-grasp. No deduction of importance is to be made from this; the blade is but one and one eighth inches wider than the handle, and the probability is that the piece of native copper approximated that shape, the work of the owner consisting in flattening, sharpening and shaping it symmetrically." The author is entirely mistaken in his deduction. He describes Mr. Eell's northwest coast copper war club exactly, and the correct deduction is this: "A copper 'slubbets' from Puget Sound was carried in trade via the Nez Perce country to the Yellowstone, and thence to Michigan." Many pipes of *Catlinite* from the Red Pipestone quarries in Dakota are found on Puget Sound and the Columbia River—Mrs. Kunzie and I have such specimens. The owner of the copper weapon from Michigan has a typical weapon from the North Pacific coast, and not, as the author suggests, an accidental form.

Many more examples can be given of the existence of this weapon in this region; nearly all the early travelers and writers on this coast mention it—for instance, Franchere and Jewitt. The Indians of Puget Sound and north made warm, finely-woven woolen blankets, beautiful and closely-woven basket work; their loom and spinning-wheel is the exact type of the Apache and Navajo; they used the characteristic and identical war club used in Mexico; they lived in large, permanent, wooden communal houses, *but they did not make pottery*. Humboldt and Prescott affirm that the Aztecs came from the northwest coast—from some point north of California; the Indians of Puget Sound, like those of the cliff dwellings and Pueblos, as well as the Peruvians, are flatheads; *i. e.*, they depress by bandages the frontal bones of the skull in infancy as a sign of superiority. All lines of traditions and migrations go southward; for these reasons I am of the opinion that the northwest coast is the American home of this typical Indian war club, and that it went from this region southward with swarms of tribes from the original hiding place of that type of Indian representing the semi-civilization of America, viz, the Cliff-Dwellers, Pueblos, Aztecs and Peruvians. If such a type had come north it would have brought what never existed north of the Columbia—the art of pottery-making.

PALESTINE EXPLORATION.

T. F. WRIGHT, UNITED STATES SECRETARY.

An intelligent supporter of our work has raised the question, "Does Dr. Bliss seem to be proceeding in the right way?" To my mind he is doing just right. Dr. Bliss received by the firman liberty to dig over a large tract now just outside of the walls of Jerusalem, but formerly a part of the city within the walls. This tract lay, for the most part, on the brow of Mount Zion. If we think of a broad U as placed with its ends against the northern wall, which runs high across the top of Zion, one of the ends at the western end of this wall and the other at the eastern end, then its curve will show the boundary of the space at the disposal of Dr. Bliss. After thinking the whole problem over carefully, he decided to begin at the west end and go all along the boundary of his ground first of all, and then follow the lines of special interest which might be laid bare. Now he has gone more than a thousand feet in this easterly course, and he intends to keep on until he finds how the old wall terminated in the vicinity of the Pool of Siloam. Perhaps the April Quarterly Statement will show that this has already been done. Already he has intercepted a street and has found the gate through which it passed. He might have swerved off there and followed that street, but I think that the comment would have been, "Why did he not follow that rock-scarp quite round to the temple-wall, and let us understand the whole subject, before he dropped it for another?"

If Dr. Bliss follows out his plan he will come round to the southeastern angle of the temple-wall. Before he gets to that he will find that some previous excavations will help him. What next? By all means let him dig westward over the little hill called Ophel and make thorough work from the wall on the north to the end of the hill on the south. This is a triangular space about one thousand feet wide across the top, and about the same length to the brow of the hill. In the volume "Recovery of Jerusalem," Captain Warren wrote, in 1870, that he believed Solomon's Palace to have been at a lower level than the temple, and to have stood just here. Later kings still further enriched the hill. It is believed that the buildings looked down from above a lofty wall into the valley of the Kedron. The theater of Hadrian is generally located very near here, but has never been uncovered. The tombs of the kings are probably on the westerly side of Ophel.

It is unnecessary to plan farther. By the time this is done the whole problem will be in process of solution. But we can see in a general way that, within the whole tract, on the edge of which Dr. Bliss is now digging, only the most patient and thorough work will satisfy the Christian world. One firman at a time is enough. One official excavation at a time is enough. Indeed, our meagre contributions will not permit us to lay large plans. Let us be patient, helpful, grateful, and all will go well.

ANTHROPOMORPHIC DIVINITIES.

BY STEPHEN D. PEET.

We have now passed over the different districts in which ethnographic religions have been recognized, and have spoken of the different symbols under which these religions embody themselves. In giving this geography of religion and of mythology, we would not be understood as claiming that the various forms of religion were confined to the districts mentioned, or even that they predominated to the exclusion of all others, for many forms of religion prevailed in all parts of the continent, and the symbols and myths which served as drapery to them were also widely distributed. There was, to be sure, a striking correlation between each form of religion and its environment, the mythology always partaking of the material surroundings, and the symbols also being affected by them; but there was nevertheless a common basis for the symbols, which shows that they could not have originated altogether in these different centers, but must have been transmitted from one to the other and perhaps from another continent. These symbols or conventional forms were not confined to one stock or race of people, but seem to have been adopted by all tribes and races, and were understood by all as having about the same significance. They are not peculiar to the American tribes, although they bear the American stamp. While the myths were indigenous, many of the symbols were the same as those seen in other parts of the world. The myths were very largely the product of nature worship, and show the effect of nature upon the aboriginal mind. The nature divinities were, perhaps, oftener represented under the animal semblance, such as the serpent, panther, bear, eagle, raven, quetzal, or parrot, and owl, which became zoömorphie divinities, but they were sometimes represented under the form of tadpoles, toads, lizards, butterflies, and beetles, as well as snakes. There were also certain figures and symbols which were supposed to represent the storms, clouds, whirlwinds, snow and rain, and mountain divinities. Some of these were composed of arches and crosses, parallel lines and zigzags, each of which stood for a different element—the arch for the sky, the cross for the winds, the zigzags for the lightnings, the parallel lines for the falling rain, the stepped figures for the mountains, which were supporters of the sky, the feathers for the clouds, the suastika for the revolving sky, the scroll for the whirlwind, the Jerusalem cross for the water or sea, the

tortuous line for the rivers, and the bird-tracks for the creatures of the sky. Occasionally there were figures which represented the motions of the sky and earth and the order of the seasons, the very shape of the figures giving to us the idea of revolving seasons and the turn which all nature takes, the bend of the arms of the cross, or the turn of the scroll, the beak of the birds, the coil of the serpent, as well as the circles, indicating the motion of the sky, so that we have a map of the heavens, with its sun and moon, winds, stars, seasons, currents, as well as a map of the earth, with its caves, mountains, rivers, and four quarters, also its various seasons, all of the movements of the universe being plainly represented as in a modern orrery. Moreover there are symbols which represent the epochs of the world. These are often combined with the symbols of the months and years and seasons, so that it is difficult to distinguish the longer from the shorter period, for they are all mingled together in a mass of symbolism and can not be separated and scarcely analyzed, but generally they are very common objects which are used for the time symbols, such as circles, crosses, animal heads, serpents, plants, reeds, grains of corn, flint axes, arrows, battle axes, *machete*, feathers, and occasionally human faces, each object having received an arbitrary significance and being represented in conventional shape.

Different colors were also ascribed to the nature powers and the heavenly bodies—the four quarters of the sky, the mountains, seas, the upper and lower worlds, caves, all having colors which were significant. The various objects in nature, which have different colors, such as precious stones, shells, turquoise, gems, crystals, mosses, leaves, grains of sand, feathers, reeds and plants, were used as symbols of the nature divinities, and were supposed to have a peculiar charm, especially in the healing of disease and in securing the aid of the supernatural gods. There were also certain symbols which represented spiritual things—the feathers arranged upon a staff, called *Pahos*, were prayers which were materialized. The sacred tree stood for the spirit of life or the soul; the serpent stood at times for the spirit of evil, the malignant spirit; the arrow also stood for prayer which penetrated the sky; the vine with the nodes upon it stood for speech or prayer which reached the ear of divinity. There were symbols also to represent the state of the soul, a passage through the mountain for the journey of the soul; shrines in the mountains for the resting place of the soul; the clouds and the turreted hills, which were the sacred spaces in the sky, or the city beneath the water, which formed the home of the soul. Moreover the ornaments in the pottery and on the domestic vessels symbolized a spirit possession, the disks or open spaces representing the inward passage of the spirit; the pyramids, circles and scrolls symbolizing the dwelling of the spirit of a "made being," as the

shape of the real mountains and sky did the "unmade beings."^{*} These are all symbols of nature worship, though they show that the various tribes, even the rude as well as the most civilized, had conceptions of the universe which are not unlike those which we ourselves possess, and in which we take so much pride as evidences of our superior culture. These all reveal the force of religious sentiment which prevailed among a people who were so remote from the ordinary fountains of thought and the sources of religious influence. They prove that man is naturally religious; and if he is not furnished with a religion, he will make one for himself and will gather inspiration from the works of nature about him.

These conventional figures answered the purpose of an alphabet, and conveyed to the people in prehistoric times much religious thought, and constitute the sacred record or "sacred books" of the aborigines. There was in them a system of natural religion which has not been surpassed, not even by the people of the east; though it was similar to that system out of which the various historic humanly-founded religions of the east may be supposed to have grown. They do not represent the chief peculiarity of the historic religions, because the element of personality was lacking and could not well be embodied in nature powers. There was, however, one form of religion which brought in this element of personality and gave to the symbols a new significance and introduced others, so that we have in it an entirely different set of myths and a distinct system of symbolism. To this religion we have given the name of Anthromorphism. The term is derived from two Greek words, *anthropos*, "man," and *morpha*, "shape." It means the representation of a deity in human form and with human attributes. This is the type of religion to which we shall invite attention.

I. Let us consider the character of anthropomorphism as it existed in America. It was one of the prominent ethnographic and religious systems in the world, but had a greater influence here than anywhere else. It was prevalent throughout the continent, though its highest development was among the semi-civilized races of the southwest, where the symbolism reached its highest perfection. It was also prevalent throughout the

^{*}The use of feathers as prayer symbols was common with nearly all of the aboriginal tribes, but was especially common among the Tusayans. They are explained by Mr. J. W. Peckes in his pamphlet called "Tusayan New Fire Ceremony," reprinted from the proceedings of the Boston Society of Natural History. Every breath moves them, and so they are the symbol of the breath of the body and the breathing of the soul in prayer. As the sun travels across the sky he sees the Pahio in the shrine, places them in his girdle and carries them to his western home, and distributes them to the world—*qua tar* chiefs. These world-querier chiefs are the same as divinities or cloud chiefs; their servants are the six-plumed snakes, all of which are addressed in the prayers. In warrior society celebrations game gods are addressed. Altars and shrines were also the symbols of the meeting place of Divinity and the soul. These with the Tusayans were of three kinds. (1.) Cloud Charm altar with a medicine bowl at the junction of the six lines, and ears of corn at the ends of the lines. (2.) Sand painting a tars with fire slabs. (3.) Symbolic figures made in meal used in the flute ceremonial foot races. *Keredores* is a term used to represent the upright frame work back of the sand pictures.

eastern continent and was there among the highest types of religion, only one higher form having been reached by the pagan nations, viz.: monotheism. It was, in fact, the connecting link between the prehistoric and historic religions, and was one of the most familiar types among the ancient nations. There was, to be sure, often connected with it a degraded system of idolatry, which receives condemnation from enlightened consciences; but notwithstanding this it resulted in a view of the personality of God, which, upon the whole, was a benefit to mankind. This only shows how the human mind works in the matter of religion, for it rises at one time to the greatest heights, but at another falls into the most debased and degraded condition, but somehow the religious sentiment advances with each movement, heaving in tide waves the thought of man to a higher stage, where the truth seems to be better apprehended. This is illustrated beautifully in America, for here the aboriginal mind worked according to its own laws and forces, without the influence of the historic faiths and without the aid of revelation; and yet it seemed to have come with each advancing type nearer and nearer to the apprehension that there was one supreme and personal God. The type of religion which we called anthropomorphism is removed but one step from this conception, and was itself in the process of growth.

The natives of America were, some of them, bad enough in their practices. They were full of cruelty, and some of them were carried to extreme frenzy; the dog-eating shaman, among the Thlinkets, would take the live dog in his hands, and while followed by others as crazy as himself would tear it to pieces with his teeth; the Eskimo in his hut would tell tales of the bestial indulgence and cruelty of Sedna, his female divinity of the seas; the Thlinkets would repeat the myths of the strange amours of Ne-kilt-luss, the great creator, and represent the ancestors of the race as coming from the cockle-shells upon the shore; the Navajo would tell about the hermaphrodite which was born out of the union of the clouds and the sky on the mountains, having no semblance except that of the dark storm cloud and the fleecy cloud combined; the Zuni Indian would tell the story of creation, and say that the creator lifted the sun and sky from the earth, and was to be worshiped under the semblance of the feather-headed serpent; the Aztec would repeat his myths about the god of war, death and hell, and fill temples with the images or idols which were covered with the ghastly array of skulls; and even the Maya devotee would erect the image of the serpent, with open mouth and protruding tongue, and worship this mask as the embodiment of his divinity; still, notwithstanding all these cruel practices and degraded customs, the conception of god was constantly rising. The habit of ascribing human attributes to the divinity was only one evi-

dence that progress was being made toward the truth. We may regard then this habit of clothing the divinity in the drapery of the human face and form as a positive aid to devotion, for it enabled the people to conceive of God as a personal being, and to represent him not only as a national divinity, but as one who ruled all nations and peoples.

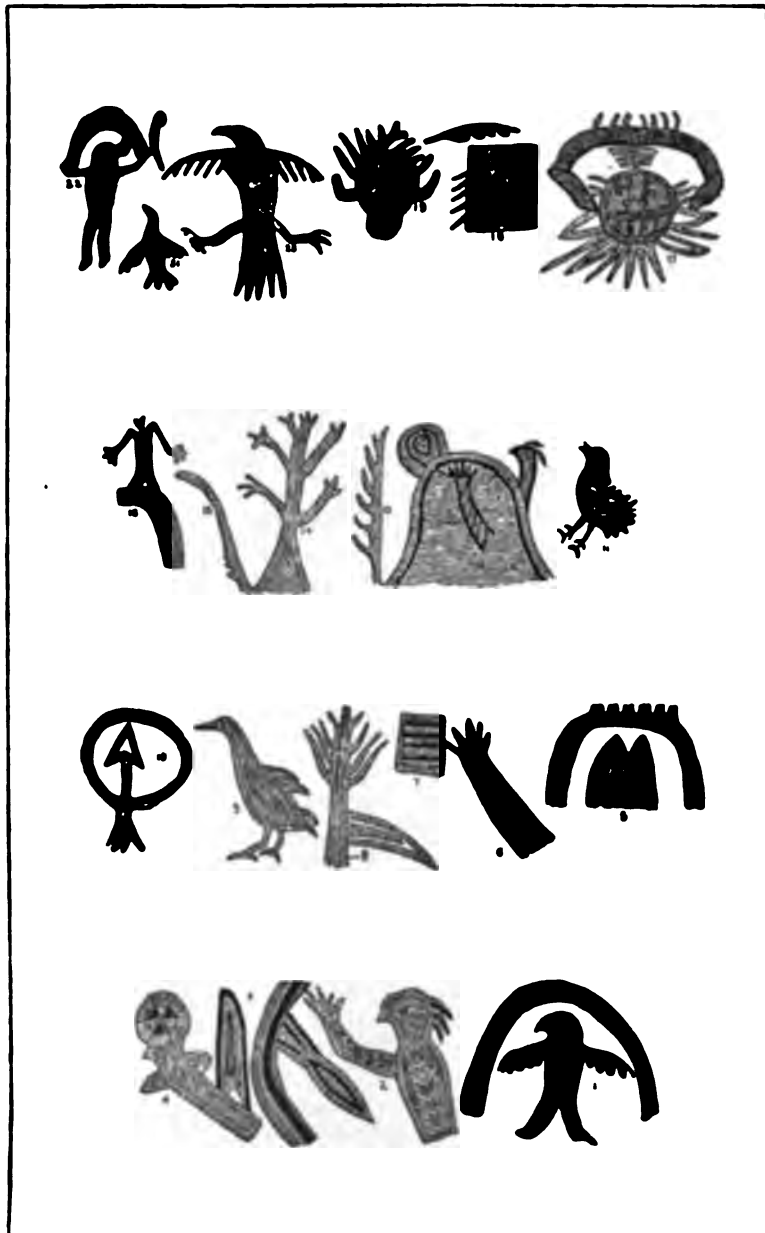
We do not find in America any such conception of a holy being as is contained in the Scriptures; nor do we find the thought of one true and living God ruling over all things, but so far as symbols and myths could express it we may say that the conception of God as a personal being, having personal feelings and bearing a human semblance, was similar to that which was common among the nations of the east and that which may be easily recognized in the language of the word of God. To the benighted and belated sons of men who inhabited this continent, anthropomorphism was a great boon, for it brought them to a higher conception of God than the mere nature worship ever could have done. Though there was no Moses among them who could go up the mountain's height and talk face to face with God, nor was there any gift of law, revelation, or religion, yet those who worshiped the humanized personal divinities were much nearer the truth than those who either worshiped animals, or ancestors, or even culture heroes, for they had a view of his personal attributes and were on the way to apprehend the unity of God and his sovereignty over all creatures.

II. Let us now turn to the prevalence of the system in America. There were different phases which anthropomorphism assumed in the various parts of the continent. Its chief development was in Gautemala and among the ancient Mayas, but it also prevailed among the lower and ruder tribes, though it was here associated with animal worship and totemism, the zoö-morphic and anthropomorphic divinities being strangely mingled in their pantheon. It is a matter of surprise that so much of the advanced forms of anthropomorphism existed among the rude and savage tribes, and that even the gods of the world-quarters were so frequently represented as personal beings which bore the human semblance. The majority of them were, to be sure, zoö-morphic, as would be natural with the totemistic tribes; but there were many divinities among them which had the human semblance, for we find everywhere pictographs, rock inscriptions, inscribed shells, carved relics and masks, as well as idols, containing the human semblance.* There are also many charts which contain human figures or faces, and the chief divinities are represented in this way, but the subordinate divinities under the

* Here we would speak about the human hand, which has been recognized as an ornament on the pottery and in the shells of the Mound-builders. This is different from the human face and form, and yet it was expressive of the same thought, and was a very widespread symbol.

animal semblance. There were also dances and feasts among the wild tribes in which the individuals personated the divinities, sometimes imitating the animals which they worshiped and mimicking their motions; sometimes the birds; sometimes the nature powers; sometimes the motions of the serpent, which was the symbol of the seasons, especially spring, at its appearance after the long bondage of winter. The highest style of dramatization was that in which the supernatural powers were represented as personal beings. Moreover, the gods who represented the four elements, and who ruled the world quarters and bore the sacred colors, assumed the human form for the sake of conversing with their devotees, though they were capable of transforming themselves into any shape.

We can not look upon these different manifestations without believing that the personality was an element in the divine being even in the minds of the untrained savages, and that all the mysteries which were celebrated had regard to this element. Some believe that the future state of the soul was often in the minds of the initiates, and that much of the symbolism brought out the thought of the unseen world, for the religious customs which were practiced at the burial of the dead were in accord with this. The spirits of the departed were regarded as still in existence, and food must be placed within the grave, or in the house which was placed over the grave, and articles for use within the grave. Moreover, the myths and symbols which were perpetuated by the sacred mysteries bring out the thought that an unseen spirit, who was perhaps equivalent to the Supreme Being and Great Spirit, directed the mysteries and designed to bestow gifts upon the people. There are many illustrations of this among the different tribes, for there are charts and symbols, as well as myths and traditions, which perpetuate the religious views of the aborigines. Some of these seem to have been affected by the views which were brought in by the white man, but others are purely aboriginal. The best illustration is that which is found among the Ojibwas, an Algonkin tribe which still dwells on the borders of Lake Superior and the head waters of the Mississippi River. The following is a summary of their beliefs: The chief or superior manito is termed Kitshi Manido, approaching to the idea of the God of the Christian religion. The second in importance is Dzhe Manido, a benign being, upon whom they look as a guardian spirit or good spirit. Another is called Dzhibai Manido, shadow spirit, or ghost spirit, for he rules the place of shadows. Aside from these, there was the chief animal spirit, who is supposed to be the national god and culture hero, represented as the giant rabbit, called Minabozho, who was subordinate to the Kitshi Manido, but was the means by which his gifts came to the people. Opposite to these various divinities, but subordinate to them, were



QJISWA MEDA SONG
CHART OF THE MIDE SONG-SCHOOLCRAFT.

certain evil or malignant spirits, which assume the shape of serpents and bears and birds.

The manner of securing supernatural gifts and favor with the Kitchi Manido was by passing through the four degrees of the sacred mysteries. These were guarded by certain malignant spirits who assumed the shapes of serpents, bears and panthers, and who opposed the passage of a candidate into the sacred lodge, where he would receive the gift of immortality. These were, however, under the control of the good spirit, and opened the passage into the lodge at his command. When he has passed into the second degree he receives from Dzhe Manido eyes to look into futurity; ears that can hear a great distance; hands that can touch those which are remote; feet which can traverse all space. When he has passed to the fourth degree he is in a position to accomplish the greatest fetes in magic, and can read the thoughts and intents of others. His path is beset with dangers and points to which he may deviate from the true course of propriety; but at the end of the world his soul is permitted to pass from the Mide-wigan to the land of the setting sun, the place of the dead, upon the road of the dead. An illustration of these different points will be found in the charts which perpetuate the Mide songs of the Ojibwas,* which have been preserved as very sacred, and which represent the ancient mysteries, still so sacred among them.

We shall call attention to these charts, for they are the sacred books of the Ojibwas and perpetuate the sacred songs, or the Mide songs, exactly as the sand-paintings do among the Navajos and the codices do among the Mayas. What is most remarkable about the myths is that they represent about the same fundamental truths or beliefs as those contained in the sacred books of the east, and like them are given in poetical language and were attended by songs that were designed as interpretations. They are, in fact, the Vedas of this aboriginal tribe, and represent the religion as well as the literature of this people.

Nearly all of these charts begin with the story of creation and end in the passage of the soul into the sacred lodge in the heavenly spaces, but represent the processes by which the candidate is to appease the great divinity, who is unseen, but who has revealed these mysteries to the people. The interpretation of the chart reveals the fact that there was a foundation myth which prevailed among all the tribes of the Mississippi Valley, and, with variations, appeared among the tribes of the interior,

*Schoolcraft says: The North American Indians have two terms for their pictographs—*Kekeewin*, such things as are generally understood by the tribe, *Kekeemowin* for the teachings of the Mides or priests. The knowledge of the latter is chiefly confined to persons who are versed in their system of magic, medicine or their religion, and may be termed hieratic. The former consists of figurative signs, such as are employed at places of sepulture or hunting or traveling parties. It is also employed in the rock writings, *mezitabiks*. Many of the figures are common to both. This results from the figure of the alphabet being precisely the same, but the devices of the medicine (*Wabeno*), hunting and war songs are known solely to the initiates, who have learned them.

and even may be recognized among the more civilized tribes of the southwest. Let us first take the chart furnished by Henry Schoolcraft:

It begins with the picture of a bird under an arch (No. 1). This represents the medicine lodge filled with the presence of the Great Spirit. (2.) Next is the candidate for admission, holding the pouch from which the wind is gushing out. (3.) A man holding a dish in his hand. (4.) Next a lodge in which the Mide men are assembled. (5.) Next the arm of the priest. (8.) The Mide tree, or the tree of life. (9.) The crane, which is the totem of the tribe. (10.) An arrow, which penetrates the entire circle of the sky. (11.) A small hawk, which is capable of flying high into the sky. (12.) The sky, with the Great Spirit looking over it, a suplicating arm inside of it. (13.) A pause. (14.) Wabeno tree. (15.) A drumstick. (16.) The sun pursuing his course until noon. (17.) The Great Spirit, filling all space with its beams. (18-19) A drum and tambourine. (20-21.) The raven and crow, symbols of the nature powers. (22.) A medicine lodge and the master, holding in his hands the clouds.

Let us next take the one given by Dr. W. J. Hoffman, and the myth or legend which is attached to this. It is as follows: Minabozho, the great rabbit, was the servant of Dzhe Manido,

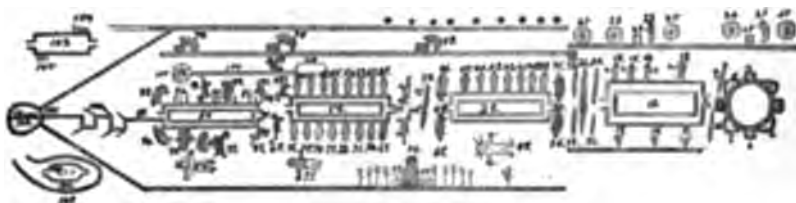


Chart of the "Mide Wigan," or Sacred Lodge.

the good spirit, and acted in the capacity of ancestor and mediator and was the friend of the Indians. He looked down upon the earth and beheld the ancestors of the Ojibwas occupying the four quarters of the earth, and saw how helpless they were. The place where he descended was an island in the middle of a large body of water. He instructed the otter, whose home was in the water. Here he built a sacred Mide lodge, "Mide Wigan," and took the otter into the "Mide Wigan" and shot the sacred migis into his body that he might have immortal life.* This is the myth. The following is the chart which embodied it:

The circle with the four projections (Nos. 1, 2, 3, 4) represents the world at creation, with the four quarters inhabited by the people (Nos. 5, 6, 7, 8). The two oblong squares (Nos. 11-12) represent the lodge guarded by two malignant manidos (Nos. 9-10). Four human forms (Nos. 13, 14, 15, 16) represent the four officiating priests. Cedar trees are represented by Nos. 17, 18, 19. Nos. 21 and 22 represent a bear spirit. Nos. 23 and 24 represent a sacred drum. Nos. 28 and 29 represent the entrance of the first and second degrees. Nos. 30-34 represent the five serpent spirits who oppose the progress, one of which raises its body to form an arch for the candidate to pass

* The "migis" is considered the sacred symbol of the Mide Wigan," and may consist of any small white shell.

under. Nos. 35-47 represent the four malignant bear spirits. Nos. 37-38 represent the door of the lodge. Nos. 39-45 represent the seven Mide oriests. No. 48 the candidate receiving supernatural powers. No. 50 the Bad Mide. No. 53, the third degree. Nos. 61-67, the Mide spirits who inhabit this degree. Nos. 59-60, the bear spirits. Nos. 69-80, the fourth degree. Nos. 81-84, 88-96, malignant animal spirits. No. 99, the angular pathway. No. 101, the end of the road. Above the fourth degree (110-114) are the ghost lodge and the path of the dead. No. 113, the owl, which represents the soul passing from the Mide Wigan or ghost lodge to the land of the setting sun.

It would appear from this chart that even the savages had a conception of a supreme being and creator, of a mediator, of an evil spirit and of a divine or supernatural gift which came in answer to offerings and prayer. They had also a view of a future state and the passage of the soul after death into the sacred abodes, which was not derived from the white man, but was aboriginal and was perpetuated by the medicine men from generation to generation. This conception accompanied the worship of anthropomorphic divinities far more than that of the animal divinities. The Ojibwas were not the only tribes which had charts and symbols in which the human face and form were used to represent the personality of God and the super-natural being. The Dakotas, Omahas, Ponkas, Winnebagos and Pawness all used the same semblance. These tribes combined them with the symbols of the nature powers, such as the lightning, water, air and wind, in such a way that the human features could hardly be recognized; yet when we come to understand the symbols we see that the human semblances are given to the nature powers. This conception, however, was prevalent while totemism or animal worship was extant, but it was through the anthropomorphic divinities that it was introduced and exercised its sway.

III. This brings us to a view of anthropomorphism in its combinations, especially its combination with "mountain worship." We shall speak of the divinities which prevailed among the tribes of the interior, such as the Zunis, Moquis and Pimas. These divinities represented the spirits which inhabited the mountains, rocks and caves, and were quite different from those already described, which mainly represented the animal totems, and had little in common with the mountain divinities. These divinities or spirits dwelt in different houses; but they were houses which were hid away among the mountains, or water of the lakes, or amid the clouds above the mountains, and can be called nature divinities or mountain divinities. They, however, all possessed the human form, or at least had faces, feet and hands like human beings and could talk and act as if they were human.

It appears that the universe was peopled by supernatural beings, and there was not a living creature, nor even an imaginary object, which did not have its representative in the varied "pantheon." The clouds, the rainbow, the storm, the thunder and lightning, the snow and rain, the rocks, and the caves among

the rocks, the crystals formed among the rocks, the water, the streams, the trees, the foliage on the trees, the birds, and the feathers and the plumage on the birds, the animals, and even the fur on the animals, were personified and made objects of worship. The colors were especially dwelt upon as representing divinities, and were regarded as the clothing with which the nature powers were arrayed. There were not only divinities of the water, sky, earth and fire, but there were divinities which represented the different colors and the different elements.

It was a very brilliant and highly colored universe which the people inhabited and which they imagined were also the habitations of the anthropomorphic divinities. The houses of the divinities had different colors—the black water and the white water, the blue sky and the red sky, the yellow sunbeams and the black rocks, the white lightning and the red lightning. The colors had much to do with the worship of the divinities among the eastern tribes, but here they were magnified and exalted to a higher rank, and they had a great force in the religious ceremonies of the people. The points of the compass were regarded as sacred and had different colors, which were sacred to certain divinities; but there were added to the four points three more, to represent the zenith, nadir and the central point around which the universe revolved, making seven spaces, six of which were occupied by the divinities, the central one being the place where the divinity and humanity met. Among some of the tribes there were double spaces, making two worlds—the celestial and the terrestrial. Both worlds revolved about the central space exactly as the nine worlds of the Chinese revolved around the throne of the celestial emperor, and as the four peaks of the Hindoo mountain stood around the central mountain of Meru, which was regarded as the pillar of the sky and the navel of the universe. The celestial spaces were occupied by the anthropomorphic divinities, but the terrestrial spaces were guarded by animal divinities which were represented in the red stone fetiches,* which the people worshiped. There was a central space in the sacred geography of the ancient natives of the east. There it was always located in the city, and in the temple in the midst of the city. With this people it was located in the pueblos. Sometimes seven pueblos were built, perhaps to symbolize the different spaces.

We would notice further that the dwelling place of the

*The central mountain among the Navajos, as well as four mountains surrounding it. (See the mountain chart by Dr. Washington Matthews.)

There were six pueblos among the Zunis, one of which was the seat of dominion, or central power. (See Bandelier.)

A checkerboard village with a larger edifice in the center was noticed at San Carlos, Arizona. (See *Investigations in Southwest*, p. 417.) This was of the Mexican type. Clusters of the checkerboard pattern were found near Phoenix, Arizona. P. 444. Not only from the discovery of totemic devices, but from other evidences, it is supposed that each was the abiding place of a particular clan or gens. Casa Grande shows three stories, with a third story like a tower—one of them subterranean, making four. (Sighted from Bartlett's *Personal Narrative*, Vol. II, p. 272.) (Bancroft's *Native Races*, Vol. IV, p. 605.)

divinities differed among the different tribes, the Navajos representing them as dwelling on top of the mountains and above the clouds, while the Zunis and Moquis represented them as dwelling beneath the waters and below the mountains. Still the houses in which the divinities dwelt, which were pictured out by the Navajos, were formed of the clouds and were built in terraces resembling the terraced houses of the Pueblos, but had different colors, very much as the Babylonian pyramids had. These many colored clouds were guarded by animal divinities, but they could be reached by human beings, especially when attended with the supernatural beings as companions. One of the most beautiful tales, or myths, of the Navajos is contained in the description of an individual who was seeking after his spiritual body and who was led by two of the divinities through the different clouds, the grey cloud, and the red cloud, to where the body was lying. According to the myth each bank of clouds contained a chamber which had a different color and was guarded by some animal with a color corresponding to the cloud. The house in which the soul body was lying was situated in a field beyond the clouds; it had a door and sill, front part and back part, each of which are mentioned as if they were sacred. The body itself seemed to be held in its place by a secret spell or charm which was broken by the presence of the supernatural divinities and taken up part by part—hands, feet, body, hair, even to the spittal, and carried back to the habitation of the human being, who, as a soul, seemed to be disembodied. The story reminds us of the Dakota myth of the souls of their ancestors which passed up through the different terraces, which were supported by the tree of life, and took the bodies of birds. It required the greatest formality for these attended divinities—the one before, the other behind the soul in its passage through the clouds, and the myth is stretched out a great length in its repetitions, but is very striking. This differs from the mythology of the Zunis, who imagined that the houses of their divinities were beneath the waters of the sacred lake, and were to be reached by passing through the secret path through the mountains. These houses, themselves, resembled the pueblos in all particulars. Thus, we see that the different tribes drew their ideas of an unseen universe from their surroundings. The same contrasts are perceptible in the story of creation. With the Navajos the gods were born upon the top of the mountains; with the Zunis and Moquis their original home was in the cave beneath the earth.

There are many myths extant among these partially civilized tribes which exhibit their conceptions in reference to the appearance of the humanized divinities. They are very beautiful and full of poetical fancies; the imagery of them having been drawn from the magnificent scenery of the region and is resplendent

with the colors with which the rocks and mountains were clothed and sparkles with the jewels and precious stones which abound, and is as varied and striking as the vegetation which covered the mountains. The symbols also of the different tribes were derived from the scenery; many of them were invented to express the operations of nature, though the tribes borrowed symbols from one another as well as myths. Many of these myths and symbols were embodied in the sand paintings, which for a long time were unknown, but are now proving to be very interesting objects of study, for they are like the missals written during the middle ages. They are not only very beautiful, but they perpetuate the ancient traditions of the people; in fact, have preserved the sacred book from destruction.*

These sand paintings show a wonderful taste for color, and at the same time reveal an elaborate symbol which represents the various nature powers—such as the wind, rain, lightning and four points of the compass—also a familiarity with the sacred plants; but the most remarkable thing is that the gods of the sky are always represented as having the human form clothed with the sunbeams and the colors of the sky and adorned with rainbows, but controlling the nature powers and guarding the plants. This is one peculiarity of anthropomorphism. The divinity who has the human form is really master of the creation and reigns supreme over all the other powers. The best illustration of this is given by the ceremonial and sand-painting called *Hastjelti Dailjis*. This ceremonial was founded upon the story of creation, which is as follows. Hastjelti and Hostjoghon were the children of Ahsonnutli, the turquoise and the white shell woman, who were born on the mountain where the fogs meet. These two became the great song makers of the world and were the rain gods.† These two gods were the mountain divinities which were worshiped by the Navajos. They stand upon the mountain tops and call the clouds together around them. Hastjelti is the mediator between the Navajo and the sun. He communicates with the Navajo through feathers, so the choicest plumes are attached to the prayer sticks offered to him. They gave to the mountain of their nativity (Henry Mountain, in Utah) two songs‡

*These sand paintings were first discovered by Dr. Washington Matthews, but others, however, have added to the descriptions until quite a mass of literature has accumulated—Mr. James Stevenson, Mrs. Matilda Stevenson, Mr. F. H. Cushing, Lieutenant Bourke, Dr. J. Walter Fewkes, and others having furnished many articles in reference to them.

†They may be regarded as personifications of the white and yellow corn, for they were conceived of ears of corn—the male from the white corn and the female from the yellow—though they are also rain gods, the effect of the rain being confounded with the cause, as it is frequently the case.

‡The Tusayans, according to Dr. Walter Fewkes, had sand-paintings and song makers, which served an important part in their rain ceremonials. The Tusayans also had many idols which were distinguished by their head dresses, most careful attention being paid to the colors. The gods and goddesses of the Egyptians were principally distinguished by their head dresses. These idols were placed before the altars and set in piles of sand. They were sprinkled with meal and adorned with feathers. In many of the houses there are large stone images standing in conspicuous places. A large collection of these idols of the Tusayans and Zunis has been gathered at Washington, in the National Museum. (See *Tusayan Indian Dolls*, by J. Walter Fewkes, Boston, Mass., 1894.)

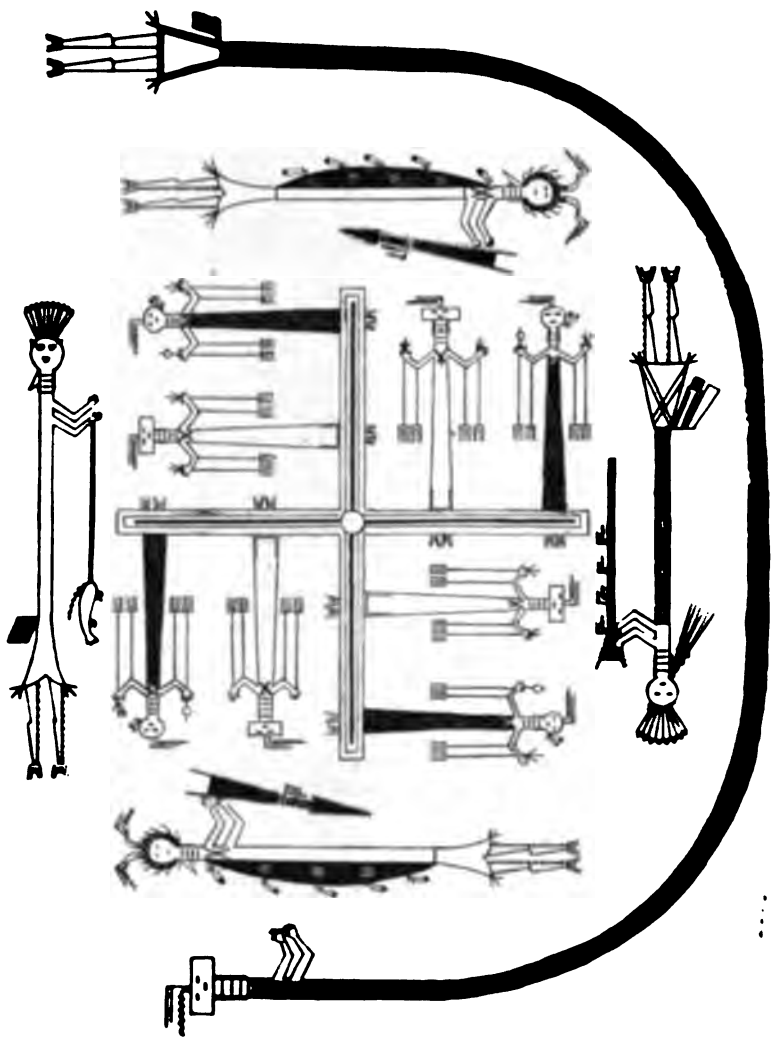
and two prayers; then they went to Sierra Blanca (Colorado) and made two songs and prayers and dressed the mountain in clothing of white shell with two eagle plumes placed upright upon the head. From here they visited San Mateo Mountain (New Mexico) and gave to it two songs and prayers and dressed it in turquoise, even to the leggings and moccasins, and placed two eagle plumes on the head. Hence they went to San Francisco Mountain (Arizona) and made two songs and prayers and dressed that mountain in abalone shells with two eagle plumes upon the head. They then visited Ute Mountain and gave to it two songs and prayers and dressed it in black beads; this mountain also had two eagle plumes on its head. They then returned to the mountain of their nativity* to meditate, "We two have made all these songs."

The myth which served as the foundation of some of the sand paintings has relation to a song hunter and the Colorado river. A Jerusalem cross was formed out of two logs—a solid one and a hollow one. The song hunter entered the hollow log and Hastjelti closed the end with a cloud. The raft was launched upon the waters, but the *Hostjobokon* (river gods), accompanied by their wives, rode upon the logs—a couple sitting on the end of each cross arm. They were accompanied by Hastjelti and Hostjoghon (divinities of the mountains), and two hunchbacks, *Naaskiddi* (cloud divinities). These hunchbacks have clouds upon their backs in which seeds of all vegetation are held, and were perhaps the gods of vegetation. After they had floated a long distance they came to (the ocean) waters that had a shore on one side only. Here they found a people who painted pictures and who taught them how to make sand-pictures. They learned about the corn and carried some back with them to the Navajos, who had not seen corn before. See Plate.†

In making their sand-paintings the Navajos prepared a sweat-house and painted the rainbow on the outside. This rainbow had the head and body, which hung down at one side of the lodge, and skirted legs upon the other side. The entrance to the lodge was covered with a black and white striped blanket, which symbolized the black and white cloud, and two buckskins, which represented daylight, or the twilight, or the dawn. Preparations for the sand-paintings were very elaborate in some cases, as in that of the ceremonial called *Daijji*; there were deer skins, reeds and colored tubes filled with feathers tipped with corn pollen and lighted with crystal, corn husks containing bits of turquoise, beads and abalone shells, baskets filled with pine needles and corals, rugs covered with feathers, medicine tubes and crystals. The actors or personators of the gods adorned themselves with scarfs, belts, masks, eagle wands, rings

* This is the central point. † The plate resembles a *suastika* as well as a cross.

MOUNTAIN DIVINITIES AND SAND-PAINTINGS OF THE NAVAJOS.



and gourds. The bodies and limbs were painted white. One wore knee breeches and a skirt of black velvet ornamented with silver buttons, a robe of mountain lion skins fastened around the waist with a silver belt. Another wore a red woolen scarf and silver belt; grey fox skins hung from the back of the belt.

The first sand-painting was made up of three figures representing the divinities, as follows: Hastjelti's chin was covered with corn pollen and his head was surrounded with red sunlight, red cross lines on the throat, ear-rings of turquois, fringed leggings and beaded moccasins. Hostjoghon has eagle plumes, ear-rings, fox skin ribbons, beaded pendants, carried feather wands brightened with red, blue and yellow sunbeams. Hostjobokon, was similarly dressed and ornamented. The second painting represented the raft of sunbeams which brought back the song hunters. This raft is the shape of a Jerusalem cross, and was composed of black cross bars, which denote pine logs; white lines, the froth of the water; the yellow, vegetable debris gathered by the logs; the blue and red lines, sunbeams. The blue spot in the center denotes water. There are four divinities—Hostjobokon with their wives upon the arms of the cross or upon the logs. They carry rattles and pinon sprigs in their hands, which bring the rains. Their heads are ornamented with eagle plumes, and they wear turquois ear-rings and necklaces. A line of sunlight encircles the head; white spots to represent ears; the chins are covered with corn pollen; red sunlight surrounds the body; the skirts have a line of blue sunlight. Hastjelti is to the east and has a white skirt; he carries a squirrel skin filled with tobacco; his head is ornamented with an eagle's tail. Hostjoghon is to the west and has a black skirt; he carries a staff, colored black, and his body is covered with four colored stars. The Naaskiddi (cloud divinities) are to the north and south; they carry staffs of lightning with eagle plumes and sunbeams. The hunch upon the back is a black cloud, and on the cloud are eagle plumes, for eagles lived with the clouds. The lines of red and blue which border the black cloud denote the sunshine which penetrates storm clouds. The white lines in the clouds denote corn and other seeds. A black circle with zigzags of white around the head denotes the cloud basket filled with corn and seeds. The mountain sheep horns, tipped with tail feathers of the eagle are cloud baskets filled with clouds. A rainbow surrounds the picture with the feet and skirts upon one side, the head, arms and body on the other side. See Plate.

There are other sand-paintings which accompany the ceremonies in which the medicine men undertook to cure the patients who were wealthy and could afford the expense.* Of these the following is especially worthy of notice, because of the number of human figures and the beauty of the colors:

In this sand-painting there are twelve figures beside the corn-stalk; four of them are the hunch-backed cloud-bearers, with lightning staffs in their hands, called Naaskiddi; four of them are the goddesses of the white lightning called Ethsetlhe, and they carry in their hands the plume and circles which symbolize the clouds, and they have their bodies painted white; four of them represent the people of the white and the red rocks, called the Zenichi. Their homes are high in the cañon wall. The deli-

*It is said that the Navajos borrowed their ideas in regard to sand-paintings from the Pueblo tribes. The Zuni and Tusayan tribes, the Mission Indians of California have sand-paintings and also the Apaches. The prominent feature in them all is this: The divinities are represented in the human shape, and the nature powers are symbolized in the ornaments and colors.

†The superstition which represents the rocks as abodes of spirits was common among the Eskimos, as well as among the inhabitants of the Easter Islands. This led them to carve the human face upon the rocks, and the rocks then elves into the shape of animals with human faces. This was a species of animism, but it was owing to the animism which prevailed that it was mingled with ancestor worship and animal worship.

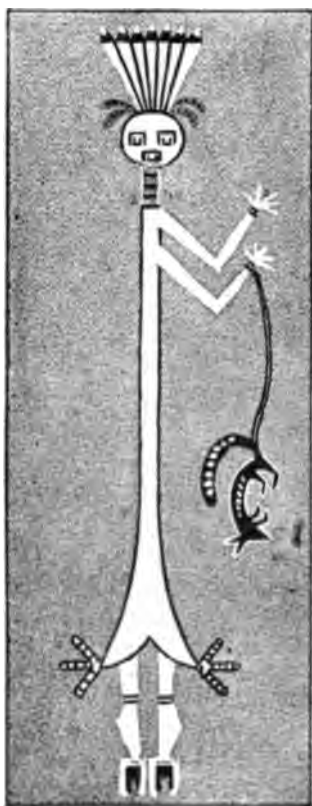
cate white lines indicate their houses, which are in the interior or depths of the rock,† and can not be seen from the surface. The people of the rocks move the air like birds. They are painted in para-colors, two of them having one side of the body, including the arms, the legs and face, red, the other side black, with cross-hatching or zigzags of black; the other two having one side blue, the other yellow. The red denotes the red corn; the black, the black clouds; the blue, vegetation in general; the yellow, the pollen of vegetation. The white zigzag lines represent the white lightning; the circles around the head zigzagged with white are cloud-baskets, which are in the pyramidal form and capped with three eagle plumes. A lightning bow is held in the left hands of these figures; the right hand holds a rattle ornamented with feathers and decorated baskets. They wear white leggings and beaded moccasins.*

The myth or sand-painting which best illustrates the belief in anthropomorphic divinities is the one which accompanies the myth called the Mountain Chant, which has been described by Dr. Washington Matthews. This myth celebrates the exploits of a Navajo who was taken captive, and who was delivered by Hastjelti, the great mountain divinity. In delivering him the mountain god led him through the different houses which were inhabited by the animals and various creatures which hide among the mountains, such as the mountain bear, the mountain rat, rabbits, porcupines, serpents, all of which were supposed to have the human form. The various powers of nature are also personified—the water, lightning, wind, storm and rainbow. The following is the story: Hastjelti appeared to the captive while he was bound in the tent of his enemies, and encourages him to escape. He bestows upon him some magic bags which he is to carry as a passport to the houses in the mountains. He even volunteers to lead him and help him make his escape and puts forth most miraculous feats of power to make his escape easy. Their first adventure was when they reached the summit of a steep precipice, near which is a tall tree growing; the divinity flings out the white lightning like a lasso, which fastens around the tree, and he brings it up near the precipice. On this they descend. They next came to a deep cañon, which seemed to be impassable, but Hastjelti blows a strong breath and instantly a great white rainbow spans the cañon. He orders the Navajo to cross on this. He points to a small hole in the cliff and says, "This is the door of my lodge, enter." He blew on the rock, and instantly the mountain opened and closed again, and saved him from his pursuers. They passed through three rooms and stopped in the fourth, when Hastjelti went out, and presently the voices of the pursuers died away and were heard no more. When all was silent Hastjelti returned and said: "Your enemies have de-

* These different colors in which the mountain divinities were painted remind us of the tattooing and face painting of the Ojibwas and Dakotas, Mandans and other eastern tribes. Among the Ojibwas the face painting was done in connection with the sacred mysteries or secret societies and was a sign of advancement through the different degrees. With all totemistic tribes the personating and the painting were designed to represent animal divinities rather than mountain divinities. The Mandans paint themselves as deer, putting white stripes on their limbs or as bald eagles, with whitened faces. They rub green earth on the face from the ear to the mouth and put Indian red on the body in spots. They place white leathers on their heads, which wave slowly in the dances. See Catlin's Indians.

parted; you can leave in safety." So, taking a tanned elk's skin to cover his back, a pair of new moccasins, a pair of long, fringed leggings and a shirt, he set out.

The Navajo, thus clothed, hastened on until he came near the foot of a high pinnacle of rock, on which was a mountain goat who bade him to go around the mountain, and then led him into



Hastje ti, the Mountain Divinity.

the mountain, where there were four departments, over which the rainbows extended in all directions. From this place the Navajo went to the house where was an old man, with a sharp nose, little bright eyes and a small moustache, who led him to the home of the bush rats, in which were a little old woman, two sons and two daughters, who offered him food; but the wind god, in a low voice, bade him not to eat it, lest he be turned to a rat himself. In the next adventure he came to a hill which was difficult to climb. The divinity bade him ascend, but to close his eyes as he took the last step. When he opened his eyes he stood on the summit of a great mountain peak, seamed with deep cañons, from which he could see the place where he had lived. As he went on his way, the wind god, Niltci, walked beside him. He brought a great dark whirl-wind, which dug a hole in the ground, and a cavern with four chambers.

The wind god said, in a low voice, descend into this retreat. He went down and rested secure, while the dark cloud and the rain passed over him. He heard overhead the great peals of thunder, the rushing of the tempest, and the pattering of the hail-stones. The wind god then told him that his enemies had been dispersed. He accordingly went on, until about sunset he reached the top of a mountain, when the snow began to fall and the wind to blow. Here Hastjelti appeared and commanded him to go down a spruce tree and pointed to a distant glen beyond the valley, in the side of the mountain. Here, again, the god put forth his power and spanned the valley with a flash of lightning and led the man into

a cavern, in which was the fire. There was no wood on the fire, but four pebbles lay on the ground, which were gleaming with flames, and around the pebbles were four bears, who were colored like the pebbles—black, blue, yellow and white. These bears brought out stores, and offered him food to eat. They also unrolled a great sheet of cloud, and on it painted the forms of cultivated plants—the same plants which afterward appeared in the sand-paintings. In the next adventure the Navajo beheld a tornado; the air filled with logs and uprooted trees. He cried out to the storm and the tempest recognized him and subsided. Before the next adventure the wind god said to him, "those whom you meet are evil ones. I will go before you." The two then came to a hole in the rocks, which was guarded by two great rattlesnakes, which shook their rattles and struck at them. Within the rocks was a bald-headed old man, who had a little tuft of hair over each ear. This was Klictso, the great serpent, who taught the Indians how to make sacrifice to the great serpent.

From the home of Klictso they went to a place called Wind-Circles-Around-a-Rock, and where they heard loud peals of thunder. They entered a house of black clouds. It was the house of Icni, the lightning god. He was also bald like the great serpent, having only a little tuft of hair over the right ear.* At each side of the house was a lightning bird—that in the east was black; south, blue; west, yellow; north, white.† From time to time the birds flashed lightning from their claws and the lightning was the same color as the bird that emitted it.‡ The next place that they reached was a dwelling filled with butterflies and rainbows. Here the butterfly woman brought a beautiful white shell filled with water and soap root, and bade the Navajo to wash his body and dry himself with meal, and paint his face with white earth. When the painting was done she worked his body over until she moulded him into a youth of the most beautiful form and feature. She gave him fine white moccasins and a collar of beaver skin, and put plumes on his arms to represent wings, and adorned him as the courier *Akaminik* is adorned.§

*This shows the identity of the lightning with the great serpent, and makes it probable that the Maya god, Xmucani, was also the lightning. This god is represented in the Cortesian Codex as having a bald head and a tuft of hair over the ears. He is seated under the Tree of Life, and is accompanied by the figure with the scroll about his eye, called Cuculcan. Dr. Brinton thinks they represent our first parents, the divine pair, called in the *Popul vuh* the creator and the former.

†These colors of the cardinal points varied with the different tribes, as will be seen by the table given by Rev. J. O. Dorsey.

‡This conception of the bird throwing lightning from its claws is common among the Dakotas and corresponds with the conceptions of the emblem of the American eagle, which holds arrows in its claws.

§This courier is the one who summons the people to the dances or sand-painting. The legs and forearms are painted black to represent the storm cloud, with white zig zag streaks to represent lightning, and had white spots scattered over their bodies, and eagle feathers in their hair, necklaces of shell, collars of beaver skin, plumes on their arms to represent wings, fawn-skin bags in the hands, a girdle of shell around the waist, a short skirt covering their loins. (See Mountain Chant, p. 424, fig. 52).

The butterfly woman laid two streaks of white lightning on the ground and bade him stand on them with one foot on each streak, "for the lightning is yours," she said. She then pointed out the lightning trail. This trail he followed until he arrived at the house of the holy woman (Estsan-cigini), whose door was of trees. Within on the east wall hung the sun and on the west hung the moon. Here he was shown the *kethawn*, or sacrificial stick, and was told how to make it. The next house that he entered was two stories high, with four rooms on the first and four in the second, and had four doorways with trees of different colors for doors. Here dwelt four bear maidens; their faces were white, with hands like human hands, but their arms and legs were covered with shaggy hair and their teeth were long and pointed. The bear woman was a great warrior and invulnerable.

He then entered a house made of water, and found eight holy young men, with arrows hanging on the wall, two standing at each cardinal point, thus representing these points. He next went to the house of the big oaks, whose door was made of red sunbeams, and of which the walls were made of logs of different colors. The east wall was black; south, blue; west, yellow, and north, white. Here were young men and women in the form of squirrels, with red and black stripes on their backs, who taught him to make kethawns. He went to a house whose door was of darkness, and was guarded by the bat, and was the home of the skunks. He then passed to the home of the porcupines, which was colored according to the cardinal hues. He next entered a house made of black water, with wind for the door, which was the home of the frog, water snake and the animals of the water, and here learned some of their mysteries. The next place was a house built of white rock crystal, the door being made of all sorts of plants, and was the home of the supernatural young women.

He also went to the house of cherries with a door of lightning. Here he found the gods arranged around the fire holding arrows made of the cliff-rose in their hands, and afterward to the leaf mountain and found a house made of dew drops, with a door made of plants. This was the home of the goddesses who had long bodies. They had plumes on their heads and were so very tall they seemed to touch the heavens. Leaving the house of dew he came to the white water and the great spring, where there was a house of corn pollen, the door of daylight. The ceiling was supported by four spruce trees and rainbows ran in every direction, making the house shine within with beautiful colors. Hastjelti next took him to the house of brown water, and led him to the top of a high hill where he could see his own home. When he arrived at home it took him four days and four nights to relate his adventures and to instruct his hearers in

the mysteries which he had learned. On the fifth day they sent out couriers to invite the neighbors to a great feast and dance, and then the sand-paintings were introduced.

There are four sand-paintings which embody this mountain chant, each representing the visit of the Navajo chief to the different houses in the rocks and the people which he there met, with the various objects which surrounded them.

The first represents the home of the snakes, which was a house made of the dark water. In the center of the picture was a circular cavity to represent the water, which was sprinkled with charcoal.* Surrounding this are four parallelograms representing the rafts of sunbeams.†

This figure of Hastjelti, the divinity who befriended the Navajo prophet, differs from the wind god in appearance. He is represented as wearing a white skirt, bordered with black lines, to symbolize the black clouds. He carries the squirrel pouch in his hands, in which is the food of the gods. He wears on his head plumes, which are also symbols of the clouds. He has moccasins of different colors and garters. He is the chief mountain divinity of the Navajos.

The second picture represents the painting which the prophets saw in the home of the bears in the Carrizo Mountains, and contains the figures of the mountain divinities and the plants which they protect. There is in it the same rainbow, sunbeams, rafts, and the same water bowls. But on the rafts are the four gods which have the human form; each one with the feet placed upon the raft and the head extending so as to represent the cardinal points. These divinities are painted different colors also, to represent the world waters—blue, black, white and yellow. The arms are half extended and are adorned with lines to represent lightning, and black to represent the clouds. They carry in their hands, suspended by a string, a rattle, a charm, and a basket. They have skirts of red sunlight, adorned with sunbeams, also ear pendants, bracelets and armlets, made of blue and red turquoises, the prehistoric jewels of the Navajos. Their forearms and legs are black, to symbolize the rain-clouds, zigzag marks to represent lightning. At the side of each of the gods is a plant which has the same color of the god, a stalk of corn in the southeast painted white, which belongs to the eastern god, which is white; the bean stalk in the southwest belongs to the southern god, both painted blue; the pumpkin vine in the southwest belongs to the western god, both of them yellow; the tobacco plant belongs to the god of the north, both of them black. Each of these four sacred plants are represented as growing from five white roots in the central waters, but

* The water is the abode of the spirits of life, and the water-jars were regarded as sacred. Cushing says: When a woman has finished a vessel, with its ornaments and symbols, she will tell you with an air of relief, "It is a male being." The space in the ornaments was the exit trail of the or being. When the vessel cracks you can hear the voice of this "male being," supposed to be the voice of the associated being as it escapes.

† These rafts are called, according to Dr. Washington Matthews, *ca' bitlil*, or "rafts of sunbeams," the favored vessel on which the divine ones navigate the upper deep. When a god has a particularly long journey to make, he takes two sunbeams, fastens them together and is borne off whither he wills. Red and blue represent sunbeams and the morning and evening skies. External to the sunbeam rafts, standing on them, are the figures of eight serpents—two white ones to the east, two blue ones to the south, two yellow in the west and two black in the north. These snakes cross one another and seem to stand on the arms of the cross. The neck is blue crossed with four bands of red. Outside of the eight snakes are four more of greater length, which form a boundary to the picture. These have different colors and may represent the rain-gods of the world-quarters. In the west is a black figure representing a mountain, in which the snake divinities dwell. From the summit of the mountain to the central waters is a line on which are four foot-prints which represent the track of the bear, one of the mountain divinities. In the northwest of this picture is the figure of a wind-god, who appeared to the young man and went with him to the home of the snakes. He is called Niltci.

spread out from the center to the circumference—alternating with the gods. The gods form one cross and represent the four cardinal points. The plants form another cross and represent the intermediate points of the compass. The gods carry beautifully embroidered pouches in their hands, the pouches being the shape of birds. Near the gods is a figure of a suastika,* which is formed by crossing the center, the arms of the suastika being made of plumes; these are the cloud baskets which are carried by the gods. Surrounding the picture is the rainbow deity, with the body painted in different colors, to represent the rainbow, and the hands and feet black, to represent the black clouds and the white lightning. The rainbow is always a female and reminds us of the Iris, the Greek goddess, who personated the rainbow. The third picture commemorates the visit to the lodge of the dew, whose door was made of plants of many kinds, and contains the figures of the goddesses with long bodies.

Such is the foundation myth from which some of the sand-paintings of the Navajos were drawn, and which was embodied in them. It will be noticed that nearly all the creatures which are mentioned in the myth have human forms and are represented as human beings with supernatural powers. Some of them were plants, and some were animals, but all had for their houses the various elements—the water, rocks, mountains, clouds, caves, earth. They also adorned their houses with the most beautiful things and colors, such as rainbows, dewdrops, crystals, corn pollen, and spruce trees. They dwelt in security, while the storms and lightnings, and whirlwinds played around their houses, where the supernatural beings, the wind god and the rain god, visited them. The object of the myth was to show that all of these invisible houses were opened to the medicine man, and that when he introduced the sand-paintings, which represented them, and made his prayer offerings and his sacrifices, all of these creatures were committed to his assistance, that there was no disease which could not be dispelled, and no task which could not be carried out. The sand-paintings were full of the symbols which represented these different houses, but the people which dwelt in the houses were actually present in the images.

*The suastika, with bent arrows for arms, is novel but this indicates that it is a sky symbol—probably denotes the revolving sky. The circles denote the sun and the crescent, the moon and the central cross the cardinal points, the colors the different colors of the sky.

PREHISTORIC CONTACT OF AMERICANS WITH OCEANIC PEOPLES.

BY PROFESSOR CYRUS THOMAS.

As promised in my last paper (*AMERICAN ANTIQUARIAN* for January, 1895), I now call attention to some data which seem to indicate prehistoric contact between certain tribes of Mexico and Central America and peoples of Oceanica or Southeastern Asia. As my attention has been drawn to these incidentally, during investigations on other lines, my chief object in presenting them at this time, and without that study they deserve, is to induce others, who may be more fortunately situated for the investigation, to look into the subject along the lines indicated.

Having presented reasons in my last paper for believing that Malay sea-rovers had, in former times, wandered over all the island portion of the Pacific, and might have reached the western shores of North America—reasons, in fact, which would render it rather strange that they did not—we will now look to this end of the route to see whether they have left any traces of their presence in the latter region. In doing so my reasons for limiting the range of the examination to the region of Central America and Mexico will become apparent. I wish the reader to understand, however, that I have no reference in this paper to the original peopling of this continent. It is limited simply to the question of prehistoric contact between the peoples of the regions above mentioned.

The status of this subject among the scientists of the present day is somewhat peculiar. It is admitted generally that the western continent was peopled from the eastern; that waifs from China and Japan have repeatedly been cast on our western coast; yet any attempt to show connecting links between the two regions is sure to encounter ridicule. In fact it would seem that a tabu is laid upon the problem, forbidding any attempt to solve it. A late writer, speaking of Maya culture, remarks: "It were easy, in these names, myths and pictures, to pick out abundant analogies to the mythologies of Peru and Mexico, of the Pueblos and of the Old World. It has been done over and over again, usually with a total oversight of the only point in which such analogies have much value—the similarity disclosed the world over by independent evolution of the religious sentiment. The effort by such resemblances to prove identity of historical origin is to be deprecated whenever the natural growth of myths and rites will explain the facts considered. • • • That the Mayan mythology and civiliza-

tion were distinctly independent, and were only superficially touched by their neighbors, I am deeply convinced." Yet he adds immediately afterwards: "On the other hand, just how far the influence of this potent and personal culture of the Mayas extended it is difficult to delimit. I have found no trace of its peculiar forms in South America, nor anywhere in North America beyond the boundaries within which that extraordinary calendar was accepted, upon which so much of it was based; but this, as I have shown elsewhere, *included not less than seven entirely different linguistic stocks.*"

How then are we to account for the development of this "extraordinary calendar" over that particular section?

A calendar system, which, though peculiar, does not appear to have been hampered by the restrictions to which other customs were subject, as this author seems to imply, but over-rode the barriers of tribal distinctions?

In the article published in *THE ANTIQUARIAN* March, 1894, I alluded to this peculiar calendar and called attention to what appeared to me to be some resemblances to it found in certain Polynesian time-systems. Since the preparation of that paper I have discovered reasons for believing that the investigation should have been carried back to the Malay Archipelago, as possibly the source from which both the Polynesians and Central Americans derived some of their customs, especially those relating to time-systems and the mythology connected therewith.

As I have mentioned the chief peculiarities of the Native Calendar of Central America in the paper referred to, it is unnecessary to repeat them here as reference can be made to that paper, (*AMERICAN ANTIQUARIAN*, March, 1894).

As will be seen by reference to my "Notes on Certain Maya and Mexican Manuscripts," published in the Third Annual Report of the Bureau of Ethnology, it was a custom both of the Mayas and Mexicans to arrange the days in groups containing five days each. The peculiar feature of this arrangement was that these days were not consecutive, but selected by a regular system of intervals. Hundreds of these groups of five days (or rather symbols of days), arranged in short columns, are found in the codices. Another unusual feature was, that one of these groups was assigned to each of the four cardinal points. This will be seen on plate 41-42 of the Cortesian Codex; plate 44 of the Fejervary Codex, and 43 of the Borgian Codex; all of which plates are copied into the Third Annual Report of the Bureau of Ethnology. This, as must be admitted, was a very unusual custom. The special regard paid by savage and semi-civilized nations to the cardinal points is well known, but this custom of assigning five days to each appears, so far as yet made known, quite unusual. And, lastly on this point, we may add that to each of the cardinal points, and in relation to the calendar, was assigned a certain bird. This is also shown on plate 44 of the Fejervary Codex.

By referring to Crawford's "Indian Archipelago" we find the following statement:

"The Javanese have a native week besides the usual week of seven days borrowed first from the Hindus and then from the Arabs. The original Javanese week, like that of the Mexicans, consists of five days, and its principal use, like that of the same people, is to determine the markets or fairs held in the principal villages or districts. This arbitrary period has perhaps no better foundation than the relation of the numbers to that of the fingers of the hand. The names of the days of the week are as follows: *Laggi, Paking, Pon, Wagi, Kliwon*. * * * * * The Javanese consider the names of the days of their native week to have a mystical relation to colors, and to the divisions of the horizon. According to this whimsical interpretation, the first means white, and the east; the second red, and the south; the third yellow, and the west; the fourth black, and the north; and the fifth mixed color, and focus, or center."

Judging by the list of *Wakus*, or periods given by Crawford and Raffles, these days could not have been consecutive, or a true week in any sense, but taken at regular intervals, probably of six days. Moreover, four of them were assigned to the four cardinal points and the fifth to the focus or center.

Without dwelling longer on this coincidence, we will present some further testimony which has not, so far as I am aware, been heretofore alluded to.

Among the ancient manuscripts of Java is one called *Manek Maya*, of which a translation, in part, is given by Raffles. In this is found the following passage:

At the request of *Sang yang Guru*, the deity granted that he should have nine male and five female children born unto him, without the aid of a mother.

One of the sons called *Mahadewa*, being furnished with one of the daughters, called *Mahadewi*, as a wife, was sent to preside in the east. He was, moreover, provided with a fort and palace of silver, a sea of coconut milk, and a white *pari* bird. His letters were *ka, na, cha, ra* and *ka*, (the five first letters of the Javan alphabet,) and his day *legi* (which signifies sweet).

The second son, *Sang yang Sumbu*, was sent to preside in the south; the daughter allotted to him for a consort was *Singyana*. His *kraton* was of copper; his bird was a *bhramana* kite; his sea was of blood; his letters were *da, lu, sa wa, and lu*; his day *puking*.

The third son, *Sang yang Kamijaya* (the most beautiful), was sent to preside in the west, the daughter allotted to him for a wife was *Dewi Ratah*, (which signifies the most beautiful female). His *kraton* was of gold; his sea was of honey; his bird was a *kupudang* or yellow minor; his letters were *pa, da, ja, wa, and na*; his day was *pon*.

The fourth son, *Sing yang Wieru* was sent to preside in the north; the daughter allotted to him for a wife was *Sri*. His day was *wig*; his *kraton* was of iron; his sea was indigo; his bird was a *gaga* or crow; his letters were *ma, mi, ho, lu, and na*.

The fifth son, *Sing yang Bayu*, was appointed to preside over the center of the earth; the daughter allotted for his wife was *Dewi Sumi*. His *kraton* was of bell-metal; his day was *kl-won*; his letters were *ga, lang, ni, mu, ma, la, ja, wa, and u*; his sea was of hot water; his bird was a *gogek*.

The four remaining sons were appointed to preside in the north-east, north-west, south-west and south-east quarters respectively.

The god of the north-east was *Sang yang Predanjala*, and the letter attached to him was named *N'ya*.

The god of the south east was *Sang yang Kuera*, and the letter attached to him was named *nura-wu-yo*.

The god of the south-west was *Sang yang Mahayakti*, and the letter attached to him was named *gandra*.

The god of the north-west was *Sang yang Sewa*, and the letter attached to him was named *norwati*.

It is evident at a glance, as was recognized by Raffles, that this refers to the Malay or Javanese astronomical, or calendar system. A deity is assigned to each cardinal point and one also to the center; a bird is placed at each, and a given day to each. The color assigned to the east is white; to the south red; to the west yellow; to the north blue, and to the center a mixed color. We are therefore justified in comparing it as an astronomical, or mythological system with the time system of Central America and Mexico.

Now it will be observed that the days assigned to the five primary space points are *Legi*, *Paking*, *Pon*, *Wage* and *Kliwon*, precisely those named by Crawford as composing the ancient Javanese week. As these were not consecutive, but in all probability evenly spaced, they would seem to indicate a system by which the years would commence on certain days in systematic order, as in the Central American and Mexican calendars. Whether this was true or not I am unable to determine positively, as but little is known in regard to the ancient Javanese calendar. At least I have no works at hand by which I can decide the point.

We have seen that it was the custom of the Mayas and Mexicans to assign five days to each of the cardinal points. By referring to the above extract from the *Manek Maya*, it will be seen that five letters were assigned to each of the cardinal points. Although this assignment consisted of days in one case and letters in the other, yet it shows an agreement between the two systems in a strange and certainly very unusual custom. Attention is called also to the fact that the Javanese counted but twenty primary letters (consonants) in their alphabet. "The alphabet of Java," says Raffles, "is peculiar; it consists of twenty consonants (*y* and *w* are of the number), termed *aksara* or letters. In common with all other characters properly Indian, these letters may be considered as syllables, composed of a consonant and an inherent vowel sound, which is invariably expressed, unless contradicted by a particular sign. Besides the *aksara*, there are twenty auxiliary characters."* As there were but twenty days in the Maya month, it will thus be seen that there is therein another agreement, and that there was no duplication.

The letters assigned to the fifth son, or central point, were nine in number. Nothing is found corresponding to this in the native American calendar. However, we do find that both Mayas and Mexicans had a method of counting days, or rather nights, by nines, and these were called the "Nine Lords of the Night," and are marked by foot-prints on some of the calen-

* One of the *das* should be written *dha* and one of the *tas* should be *ta*.

dars in the codices. The Hawaiians appear to have followed the same custom. This custom, which has so far been an unsolved problem, may find its explanation in the Javanese custom of assigning nine letters to the central point, or some mythologic concept which lay still back of this custom.

Referring again to plate 44 of the Fejervary Codex, as given in plate 3 of the Third Annual, Bureau Ethnology, it will be seen that a bird is perched on a tree at each of the four cardinal points; then there is a bird also at each of the subsidiary or intermediate points. Accompanying the figure at each of the four cardinal points (though placed outside of the large loop for want of room within it), are five day symbols, as explained in the accompanying text. We also notice further that the large loops representing the cardinal points are differently colored. Reference to the fifth or central point is also frequently made in the codices, and in some instances, as plates 11 and 12 of the Borgian Codex, the central figure is striped with different colors. The assignment of colors in the above extract from the Manek Maya is substantially the same as that given by Crawfurd; white is to the east.

The method of assigning colors to the cardinal points is not unusual, nor can we say that the reference of birds to the four quarters is unknown in the mythology of widely different peoples. Our argument is based upon the fact of the number of agreements, including some features which appear to be limited to the regions here referred to. The more complicated the systems and the greater the number of agreements in details, especially those which are not easily explained as the natural growth of myths, the stronger becomes the evidence of contact.

The assignments of colors among the tribes of Central America and Mexico were by no means uniform, nor has any evidence of entire uniformity in this respect among either the Mayas or Mexicans been discovered. However, Dr. Brinton ("Primer") says, "On the other hand, it should be noted that the names of the winds in Maya distinctly assign the color white to the east." This as will be seen by referring to the extract given above, agrees with the Javanese custom.

It is stated by Raffles, in his "History" heretofore referred to, that in the Cheribon Manuscript, "which appears to be entirely of an astronomical or astrological nature, the year appears to be divided into four portions, each distinguished by the peculiar position of a naga or serpent. The first of the three divisions includes *Fista*, *Sada*, *Kasar*; the form and shape of the great *naga* in these seasons is first stated, and represented by a drawing."

Now, if we examine the Mexican codices, where facts and ideas are represented rather by pictures of symbolic meaning than by characters or hieroglyphics, as in the Maya, we see precisely this Malay or Javanese method of representing the four time periods or four seasons. This is seen in plate 43 of the Borgian Codex (reproduced in Fig. 4 in Third Annual

Rep.), and plate 24 of the Vatican Codex. In each of these there are four coiled serpents, one to each cardinal point. In that of plate 43, Borgian Codex, within the coils of each serpent is a colored figure, accompanied by five day symbols. In the center, toward which the heads point, is a sun symbol. It is evident, therefore, that the reference in this plate is to time, and the four serpents are four time periods, or the four seasons. The serpent as a time-symbol is not unusual, but the arrangement of four serpents in the manner designated is the peculiarity that becomes of special importance in this comparison. The calendar wheel, as figured by Duran (Fig. 8, Third Ann. Rep.), is evidently but the conventionalized form of the four serpents.

Thus we see that the calendar system of the Malays, especially the Javanese, as set forth in the brief extracts given above, although undoubtedly imperfect and incomplete, agrees with the Central American system in some five or six important particulars, three of which, at least, are unusual, and, so far as I am aware, known only to these two systems. For instance, a deity was assigned to each cardinal point; a color to each; a bird to each, and five days or letters to each. Again, we find in each system the method of referring to the central point and assigning to it a mixed color. And also that in each system the divisions of the year or other time periods are represented by four serpents.

Therefore it may well be asked whether it is conceivable that there should be such close agreement in regard to unusual customs and minute details without previous contact or historical connection. It is true that there are, so far as appears from the data I have at hand, two important particulars in which the Maya calendar differs from the Javanese. In the former, as is well known, it was usual to count twenty days to the month and eighteen months to the year, and to number the days by thirteen, thus giving a time period of 260 days, called a sacred year and included in the common or solar year. In the Javanese calendar thirty days were counted to the month and twelve months to the year, and thirteen does not appear to have been used as a counter. However, it is evident that originally the Mayas counted time by the revolutions of the moon. It also appears that there was in vogue, at least in some sections, a secular month of thirty days, giving twelve months to the year. In the "Report on the City of Valladolid, written by the Corporation of the city by order of His Majesty and the very illustrious Senor Don Guillen de las Casas, Governor and Captain General, April, 1579," we find the following statement: "They [the Indians] divided the time by months of thirty days, and on the first day of the year, before dawn, every one, including the Alquin, watched for the rising sun and held a great feast on that day."

There are other points in regard to these calendars which are worthy of notice, which, however, I am not prepared to dis-

cuss without consulting certain works not now at hand. The fact that the title of the epic from which the above extract is taken "*Manek Maya*" - contains the name of the Central American people to whom we are referring, may have no special significance, as *Maya* is a name frequently met with in Hindu mythology. In one role he was heaven's chief architect. However, the following statement in the first paragraph, taken in connection with what has been given, may deserve attention. After alluding to the great ball or egg which contained the universe, it is said that it separated into three parts; one part became the heavens and earth, another became the sun and moon, and the third was man, or *Manek Maya*. All having made obeisance to the *Sang yang Wisesa*, he addressed himself to *Manek Maya* and said: "Hereafter thou shalt be called *Sang yang Guru*."

Although the usual meaning of *maya* in the Malay is "illusion, phantom," yet in this place it appears to have been the name given to the first man, whose descendents were to possess and rule the earth. It is therefore consonant with the usual habit of savages of applying to themselves a tribal name signifying "men." No satisfactory interpretation of this name (*Maya*) has as yet been given by linguists as applied to the people of Yucatan, though numerous attempts in this direction have been made.

I am aware that the argument from analogy is generally considered weak and unsatisfactory. Yet more than one theory has been based on analogy, that was subsequently confirmed by more convincing evidence. In regard to the question now under consideration, with possibly the single exception of the linguistic line, the gap can be bridged only by analogy. Even though archæological and ethnological research shall bring to light, as I believe it will, much additional data bearing on this question, still the conclusion reached therefrom must be chiefly on comparison, which, after all, is but one form of analogy. I therefore consider it legitimate in this discussion to call attention to isolated facts and fragments of evidence, although the immediately connecting links to form the chain be yet undiscovered, provided they fall directly and consistently into the line of the other testimony.

I therefore present an additional item suggested by the extracts from the *Manek Maya* given by Raffles, portions of which have been quoted above. A few lines preceding the part we have quoted, it is said: "Before the heavens and earth were created there existed *Sang yang Wisesa*" (the all powerful.)

The term *Sang yang* is used to signify that the person to whose name it is prefixed is a deity. With the Javanese, *Wisesa* was considered the Creator, though *Sang yang Guru* was their chief, direct deity, or over-ruler. If we turn to the Maya lexicon we find the somewhat strange coincidence, that *zizak* signifies "to create from nothing, make exist, give birth to;" and that *zihzahul* signifies "crea or." *Kamajaya*, the third son

of Guru, mentioned above as presiding in the west, is *Kama* of the Hindu Pantheon, the god of sexual love (*yaya* being a suffix denoting "victor," "conqueror"). In Maya *yama* signifies "to love, to cherish," and *yamail*, "love." We might add to this list of deity names, but of course these resemblances must be considered accidental coincidences, and of no value, unless fortified by other testimony. I have given them simply to call attention to this line of research as one which may possibly give fruitful results. If not based on ancient contact, the supposed dim headlands would soon dissolve into vacancy before the light of careful research by one properly equipped for the work.

By carrying our inquiry back to India—which, as we shall show, is perfectly legitimate, even on the strict line to which we have limited the discussion—we shall be enabled to fill out some of the gaps in our knowledge of ancient Java, and furnish some additional analogies.

The question of the origin of the Malays, except that they came from southeastern Asia, does not necessarily enter into the present discussion. All that is necessary for us to show is that their language, customs and mythology have been largely affected and materially modified by Hindu influence. Nor is it even necessary to present proofs of this, as it is a historical fact admitted by all.

It is well known that the Hindus governed and controlled a part, at least, if not all of Java, for a long period, the dynasty of Hindu sovereigns lasting for a thousand years or more. "The Hindu religion and Sanskrit language," says Crawford, "were, in all probability, earliest introduced in the western part of Sumatra, the nearest part of the archipelago to the continent of India. Java, however, became eventually the favorite abode of Hinduism, and its language the chief recipient of Sanskrit. Through the Javanese and Malays, Sanskrit appears to have been disseminated over the rest of the archipelago, and even to the Philippine Islands." Yet this is by a writer who considers the Malays as distinct from the Hindus.

The Brata Yuda, the great Javanese epic, is but a paraphrase of the Mahabharata. The characters are to a large extent the same; even the scene of the warfare, though transferred to Java, is the same. Astina is the great city; Kresna, Arjuna, Yudistira, etc., are the actors. The Rama Kaivi is substantially the Ramayana of the Hindus. These are written in the old classic Kawi language and hence belong to the early days of the Hindu dynasty. We are therefore justified in referring to the Hindu mythology and cosmogony in our present line of argument.

As is well known, the Hindu cosmogony embraces four great cosmic epochs or *yugas*, three of which have passed; the fourth, or *Kali-yuga*, is that in which we live. In his late work, "Primer of Mayan Hieroglyphics," Dr. Brinton, speaking of the Maya cosmogony, says: "We know practically nothing of the cos-

mogony of the Mayas, but it is instructive in connection with their calendar system to find that, like the Nahuas, they believed in epochs of the universe, at the close of each of which there was a general destruction of both gods and men. The early writer Aguilar, says that he learned from the native books themselves that they recorded three such periodical cataclysms. • • • This would make the present the fourth age of the world (not the fifth, as the Nahuas believe); and this corresponds to the prophecies contained in the 'Books of Chilan Balám.' Brasseur had previously compared the calamities spoken of by Aguilar to the epochs of the Mexicans and Quiches. I may add that Bancroft, after comparing the different accounts of the Mexican epochs, concludes that the most authentic makes but three that are passed, the present being the fourth.

This coincidence standing alone might not be considered of any special significance, but when taken with so many other resemblances—forming a series which it will be difficult if not impossible to parallel by comparing the customs, beliefs, etc., of two other peoples that had never come into contact directly or indirectly—does form a link in the chain we are endeavoring to trace.

One of the notable incidents in the mythological history of the Hindu deity Vishnu, is when, as Narayana, at the beginning of a yuga or great epoch, he floated upon the calm and quiet primeval waters. Sesha, the seven-headed serpent, formed the living craft on which he rested, while Lakshmi, his faithful consort, sat at his feet. "The Supreme Being called Narayana," says the Mahabharata, "unknowable by the senses became desirous of rest. The serpent Sesha, looking terrible and shining with the splendor of ten thousand suns, served as his couch. And that adorable and omnipotent God thus slept on the bosom of the deep, enveloping all space with nocturnal gloom. That everlasting Being was engaged in meditation for the re-creation of the Universe."

It is a rather singular coincidence that in the Quiche myth of creation, as recorded in their Sacred Book—*The Popo! Vuh*—we find the Creator, *Gucumatz*, as a serpent floating on the watery expanse. The words of the record are as follows: "The face of the earth had not yet appeared—only the peaceful sea and the space of heaven. There was nothing yet joined together, nothing that clung to anything else; nothing that balanced itself, or that made a sound in the heaven. There was nothing that stood up; nothing but the quiet water, but the sea, calm and alone in its bounds. Nothing existed, nothing but immobility and silence, in the darkness, in the night. Alone were the Creator, the Maker, the Ruler, *the Serpent covered with plumes*. Those who engender, who give being, *they are upon the water like a shining light*. They are enveloped in green and azure, therefore their name is *Gucumatz*." The signification of the name *Gucumatz* is "The Plumed Serpent."

Possibly these cosmogonical ideas are the outgrowths of native myths. Possibly they are local developments, nevertheless, there is a remarkable parallelism and a very marked similarity.

Although the Society Islanders, like most of the south Polynesian tribes, believe that the earth was fished up out of the ocean, yet, as we are informed by Fornander in his "Polynesian Race," the remnant of a legend collected by M. de Bovis, for many years a resident on that group, bespeaks an older creed more in harmony with the older Hawaiian, Marquesan and Samoan cosmogonies.

This legend runs as follows: "In the beginning there was nothing but the god *Ihoiho*; afterwards there was an expanse of waters which covered the abyss, and the god *Tino Tata* floated on the surface."

A mythologic tradition once current among the Polynesians relating to the creation of the world, which Moerenhout has preserved, breathes the same elevated notion. It begins as follows:

"He abides—Taaroa by name—
In the immensity of space.
There was no earth, there was no heaven.
There was no sea, there was no mankind.
Taaroa calls on high."

True, similar ideas are found among numerous peoples, yet when we compare these expressions of cosmogonical ideas with the native traditions of other peoples of both Polynesia and America, they have the appearance of being echoes of a higher strain from a more elevated origin.

Another fact which I have not seen noticed is, that the monkey plays an important role in the mythological systems of the two widely separated regions, and in both appears to bear some strange relation to the wind.

In the Hindu mythology, Hanuman, the chief monkey deity of the Ramayana, is the son of Pavan, the wind god, "I am, O Sita," says Hanuman to the captive queen, "an emissary of Rama, and a monkey begotten of Pavana." The wind god was known among the Hindus by several synonyms. According to the *Codex Chimalpopoca*, men were changed into monkeys by the wind on a day *Ehecattl*, which is the Mexican name for wind. In the Popol Vuh, two prominent characters—Hunbatz and Hunchouen—are changed to monkeys by the two heroes Hunahpu and Xbalanque. Brasseur interprets the two latter as, in one sense, symbols of the wind.

We also notice that in this Sacred Book of the Quiches, the two brothers, Xbalanque and Hunaphu are the leading characters who attack and destroy the princes and powers of Xibalba, the abode of wicked beings and of the gods of cruelty and death; the "inferno" as Ximenes terms it. Two important characters of the drama are monkeys; and the animals of the forest often take part in the strife. The bird Voc or Vaku,

the winged messenger of Hurakan (god of storms and thunder), is also an actor in the drama. Of him it is said that he is the messenger of Hurakan, resting neither in the heavens, nor in the underworld, but in a moment flying to the sky, to Hurakan who dwells there.

In the Hindu Ramayana, the two brothers, Rama and Lakshmana, after long and tedious search for Lanka, the abode of Ravana, the evil Rakshasa, who had carried away captive Sita, the wife of Rama, destroy him and his demon hosts. This ten-headed Rakshasa was the ruler over demons and the hosts of evil beings. The brothers are joined in the search and warfare by Hanuman the monkey god, and his monkey hosts. The bears also take an active part with the attacking heroes. The bird deity Garud, the tireless wanderer of the skies, the tempest breeder, the hurricane, also with others of his species plays an important role.

Although the details are widely different in the two epics, yet the former, it would seem, might, without a severe stretch of imagination, be deemed a faint echo of the latter, a dim remembrance of an ancient tradition. *Vaku*, the messenger of Hurakan, was in fact the wind, and *Vaya* was the wind with the Hindus—changed to *Boyu* by the Javanese. It may also be added that in both traditions sorcery plays a very important part. I am not sufficiently versed in myths to understand the idea which lies behind the connection of the monkeys and wind. It is certainly singular that this mythologic notion should be found in two regions so widely separated as India and Central America, unless there had been contact.

If Brasseur and Brinton are right in their interpretation of *Nimak*—one of the deities referred to in the Popol Vuh—we find therein another coincidence. The latter says "the name *Nimak* is elsewhere given *Zaki-nimak*. The former means 'Great Hog,' the latter 'White Great Hog.' Brasseur translates *ak* as 'wild boar,' but it is the common generic name for the hog without distinction of sex. • • • • Thus we find here an almost unique example of the deification of the hog; for once this useful animal, generally despised in mythology and anathematized in religion, is given the highest pedestal in the Pantheon." Of course the reference must be to the native wild hog or peccary.

As is well known, the form assumed by Vishnu in one of his avatars was that of the boar, according to the Javanese representation, with small, sharp horns. In the Manek Maya, before referred to, Kala Gamarang is a hog who tries to possess himself even of *Devī Sri*, the wife of Vishnu.

It is remarked by Violet-le-Duc (*Charney, Ruines Amer.*) that certain passages of the Popol Vuh show a singular analogy to the heroic histories of India.

THE SILVER VESSEL FROM GUNDESTRUP.

Dr. Sophus Muller, Director of the Store Nordiske Museum, Copenhagen, in *Nordiske Fortidsminder*, gives a full description of the great silver vessel found in Gundestrup bog in Jutland, May 28, 1891. The vessel has been placed on exhibition in the Store Nordiske Museum, Copenhagen.

No archæological find has created more interest since the discovery of the famous Golden Horns in 1636 and 1734. A laborer working in the bog found this vessel about three feet below the surface. Danish archæologists agree that originally it was not buried, but that the bog grew up around it and gradually covered it. Its various parts were separated. Most



Vessel from Gundestrup.

of the upper edge, with the rings to carry the vessel, were not found. The main point of interest centers on the question of origin. Is it of Gallic origin or was it made in Denmark? Dr. Muller considers it possible that it was made in Denmark by Danish workmen, who had learned their art in Gaul. French archæologists claim a Gallo-Roman origin for it and have lately been allowed to make an exact copy for the Paris collection of Gallic antiquities. To a French savant the vessel represents a link in his studies of the development of early art in France. The animals of the vessel point decidedly to a southern climate. Elephants, lions, hyenas, leopards, etc., are all foreign to Denmark.

Of the inner plates only two are partially visible in the illustration. On the one to the right we see four armed knights, below them, soldiers. Above them is a serpent with a goat head, a religious symbol well known among Gallic antiquities. Back of the knights and the foot soldiers is a giant figure, who holds a human figure in his extended arms head downward over a vessel. Here we have a suggestion of human sacrifice, which was common among the Gallic and Germanic peoples, even at the time of the birth of Christ. On the bottom plate is a hunting scene; a man killing an auroch, which seems to prove an early date for the vessel. On the outer plates a hunter holds two stags by the hind legs, a pictorial representation common in the older times. The nude bust on the next plate is evidently a female goddess, and the two small figures next to her are her priestesses.—*The Literary Digest*.

Editorial.

IN MEMORIAM.

WE have to record in this number the recent death of several of the former contributors to the journal: Judge C. C. Baldwin, of Cleveland, Ohio; Rev. J. O. Dorsey and Col. Garick Mallery, Washington, D. C.; Prof. Augustus C. Merriam, formerly professor of Greek in Columbia College, N. Y., latterly the chief director of the American exploration in Greece. The editor would take occasion to say it was the privilege of having these gentlemen as associate editors and contributors that was appreciated at the time, but now more than ever, for it was at a time when the subject of archæology was not so popular as at present, and when it was a struggle for the *ANTIQUARIAN*, which was then the only journal devoted exclusively to the subject, to secure recognition. There were, to be sure, other gentlemen who aided in giving a reputation to the magazine, several of whom have already gone before, among them, Prof. J. S. Newberry, of New York; Prof. John Avery, of Brunswick, Maine; Prof. John T. Short, of Columbus, Ohio; others are still living and are in active service.*

Some of these gentlemen begun their literary career in writing for the *AMERICAN ANTIQUARIAN*, at least the articles which appeared in the pages were the first brought before the public, but nearly all of them have established world-wide reputations as the authors of books, and the leading archæologists of America. It was the delight of the editor to see the rapid stride which they made in their own chosen departments, and to know that honors were gathering around them as the leaders of thought and the representatives of the best scholarship, though if anyone had then prophesied that they would take their departure so soon, it would have brought sadness to his heart. Many words of commendation have come before the editor since the death of these distinguished scholars, some of them from private letters, others from the public press, the latest of which contain the words spoken over the grave of Prof. A. C. Merriam, in Athens, Greece. They are as follows:

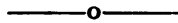
"Seven years ago Augustus Merriam, Professor of Archæology and Greek Literature in Columbia College, came to Athens as Director of the American School. At that time full of life and vigor, he so ably directed the then newly established institu-

*Dr. Washington Matthews, Dr. D. G. Brinton, Dr. Cyrus Thomas, Dr. A. H. Sayce, A. S. Gatchet, Prof. J. D. Butler, E. A. Barber, W. H. Holmes, A. F. Bandelier, L. P. Gratacap, Rev. M. Ellis, Rev. Selah Merrill, Prof. R. Anderson, Jas. Deans.

tion as to render it in many respects the compeer of the other archæological schools in our community. As an example of this able management may be mentioned especially the excavations conducted by him at Sikyon and at Iparia in Athens.

Returning to his native land, Merriam then advanced the cause of archæological science by teaching and publication more than any other man in America; nor did he ever cease to labor in behalf of the beloved school at Athens. This school and his love for classical archæology bound him to Athens with indissoluble bonds, so that a few days ago he once again visited our city, proposing to remain with us all winter, pursuing his favorite archæological studies. But God had disposed otherwise. As the soldier falls on the field of battle, fighting for his fatherland, so Merriam fell contending in the cause of science. On the Acropolis, studying the immortal monuments of antiquity there, he was smitten by the dread disease which in a few days bore him to the tomb.

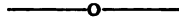
It was fated that the soil of thy fatherland should not cover thee when dead. But the land which receives thee is not a stranger to thee. It is a land hospitable and loving. Here by Lolling's side thy grave is made. The attic earth which covers the bones of Ottfreid Muller, Lenormant and Schliemann will receive and guard thee also in peace."



THE UNION OF SOCIETIES AND THE ASSOCIATION OF SCIENTIFIC MEN.

The union of societies in annual congress in Washington and Philadelphia during the month of January has given a hint as to what may be accomplished in the Interior. Scholars and scientific men are perhaps more numerous on the Atlantic coast than in the Mississippi valley, but there are here many institutions of learning in which are naturalists, archæologists, ethnologists, as well as linguists, Folk-lorists, students of classic mythology, and gentlemen of varied culture, some of them Orientalists, Egyptologists and Assyriologists, others Americanists, who are already making their mark. Chicago is the headquarters for many of these. Here there are professorships for the study of comparative religion. Why should there not be an annual congress of anthropologists at the west—a congress which should embrace the different departments mentioned—somewhere in the Mississippi valley, and so save the expense of a distant journey to the sea-coast. The eastern and western men can assemble in the summer-time in connection with the American Association or some other general body, but the specialists in the different departments need to associate oftener than once a year to compare notes and form acquaintance. We commend this subject

to our *confreres* in the Mississippi valley. At the same time will extend our hearty congratulations to the gentlemen on the Atlantic coast who have found so much satisfaction in the congress held during the past winter.

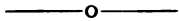


Correspondence.

IDENTIFYING THE "LAND-MARKS" OF EARLY HISTORY.

On the importance of identifying the events of early history by certain land-marks in Illinois was started by the editor of the *AMERICAN ANTIQUARIAN* during the winter. As a result, letters were written and published in the Chicago papers by certain scholarly gentlemen, among them Mr. H. W. Beckwith, Judge A. O. Marshall, Rev. N. F. Douglass, and several others who have a taste for local history, and all able to furnish valuable information.

A local archæologist in Chicago, whose name is totally unknown to the public, has, in a very ridiculous way, undertaken to criticise them, but has by the means brought the department of archæology into ill-repute. There are others also of the same make-up who are doing no good, but much harm, for they set up their own limited observation against the advanced scholarship of men who are well known, and seem to convey the idea that illiterate exploration in archæology and the collecting of relics is a passport for ignorance, and furnishes a warrant for rough and ungentlemanly attack upon the reputation of scholars and literary men.



BUFFALO ROCK.

Editor American Antiquarian:

DEAR SIR.—Noticing your letter in the *Inter-Ocean*, making inquiry about the location of "Buffalo Rock," I am moved to inform you that "Buffalo Rock" is in the valley of the Illinois river, about three miles west of Ottumwa (Illinois, LaSalle Co.), and on the north side of the river. It is about seven or eight miles east of "Starved Rock." There is now a shipping station for a tile factory near "Buffalo Rock," called "Twin Bluffs," on the Chicago, Rock Island & Pacific Railway. The river valley at that point is about a mile wide; nearly in the center this rock juts up into prominence, forming a landmark plainly seen

miles away. The rock is something more than one-half a mile long, east and west, and about two-thirds as wide north and south. I do not know the exact figures, but it is in the neighborhood of 150 feet in height. It is said to have been named by the Indians; they fancying that it resembled the hump on the shoulders of a buffalo bull, hence "Buffalo Rock."

For several years I was a resident of Peru, LaSalle Co., Ill., so am familiar with the region. Hoping this may answer your inquiry satisfactorily, I am, Yours respectfully,

N. F. DOUGLAS.

Newell, Iowa, Jan. 24, 1895.

ETHNOGRAPHIC NOTES.

BY ALBERT S. GATSCHET, WASHINGTON.

THE ALLENTIAK is a dialect of the great Pampean, or as others have called it, Araucanian, stock of languages of South America. The Araucos or Araucanians being historically the most famous people of Chili, the group of dialects spoken by the Indians of northern and middle Chili is aptly named Araucanian, while the cognate dialects heard on the eastern side of the Cordillera may be classed under the name of Pampean or prairie dialects. Brinton, the American Race, p. 323, has the following: "The Indians living on the eastern slope, about the city of Mendoza, and in the Cuyo province, are described as claiming descent from the Pampean tribes. They were locally known as Guarpes (or Huarpes), and spoke dialects called the Allentiac and the Milcocoyac, not distant from the Pampean proper." The missionary Luis de Valdivia has left some indications upon the Allentiac in his *Arte de la Lengua Chilena*—Ed. Lima, 1607. But at present a much more complete body of information lies before us in Bartolome Mitre, member of the Spanish Academy, who, in a 16mo. volume, entitled *Lenguas Americanas*, LaPlata, 1894, pp. 153, has published: "Estudio bibliografico-linguistico de las obras del P. Luis de Valdivia sobre el Araucano y el Allentiac, con un vocabulario razonado del Allentiac." It is one of the publications of the far-famed ethnological Museo de la Plata, Director Dr. Francisco P. Moreno. The vocabulary, with Allentiac first and Spanish second, alone holds forty-eight pages and shows considerable judgment in linguistic matters, as does also the grammatic sketch preceding it, with its numerous paradigms.

THE AFRICANS OF GUINEA.—The peculiar nature of the religion of the Guinea coast forms quite an attraction to philosophers and ethnologists. Adolph Bastian has made of it the subject of a treatise entitled "Zur Mythologie und Psychologie der Nigritier in Guinea." Berlin, Reimer, 1894. Octavo, pp. 162 (map). The idea of guardian spirits being present all over the human body is here formulated so that every man has three spiritual inmates, the first of whom dwells in the head, the second in the stomach and the third in the great toe. The second of them, Ipin ijeun, is a protector of *fire*, because food is prepared by his exertions. The dead who return to their families on earth are passing into a state of renascence, and

into the bodies of new born children as ancestral spirits. Idols which had been dedicated to the special use of certain worshipers by confining a guardian spirit into them, are, after the death of the worshiper, thrown away or smashed to pieces, for with death the demoniac power in them is supposed to escape.

Similar ideas are discussed by the same author in the "Samoan Creation Myth and cognate things from the Pacific" (1894, pp. 51), where the mythic portions are worded in blank verse, or metrical rhythm, and the creation of the various genera of animals described at length and in a poetical vein.

THE MORTUARY CUSTOMS observed among the present Indians of Argentina are made the object of a careful treatise by Dr. José Penna, *La cremación en América y particularmente en la Argentina*. Buenos Aires, El Censor, 1894, pp. 305. It was composed for the furtherance of the views and interests of the "Cremation Society of Argentina," and powerfully advocates the compulsory introduction of this mode of disposing of the dead. The investigations made in this respect among the Argentine Indians were mainly conducted by Penna himself, and many details are added for comparison from the customs and usages of the Guarani, Peruvians, Mexicans and North Americans.

THE LOCATIVE PREFIX *A* is not very frequent in American geographic names, but has a peculiar significance because it points to the historical settlements of two great European nations, the Spaniards and the French.

Spanish names with the prefix *a* occur in the chroniclers of Hernando de Soto's expedition through the Gulf States (1539-43), and have a parallel form in which the prefix does not appear:

Aminoya, probably on Mississippi River; also Minoya.

Anlco, site unknown; also Nilco.

Anadako, now the Caddo tribe of the Nadako.

Achalaque, a country; also Chalaque. It contains Cherokee, the tribal name.

Another name, of later epochs, is as follows: Arkansa, pronounced Akanso or Arkanso, is corrupted from Kansa, Ká'sa, Ka'sa, now a tribal name, that of the Kaw or Kansa tribe (the Arkansas tribe is that of the Quappas). Originally Kansa was but the people of *one* totem, the "wind" people or "wind" gens.

There can hardly be any doubt that this prefix *a* is the Spanish preposition *a*, from Latin *ad*, "to, towards," now so frequently used with local names. The island Cozumel, on the coast of Yucatan, is in old Spanish documents called Acusamil. The city Oporto is also called Porto, and shows the Portuguese form *o* of the Spanish *a*, "at the harbor."

In Nahuatl names initial *a* is frequent, and often contains *all*, water; so in Anahuac: "situated around, or along the water."

French names with the prefixes *au*, *aux*., form exact parallels to the one considered above. These are contracted from *à* and the articles *le*, *les*, *a* *le*, *a* *les*. This we have in New York and elsewhere.

Ausable, river and chasm, from *aux Sables*, "at the sands." In Indiana, Aglaize river, from French *aux glaises*, at the clay (banks); spelled in Irish orthography O'glais.

Aux Cahos was once a frequent abbreviation for aux Cahokias, at the Cahokia settlements in southern Illinois.

Au²Poste stood for the town of Vincennes, Indiana, "at the military post,"

just as *au Fort* now means Quebec to the Canadian "habitans" or colonists, and further south "en ville" is "to New Orleans," for the French Creoles of Louisiana. *Istambul* or Constantinople originated from the Greek *eis ten polin*, "into the city."

Oka or Okaw stands for an abbreviation of aux Kaskashias, with the meaning, "at the settlement," or "on the river of the Kaskaskia Indians," southern Illinois: aux Ka, au Ka.

Opa, o Pa, au Pá, on Illinois River, took its origin from aux Peorias, "at the home of the Peoria Indians." Thus the name of the Piankishaws was abbreviated into Pian, of the Miami into Mi, of the Pucawatemis into Poux, of the Wiwaktanons into Weas, by the early French settlers.

Ozark has nothing in common with the French word *arc*, *bow*, but is an abbreviation of aux Ark(ansas), at the town or towns of the Arkansas Indians.

THE MELUNGEONS are a people of Tennessee, which has been made more of a mystery than they really are. They live at Clinch Mountain, near Holston River, and when they have merchandize to trade, they bring it for sale to the town of Rogersville, in Hawkins County, Tenn.; the locality where their homes are, is near the Quarries in Hawkins County, where marble of a pink color is now quarried. They are small of stature and darker in color than their neighbors, and though they call themselves Portuguese, James Mooney, who investigated them, thinks they are a medley of some Atlantic coast Indians and of inland negroes. By all events they differ in race from the Anglo-Americans, though they speak an English dialect, somewhat corrupted. They are known to have lived there for a century, says G. L. Babbitt, and will work only when under the press of hunger or other necessity. A short article on these people will be found in one of the more recent volumes of the *American Anthropologist*, Washington, D. C. (1889, pp. 347, 84.)

ATHAPASKAN TRIBES OF THE WEST.—The Rev. A. G. Morice, a French priest of the Oblates of Mary Immaculate, born in 1859, has, since 1882, lived as a missionary among the Western Tinnés or Déné; he has published ten books and treatises on these Indians, and according to Pilling's "Bibliography," composed as many or more manuscripts on their dialects, manners, dwellings, history, etc. In 1885 he was appointed to his present station, Stuart's Lake Mission, British Columbia, among the tribe of Carriers. Some of his publications are printed by means of the "New, Methodical, easy and complete Déné Syllabary," which he invented to represent the sounds of the Athapaskan languages in a more adequate way than was done before him. Undoubtedly the name Déné is more fitting to call this linguistic family than Athapaskan, which is a Cree or Kristino term. Morice's Western Dénés comprehend the three tribes of the Chilcotin, Carriers and Tsékehne, and constitute his special field of research. All of them, together with the Nahane, on Stickeen River, do not count over 3,260 persons, all of whom inhabit the western slope of the Rocky Mountains. Under the title, "Notes, archaeological, industrial and sociological, on the Western Dénés, with an ethnographical sketch of the same," our specialist has published a valued sketch of these tribes in the *fourth* volume, part first, of the "Transactions of the Canadian Institute." Toronto, 1891, 8 vo., pp. 222 (issued March, 1894, price \$1), richly illustrated. In this treatise Morice has described

with great care and remarkable accuracy the physical qualities and inventive power of these untutored natives, and also illustrates the mental development of the tribes. The dress of the men and women are minutely sketched, also their dwellings, manufactures, houses and store-rooms, fisheries, boats, musical instruments, toys and playthings, medicines, wood carvings and other products of aboriginal art, their hunts and trapping expeditions, and a selection of other topics, all highly interesting for the general reader.

PUQUINA OF SOUTHERN PERU.—A tribe of Indians bearing this name formerly existed around Lake Titicaca and in some villages of the diocese of Lima, and was known also under the name of Uru, Hano and Ochomazo. Nothing of their language was in existence except a Lord's Prayer; this contains a few Quichua terms, and hence it was believed the idiom belonged to the Quichua stock. Last year Mr. Raoul de la Grasserie published an extensive notice upon this language from the "*Rituale seu Manuale Peruanum*" of 1607, in which devotional texts were found which revealed enough of the Puquina language to make its study possible. The French scientist soon discovered that it belonged to the great family of Maipure, also called Arawak, and that it formed one of its southernmost branches. The Moxo and Baure of Bolivia belong to the same stock, and but recently it was found that the Anti (or Campa) in Perú, the Cauixana and the Custenau of Southern Brazil, belong there also. The title of Mr. Raoul de la Grasserie's publication is, "*Langue Puquina. Textes Puquina contenus dans le Rituale Peruanum de Geronimo de Ore, publié à Naples, 1607. Par R. de la Grasserie.*" Leipzig, K. F. Koehler, 1894. Octavo, pp. 67. The Indian texts are made accessible by means of a French interlinear translation, and by the Spanish version standing opposite.

SOUTHERN INDIA REVISITED.—When the anthropologist, Dr. Emil Schmidt, went to the Dekhan for an exploring tour in the autumn of 1889, he landed near the southern end of the peninsula and went from Tutikorin by way of Madura to Madras. From there the general trend of his travel was in a southwesterly direction to the principality of Travancore and its capital, Triwandram, to Cape Comorin, one of the points of greatest interest being the enormous drawidian temple of Madura. He then went along the western coast to Cochin, from there to Koimbator, then into the Anāmalā hills, the western and the eastern Nilgherries, to return again to Koimbator. Calicut and surroundings were the last points seen by him before his return to Europe. Although the Doctor's style is graphic, pictorial and enthusiastic, he never surrenders, though describing scenes entirely novel and of amazing grandeur, to boundless imagination and fanciful poetry. His sketchings of men and nations are as true and attractive as those of the hills, mountains, forests, coasts and rivers, and in the latter the genius of the naturalist may be discovered. Among the salient chapters of his narrative may be quoted the description of the temple of Madura, which is sacred to Siwa and his wife, the goddess Sandarishwara. This structure is typical for the other temples in southern India; there is always the winama, or "house of God," with the dark and square-shaped cella, the roof in pyramid form, long colonnades to shelter visitors from the sunrays, a pond for ablutions and refreshing baths, long temple walls ending in the pyramidal gopura or gate-tower.

To pay a visit to the Maharadsha or ruler of Travancore, is undoubtedly

an attraction to any traveler who loves to see large and sumptuous royal mansions, quaint and obsolete ceremonial forms, and the gorgeous display seen at the courts of Indian princes. Such a visit is also instructive for studying the conflict between the old India customs and policy, and the conquering influence of European culture. For all these princes of East India will finally have to decide whether they have to follow the Indian policy or that of their foreign masters, and thus are forced into a political dualism. A quaint instance of Asiatic institutions is the fact that the full name of this ruler is composed of no less than nineteen titles.

The civilizing influence of Great Britain upon India has no doubt been great. The corruption at the courts of the tributary princes was remedied or abolished, the criminal, though religious sect of the Thugs exterminated, and the suttees are a thing of the past. But the lower races, like the Kurumbar in the western Nilgherries, are still preyed upon by their stronger and inhuman neighbors. Upon the pretense of deaths caused by witchcraft the Kotas and Badagas will attack the villages of the Kurumbar, burn the houses and kill the inhabitants, as it was done as late as 1882 in the town of Elmanad. Raids of this diabolical kind are generally headed by some man of the Toda race or tribe, who, as a "lord of the mountains," is entitled to strike the first blow. There are a number of Pariah communities treated in the same way under some superstitious race prejudice, and we do not yet see the day coming when the light of humanity and better morals will penetrate into these partly impenetrable countries. Many other passages of an anthropological nature are of high interest; so what Schmidt relates about the prisons and the treatment of criminals; the awe by which the Brahmin caste is still regarded by the people; the prayers held over the dead, etc. The book is adorned with thirty-nine photo-lithographs, mainly portraits, and though written in German, is set up in Roman type; the title is "*Reise nach Sudindien*. Von Emil Schmidt." Leipzig, Engelmann publisher, 1894. Octavo, pp. 8 and 314. The same scientist has also published, quite recently, a succinct recapitulation of North American prehistoria, under the title, "*Vorgeschichte Nordamerikas im Gebiete der Vereinigten Staaten*;" Braunschweig, Vieweg, 1894. Octavo, illust., pp. 216.

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LITERARY NOTES.

THE AMERICAN ORIENTAL SOCIETY.—A leaflet published in 1891 by Prof. W. D. Whitney, and addressed to the members of the American Oriental Society, gives a brief *resume* of its history. It was in 1842 that certain gentlemen in Boston organized this society and elected Dr. John Pickering as president and Prof. E. F. Salisbury, of New Haven, secretary. In 1846 Prof. Edwin Robinson, of New York, was elected president, and Prof. E. F. Salisbury, of New Haven, as secretary. In 1855 a collection of books was transferred from Boston to New Haven. This made New Haven the *de facto* center, though the localization was not an object. The library has become, in fifty years, very valuable, having received liberal gifts from missionary societies, from the India office of London, from individuals, such as Dr. F. Hall, Rev. Dr. Thompson, and C. W. Bradley. The minutes are to be published, Vol. I in 1847, Vol. II in 1849-50, Vol. VI in 1850-60.

The proceedings began to be published separately in 1858. The Journal published at New Haven has now reached its seventeenth volume, thus making it a close contemporary of the *AMERICAN ANTIQUARIAN*. It is, perhaps, the most scholarly production in America. Prof. Whitney, who succeeded Dr. Salisbury as corresponding secretary, and acted in that capacity for twenty-seven years, and who sent this circular letter to the members, died in December, 1894. The meeting at Washington in January devoted one day to his honor. The society has never left the Atlantic coast, though the process of delocalizing it is gradually going on, and it is to be hoped that a meeting will be held in Chicago before many years.

THE PLEIADES.—The Eskimos at Point Barrow look upon the sun and moon and stars as fairy bodies, and they form them into groups, the same as we do the constellations. The star Aldebaran, with the cluster of Pleiades, are called the sharing-out of food (*pa shukh lurin*); the chief star represents a polar bear and the others hunters around the bear. The three stars in Orion's belt are three men who were carried away in the dark winter. They were for a long time covered with snow, but at length, perceiving an opening, they descended farther and farther, and at last became fixed among the stars. Another group is called the house-building, and represents a few people engaged in constructing a winter hut. Their most complete myth refers to the sun and moon, who were brother and sister. The moon is considered cold and covered with snow. The figure of the man perpetually traveling with his dog can be seen on the surface.

THE INTERNATIONAL FOLKLORE SOCIETY.—Mrs. Helen M. Bassett, the secretary of this Society, writes that a very successful congress was held in Nashville, in the month of January, and several valuable papers were read. Monthly meetings are also held in Chicago, in private houses, various literary and scholarly ladies and gentlemen attending them. It is gratifying to notice the increased interest in the subject, and especially to know that Chicago is the head-center of such a society and that so efficient a person is secretary. There are many ladies and gentlemen throughout the west, besides those living in the cities, who should be invited to join.

GUIDE TO DEIR EL BAHARI.—A very convenient and useful "Guide to the Temple of Deir el Bahari" (that of Queen Halsu) has just been issued by the Egypt Exploration Fund. It has a folding plan of the site as just excavated. Price but 15 cents. Address Rev. W. C. Winslow, 525 Beacon street, Boston. No tourist to or from Egypt should be without a copy of this pamphlet.

DEAN BUCKLAND.—The work which clergymen have done in connection with the science of archæology is worthy of record, for it appears that notwithstanding the general impression that their theological training creates a bias against advanced thought and the acceptance of new conclusions, there is not a more conscientious and truth-loving class of investigators, and none whose opinions are oftener quoted by succeeding generations. This is illustrated notably in the case of Dean Buckland, who is called the "father of geology," and may also well be called the father of archæology. He was the first to interpret the significance of the bone-caves in Europe. The result of his discoveries and theories regarding them was published in 1823, in a volume entitled, "*Reliquiæ Diluvianæ*," which is still regarded as a classic, despite the changes opinion has undergone meantime. The facts treasured in the book give it a lasting value.

BOOK REVIEWS.

The Higher Criticism and The Verdict of Monuments. By the Rev. A. H. Sayce. Oxford: Second edition; London Society for Promoting Christian Knowledge. New York: E. and B. Young & Co., 1894.

It was in the early traditions of Greece that destructive criticism found its first materials, but the reconstruction took place after the excavations by Dr. Schliemann. So the higher criticism has attacked the traditional view of the Bible; but the rehabilitating of the ancient book has already begun through the researches of the archæologists.

The work of Dr. A. H. Sayce in this direction is of incalculable value, for it comes from the study of the monuments, and is founded upon a scientific basis and is perfectly free from dogmatism. His first effort is to show that the Bible is an old book and was not, as the critics claim, put together and edited by some unknown redactor at a late date, for it is in accord with the conditions of the world and with the teachings of oriental archæology that the books of the Pentateuch should have been written and put together in the days of Moses rather than at any other time. He shows this by the fact that the art of writing, as well as of building, a high condition of literature and attainments in religious thought prevailed in Egypt and Palestine long before the days of Moses. Multitudes of inscriptions have been recently discovered in Arabia by Dr. Glaser. This gives to us an alphabet supposed to be older than the Phœnician, called the *Minaean* alphabet, the kingdom of Main having preceded that of the Sabæans. It is also proved that the populations of western Asia in the age of Moses were as highly cultured in literature as the populations of western Europe at the time of the renaissance.

The Babylonian language was a common medium of literary intercourse from the Nile to the Tigris. Papyrus and parchment are preserved in the dry climate of Egypt. Clay books were stored in the cities of Chaldea. Tablets sent from Palestine, Phœnicia, Tyre and Sidon, inscribed with the cuneiform letters, have been found at Tel-el-Armarna, Egypt. Canaan was the center of the correspondence. Kirjath Sepher was a "book town," or "city of books." Kirjath Sannah was a place of speaking wherein the oracles were held. The influence of Babylonian culture was felt in Egypt. The sacredness of the seventh day was known. The story of creation and the deluge, as told by the Babylonians, has some very remarkable analogies to that contained in Genesis. It was certainly easy for Moses to have gathered the fragments of these traditions and embody them in the book, and there is no need of placing the date of the composition later than the Exodus, though the wonder is that Moses, under the Egyptian training, should have had so exalted an idea of the true God. The Egyptian tutelage of Israel is dwelt upon in this book, but the writer does not hold that the Mosaic ritual was derived at all from the Egyptians. Some things, such as the dream of Joseph and the divining cup, were Egyptian rather than Palestinian; still we find nothing of the orientation of the temples, the worship of the sun and moon, or the embalming of the dead, carrying the

bodies over the water, or any of the Egyptian customs, in the Pentateuch. If the animal headed divinities were known they were not so much as named in the Bible. There was the simplicity of the Abrahamic faith, which was retained as thoroughly as if the people had been in the wilderness all the time of the Egyptian captivity. The development of the Israelitish nation as a nation took place so that they were able on their return to carry out the conquest of Canaan and to fill the land with a superior civilization, equal to that of the Hittites. There was a contrast between the religion of the Israelites and the Canaanites, but letters and arts were at a much higher stage than has been generally supposed. This has been proved by the discovery of the tablet at Lachish, for this was covered in peculiarly formed letters and shows that before the time of the Exodus there was a correspondence conducted between Egypt and Palestine, but in the Babylonian script. The Moabite stone and inscription of Siloam belong to a later date; the one to the time of the Ahab, the other to the time of the reign of Hezekiah, about 650 B. C. Both of these stones not only prove the use of letters but prove that the Israelites adopted the language of the Canaanites or incorporated it with theirs. There is one singular fact brought out by the first. Chemosh, the god of the Moabites, was very similar to the Jahveh Jehovah of the Israelites, but differed entirely from the sun gods and animal headed gods of the Babylonians and Phœnicians. The national divinity of the Israelites was always a personal being rather than a nature power. The contrast of character in the god of the Hebrews, as conceived by Abraham and by Moses, with that of the gods of the Egyptians and Babylonians furnishes the proof that a knowledge of Him came from Revelation.

Twelfth Annual Report of the Bureau of Ethnology, 1890-91. By J. W. Powell, Director.

This volume contains the report on mound explorations by Dr. Cyrus Thomas, and is a valuable contribution to the literature on that subject. The report begins with a description of the emblematic mounds of Wisconsin, but the descriptions are confined to the few groups which were explored, and really give no view of the system of works which is contained in the state. The reader will have to go to the works of Dr. Laphan, now out of print, or the volume which was prepared by the editor of this magazine, to get any comprehensive view of the system or any explanation of the object of erecting the effigies. A description of the mounds and stone graves of Illinois, Arkansas and Iowa follows that of the mounds of Wisconsin. Here we have some new facts to greet us—facts which are gathered from the excavations of certain new groups of mounds and the discovery of many relics; though the relics and mounds are of the same type as those which have already been described and which are well known, Dr. Thomas' and W. H. Holmes' classification of them having been established before the work appeared. The mounds of Mississippi, Alabama and Georgia follow those of Arkansas, and resemble them in many particulars; though the relics taken from the Etowah mounds differ from those found in any other part of the continent. The sensation which these relics made at the time of their discovery will be remembered, and the discussions which followed. Dr. Thomas calls them modern, but many claim for them a prehistoric origin and see in them the evidence of contact

with more advanced races, such as the Aztecs. The relics and mounds of North Carolina, Tennessee and West Virginia have already been dwelt upon by Dr. Thomas as proving the modern character of the mound-builders. There is nothing in the report which will settle this question one way or the other. Still further explorations will be required before we can decide as to the relative age of the different horizons found in the mounds, for no one believes that they are all modern, and Dr. Thomas has made no effort to trace the mounds back to any remote age or to show the date of their beginning. The mounds of Ohio have been surveyed and re-surveyed, and the Bureau has corrected its own reports by publishing these surveys, for they prove that the measurements and descriptions which were given by Squier and Davis nearly fifty years ago were in the main correct; and Mr. Henshaws' criticism of the archaeologists who relied upon these descriptions was uncalled for and misplaced. We take the fourth volume of the "Contributions" and the twelfth volume of the "Annual Reports" and find that they are in accord, notwithstanding what was published in the second volume of the "Reports." The last part treats of the mound-builders and Indians, a topic which has already been discussed, and gives conclusions which have been adopted, though the distinction between the mound building "age" and the modern Indian age is being more and more clearly drawn by most archaeologists, and the two terms continue to be used. The volume abounds with engravings, which bring before the eye the shape of the relics and the mounds in a way that no description by words alone can do. There is one feature of the book which is to be commended—Dr. Thomas has given credit to those who have been engaged in mound explorations and has spoken kindly of all, even those who have differed from him in opinion.

Louisiana Folk Tales. In French dialect and English translation. Collected and edited by Alcee Fortier, D. D. Boston and New York: Houghton & Claflin.

The Negro Folk Tales in this book differ from those of Ben Remus in nearly all particulars. In fact so different are they that one can scarcely recognize as negro tales, and it is only when we come to the appendix that we seem to be treading on familiar ground. The book is thus an addition to the stock and will be sought for by collectors on that account, as well as on account of its original merits.

The Journal of the Polynesian Society for January, 1895.

The articles in this number are exceedingly valuable, for they show that a new era of investigations has begun. The Polynesians are not all so recent as some of the linguists would have us believe. Though the peopling of the islands by the Aryans will be acknowledged, the preceding aborigines are becoming known. To what stock did these aborigines belong, and what was the relation of that stock to the prehistoric Americans is the next question. No ethnologist can afford to do without this journal.

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THE STORY OF THE CREATION AMONG THE
AMERICAN ABORIGINES A PROOF OF
PREHISTORIC CONTACT.

BY STEPHEN D. PEET.

One of the strange things connected with American mythology is that there are so many myths which resemble those so common in the far east. This is especially true of that series of myths which gather around the story of creation, and constitute different parts of the cosmogony of the east. It appears that this cosmogony embraced certain traditional events, the record of which appears in the sacred books and ancient tablets, and is especially prominent in the Bible, but traces of it were scattered over the globe and are found in all parts of America. The following are the elements of the American myths which go to make up the record and which are everywhere recognized as essential parts of the cosmogony.

- (1) In the myth there is a creator who is always regarded as the supreme being, but is called by different names—such as “earthmaker,” “master of life,” “supporter of the heavens,” the first “great ancestor,” “old man,” the “great white one,” “father of all.”
- (2) There was a conflict between the great creator and an enemy who is represented under different figures*—sometimes as a great serpent which lives under the water, as a twin brother who was born in the sky, but whose birth resulted in the death of his mother; sometimes the conflict is between the upper divinities, divinities of

*The first view is given in the myths of the Algonquins, the second given by the Iroquois, the third by the Cherokees, the fourth by the Ojibwas in their sacred mysteries where the candidate is resisted by the animals and serpents, but befriended by the human divinities, the fifth is represented by the Dakotas, who called the one Wakanda and the other *Ictinike*, corresponding to the Scandinavian Loki. Among the Mexicans and Nahuas the story of the conflict between the hero-god Quetzalcoatl and Tezcatlapoca, his mortal enemy, forms a chief feature of their early history and important part of their mythology. (See *Myths of the New World*, p. 143, 122, 176, 182.)

the sky, and the lower divinities, divinities of the water, and the humanized or anthropomorphic and animal divinities, and between the benevolent and kindly and the mischievous and malignant. (3) The story of a great flood is as common on the continent of America as it is in Asia and resembles in many particulars that which is contained in the book of Genesis, and which has also been recorded in the cuneiform tablets. This myth presents the greatest uniformity of outline but has a great variety in its imagery, for the deluge is always localized and made to occur near the spot where those who repeat the myth formerly dwelt, the deliverance from the deluge being always ascribed to the tribal or national divinity. (4) The reconstruction of the earth and the creation of man always occurs after the deluge. This re-creation among the northern tribes occurs only once, but among the tribes of the interior, such as the Zunis, Moquis, as well as among the nations of the southwest, four times. Among the Zunis, Moquis and Navajos the creation of light is represented under the figure of four caves, each one of which becomes lighter and larger as the ancestors ascend; but the same features of the landscape appear over and over again. The waters of the deluge follow through the different caves and fill the new worlds until the present world is reached. The Dakotas have a similar myth, but the spirits of men come up from below the "tree of life" and pass through four platforms or flat surfaces and take the bodies of birds. There are four creation epochs among the Mayas. These are symbolized by the fire, the water, the air, and earth. They are symbolized in the calendars, showing that the conception was prehistoric and was handed down by tradition for many generations.* (5) The story of the giants in the days of old, figures of mighty proportions looming up through the mist of ages, is common property to every nation, and the American tribes have it in a great variety of versions, the most of them bearing striking resemblances to that told in the east. The story is by some supposed to have been of late introduction, as it is so similar to the Greek myth of the war of the Titans, as well as to the Scandinavian myth of the war among the gods, but there are the same marks of antiquity as in the other myths, the symbols referring to it being contained in the ancient codices of Mexico and in the totem poles of the northwest coast. Various landmarks are pointed out as the scene of this conflict, the mountains on the Pacific coast, the various lakes and rivers in the interior, and even the features of the landscape in the far southwest having myths connected with them which refer to this conflict. (6) There are certain symbols which remind us of the tree of life, which, according to the Scriptures, was placed in the garden, the tree being a common symbol among all the secret societies and sacred mysteries of the wild tribes, and

* See the Calendar System of the Mayas, by Dr. Cyrus Thomas.

as prominent among the time records and sacred calendars and astronomical signs of the semi-civilized and civilized nations as among the ancient Babylonians or other nations of the east. (7) There is a migration myth, often connected with the story of creation, which reminds us of the dispersion of the race as contained in the Scriptures, for the migration generally begins with the story of a separation and sometimes ends with the settlement in permanent abodes.* (8) There are certain pictographs which remind us of the confusion of tongues recorded in Genesis though it is doubtful whether this event was embodied in the mythology of America. We refer now to the picture which is preserved in the Boturini Collection. In this picture there is an island, a boat, a curved mountain on the main land, the names of the thirteen tribes, the picture of the stopping places; and among other things, the picture of a bird with cominas coming from his mouth, which have been interpreted as symbolizing the gift of speech. The bird is perched on the summit of the tree, the men at its foot. Dr. Brinton says this has been interpreted to mean that after the deluge men were dumb until a dove distributed to them the gift of speech, but it is entirely an erroneous interpretation.

Such coincidence is surprising when we consider the isolation of the continent from all other countries, and especially when we note the great difference between the American race and the races which first populated the Far East. It has been accounted for by some as resulting from the contact of the natives with the missionaries, the idea being that the Bible account which was taught to them gradually filtered through the native myths so as to appear indigenous; but it really was borrowed from the white man. This theory, however, has been rejected by many of the most prominent ethnologists, and the general conclusion is that whatever one may say about the resemblances, the majority of these myths and symbols must be acknowledged to belong to prehistoric rather than historic times, for the following reasons: (1) The creation myth is very wide-spread. It is found not only among the tribes which early came in contact with the missionaries, but those which were very remote, and always has the same elements. (2) The myth is always associated in the minds of the natives with certain familiar objects in nature—such as mountains, lakes and seas, the event of creation itself having taken place in the habitat of the tribe which holds the myth. (3) There is a cosmogony which is taught by all of the secret societies and sacred mysteries, which with certain variations is full of resemblances to the cosmogonies of the east, and no one pretends to say that these societies were ever influenced by white

*Dr. Brinton says no doubt some of the legends have been modified by Christian teachings, but some of them are so connected with local peculiarities and religious ceremonies that no unbiased student can assign them wholly to that source. (See *Myths of the New World*.)

men, and certainly not by missionaries. (4) The myth is the foundation for many of the religious ceremonies and sacred feasts and ancient dramas, the creator himself being frequently personated by some one who appears in the ceremony. (5) The story is found in the bark records and pictographs of the wild tribes, in the sand-paintings of the mountain tribes, in the hieroglyphics and ancient codices of the partially civilized tribes—all of which may be regarded as the sacred inheritance from their ancestors. (6) The cosmogony is very prominent in the ancient calendar stones and astronomical symbols which are so prevalent among the more civilized races, and which are known to be prehistoric. (7) The story of creation is the starting point for all American mythology, but is so incorporated in it that it is impossible to separate the one from the other. (8) The story resembles that which we have received from our Aryan ancestors, and which they received from the Semitics;* but in its imagery is so purely aboriginal that it is impossible to distinguish it from a native myth.

Our conclusion is that there was an American cosmogony in prehistoric times which was almost identical with that which was contained in the ancient and historic records, and that in some way this must have been transmitted through some unknown channel to the different parts of the American continent. The channels are, indeed, unknown, yet there are some conjectures about the transmission of the myths which may be worthy of our notice: 1. The transmission may have been by way of Europe, through the wide-spread Indo-European race, as the Scandinavian, the Teutonic, the Celtic, the Hellenic and the Italic myths are very similar and have the same general character and contain the same elements as those found in America. 2. The transmission may have been by the Ural-Altaic and Mongolian tribes, as it is now held that these tribes borrowed many things from the ancient Accadians and have transmitted them to their descendants, with very little change. 3. It may have been by the unknown "ground race" which formed the first population of Polynesia, for many of the Polynesian myths have been recognized among the various American tribes, some parts of the creation myths among them. 4. It may have been by means of the ancient Hindu literature which, according to many writers was originally drawn from the Chaldeans, but spread at a very ancient date throughout the wide region of the far east. 5. The transmission may have come at an early or a late date by means of communication with either China or Japan, as the mythology of both these regions occupies a middle ground between the Asiatic and the American. 6. The civilization

*The Teutonic thunder god was called Thor, the Celtic, Taranus, the Welsh, Taran, the Norse, Aesir, the Lithuanian, Perkunas, the Sanscrit, Parjanya, the god of rain and thunder, the Hindoo, Verethra, a cloud demon. (See origin of the Aryans, by Dr. I. Taylor.) (Kelley's *Curiosities of Indo-European Traditions and Folk-lore*, p. 25.)

which for 3,000 years had been pressing the shores of the Pacific Ocean might have at any time broken through the water barriers which withstood it and thrown out those waifs of thought and mythology which have continued to wander all these years, thus bestowing upon the American tribes the same tradition we received from the still more ancient source. 7. The opinion is now growing rapidly that there was a pre-Columbian contact between the Eastern continents and America, and that by this means the many symbols and myths, religious customs and art forms were scattered among the American tribes, the creation myth being not the least.

With these thoughts by way of introduction, we proceed to consider the prevalence of the creation myth in America and its resemblance to that found in other parts of the world. Our position is that the "story of creation" not only resembles, but has the same place in American mythology, bears the same character, is attended with the same particulars and relates to the same events, that the story does among the eastern nations, and is probably the same story transmitted but clothed in the new dress that the American tribes might give to it, and this of itself proves a contact with other countries in prehistoric times. Our division of the subject will be geographical, and our illustrations will be drawn from the tribal myths, rather than from the symbols or the charts. These we shall give in detail for the purpose of showing the unity in variety. The versions may be numerous and varied, but the underlying thought is the same.

I. We shall begin with the eastern tribes, who were mainly totemistic, and worshiped the "creator" under the form of an animal, the most of whom had also a culture hero, who was a combination of animal and human and was regarded as the great "law-giver," and "supreme divinity".

The creator was not always the same, and did not always bear the same name; but the process of creation was very similar. It consisted in a re-creation of the earth after the destructive effects of a deluge which had universally prevailed and had swept off all of the inhabitants as well as the animals. The cause of this deluge is variously explained by the different tribes, but generally it was owing to the work of an evil spirit who was an enemy to the Great Spirit, and was represented under the figure of a great serpent, or great fish, or some other great monster, or underground being. The reconstruction was accomplished by means of some of the animals who were subject to the will of the great Manitou. The story of creation is perpetuated among these different tribes by certain secret societies and sacred mysteries, or by certain sacred writings or bark records, which are the sacred books, though written in pictographs. It is always very interesting on account of its resemblance to the story as told by the tribes of the east; though the imagery is that which was

drawn from the scenery among which the people lived and the place of creation was in the vicinity of the tribal habitat, the process of creation being conducted by the being who was the chosen tribal god and culture hero.*

The question is whether the idea of the creator has any resemblance to that which we have inherited from our fathers. On this point there may be a difference of opinion. Still the preponderance of evidence is that there was a view which was very similar to our own. According to one of Maxamilian's informants the Mandans believed in several superior beings. (1) The lord of life. He created the earth, man and every existing object. (2) The first man holds the second rank. He was created by the lord of life, but was likewise of a divine nature. (3) The lord of evil is a malignant spirit who has much influence over men. Dr. Brinton, W. J. Hoffman and others hold that there were different ranks among the gods. Yet, with most of the tribes there was one who was supreme. He was not always the creator, but he was the deviser. The work of creation was delegated to an inferior divinity whose cult was local and who was regarded as the special friend of the local tribe—in fact the tribal god—the same distinction which some recognize in the Scriptures, Elohim being the universal god, and Jehovah the national god. Rev. J. O. Dorsey, who has made a special study of the mythology of the Dakota and Sioux tribes, in one place asserts that the great spirit was regarded as a supreme being, but again denies it, and quotes the opinions of persons on either side.†

Our opinion is that there was everywhere among the American tribes the conception of a supreme being who was invisible, and who filled the same place as the ruling divinity of the eastern nations, but that this thought was obscured by local traditions and tribal myths so that the "creator" or "earth-maker" was in reality only a tribal divinity who bore the semblance of the tribal totem or guardian divinity. The creation itself was located in the bounds of the tribe.

It will be seen, as we proceed, that the "creator" was among (1) totemistic tribes an animal, either wolf, rabbit, coyote or raven, (2) among the mountain tribes he was a strange hermaphrodite, born out of the union of the cloud and mountains, and was symbolized by the strange and hideous masks, suggestive of

*Brinton says, "There are some striking points of similarity between the deluge myths of Asia and of America. It has been called a peculiarity of the latter that in them the person saved is always the first man; but these first men were usually the highest deities known to their nation, the only creator of the world and the guardian of the race. (See *Myths in the New World*, p. 217.) The intimate connection that once existed between the myths of the deluge and that of creation is illustrated by the part assigned the birds. They fly to and fro over the waves ere any land appears. The dove in the Hebrew account appears in that of the Algonquins as a raven which Micabi sent out to search for land before the muskrat brought it to him from the bottom. A raven also in the Athapascan myth saved their ancestors from the general flood and is identified with the mighty thunder bird, who at the beginning ordered the earth from the depths. In all these the bird is a relic of the cosmogonical myth which explained the origin of the world from the action of the winds under the image of the bird on the primeval ocean." (See *Myths of the New World*, p. 221.)

†See Eleventh Annual Report, p. 372.

the origin; (3) among the more civilized tribes he was the air divinity, who bore the human semblance and yet carried the symbols of the serpent, cross, sun and cloud, the imagery in which the god was draped always varying according to the people who worshiped him.

Let us consider the cosmogonies of the Algonkin tribes and enquire about the character of their earth-maker. These tribes were totemistic in their religion; that is to say, they had animals as their tribal divinities and clan totems, and worshiped these as their ancestors. Most of them had also a culture hero, who was a combination of animal and human, and was regarded as the great "lawgiver" and hero of the tribe. Most of them also worshiped certain nature powers, who were gods of the air and earth and sky and the world quarters, and were represented under the figures of gigantic birds, serpents or other monstrous creatures. The being, however, which is the most prominent among them all is the divinity who was regarded as the "creator," "earth maker," "master of life," and the supreme ruler over all. This being was not often represented under any physical semblance, nor even identified with any particular time or place, but was regarded as invisible and personal. There was among many of the tribes a symbol which appeared in the form of a bundle, or shell, or medicine sack, or box, or sacred pipes, which was a sort of a shekinah, in which the divinity made his presence known. This symbol, in its contents and shape, was preserved in the sacred tent, and in this respect resembled the ark of the Israelites and the sacred boat of the Egyptians. It was regarded with great superstition, for it embodied in itself the history of the tribe and was the charm by which the tribal unity and integrity were preserved. It was not an idol and did not represent the real character of the creator, for the real creator, according to some of the tribes, lives up in the sky and is an intangible spirit, and is a supreme ruler, the various animals being his agents or servants.* According to others he was himself an animal, either a giant rabbit or hare, bird, coyote, raven or eagle, whose name varied according to the tribe which was worshipping him.†

The story as told by the Algonquins is the most interesting because it is the most wide-spread and the most varied. It is the story of the Giant Rabbit, who was the earth maker, culture hero, tribal god as well as a rescuer from the calamities of the deluge. Dr. Brinton says, from the remotest wilds of the northwest to the coast of the Atlantic, from the southern boundaries of Carolina to the cheerless swamps of Hudson Bay, the Algonquins were never tired of gathering around the winter fires and repeat-

*See *Journal of American Folk Lore*, Vol. vi., p. 114.

†The following is the list of names by which he was called. Among the Algonquins he was called *Manibozho*, *Manibojow*; among the Iroquois, *Micabo*; among the Pawnees, *Tirana*; among the Mojaves, *Mustumho*; among the tribes of the northwest coast, *Ychl*.

ing the story of Manibozho, or Michabo, the Great Hare. With entire unanimity the Powhattans of Virginia, the Lenni Lenape of Delaware, the war-like hordes of New England, the Ottawas of the far north, and the western tribes spoke of him as their common ancestor. He was the founder of the wide worship, inventor of picture writing, the father and guardian of their nation. From a grain of sand brought from the bottom of the primeval ocean, he fashioned the habitable land and set it floating on the waters till it grew to such a size that a strong young wolf running constantly died of old age ere he reached its limits. Under the name of Michabo he created the earth and was originally the highest divinity recognized by them—"powerful and beneficent, maker of the heavens and the world." Manibozho, Manibojou, Missibiza, Michabo, Mustumho were varieties of the same name, which means the spirit of light, the great light, the dawn, the the great white one. He is the grandson of the moon. His father is the west wind; his mother, a maiden who dies in giving him birth; his life is a battle with his brother, the flint stone whom he broke in pieces and scattered over the land and changed his intrails into fruitful vines. The gigantic boulder and loose rocks found on the prairies are the missiles hurled by the combatants. His foe was the glittering prints of serpents whose abode was the lake and who was the great king of the fishes.

Among the Iroquois two brothers appear—Ioskeha and Tawiscara, who were twins and born of a virgin mother who died in giving them life. Their mother was the moon, called by the Hurons, *Ataensic*. The two brothers quarreled and Ioskeha came off conqueror. In time he became the father of mankind, the special guardian of the Iroquois. The earth was at first arid, but he destroyed the gigantic frog which had swallowed all the waters. The woods he stocked with game and taught the Indians how to make fire, watched and watered their crops. He was their supreme god, in whose honor the chief festival of their calendar was celebrated, about the winter solstice.*

The Blackfoot version is as follows: The great Manitou was a friend to the people, but he had an enemy who dwelt under the water, and who created a deluge. This deluge destroyed all the people and compelled the Manitou to reconstruct the earth, which he did. The creator is called "the old man," and the story is that he floated upon a log in the water, and had with him four animals—the fish (*mamed*), the frog (*matcokupis*), the lizard (*mamskeo*), and the turtle (*sopoeo*). He sent them down into the waters in the order named to see what they could find. The first three descended but never returned; the turtle, however, arose with his mouth full of mud. Wapioa took the mud from the mouth of the turtle, rolled it around in his hand and let it fall into the waters. It made the earth. At first it was an

*See *Myths of the New World*, pp. 178-190.

island, but afterward grew to a great size. He was the secondary creator. He was not the ancestor of the Blackfeet, but was the creator of the Indian race.*

According to the Huron story, in the beginning there was nothing but water. It so happened that a woman fell down from the upper world through a rift in the sky. Two loons, who were flying over the water, hastened to place themselves beneath her and hold her up. They began to cry to the other animals to aid them. The turtle came and received the woman upon his back.† The turtle then called the different animals to dive to the bottom. Each one tried—the beaver, muskrat, diver-duck—but the only one that succeeded was the toad. From the toad the woman took the earth and placed it around the edge of the tortoise shell. It became the earth and was supported by the tortoise. Twins were born to the woman. The name of the good one was Ioskeha, and the bad one was Tawascara. The good one created useful animals, but the bad brother monstrous creatures, such as serpents, wolves, and among them a monster toad, which swallowed all the water.‡

Among the Athapascans, as well as the Dakotas, the creator was a mighty bird, whose eyes were fire and whose glances were lightning, on whose descent to the ocean the earth instantly arose and remained on the surface of the water. Among the Muskogees, before the creation, a great body of water alone was visible, and two pigeons flew to and fro over its waves and at last spied a blade of grass. Dry land gradually followed and islands and continents took their present shapes.§

Mr. George Grinnell says that the Tirawa was the creator of the Pawnees. He made the mountains, the prairies and the rivers. The men of the present era were not the original inhabitants of the earth. They were preceded by another race, a people of great size and strength. The race of giants had no respect for the ruler. They derided him and insulted him. When the sun arose, or when it thundered or rained, they would defy him. They had great confidence in their own powers and believed that they were able to cope with the creator. As they increased in numbers they became more defiant, and at length became so bad that Tirawa determined to destroy them.

The Cherokees also had a creation myth and certain charts and records in which the myth was contained. Many of their

*See *Journal of American Folklore*, p. 165.

†The turtle is the common symbol for the earth.

‡Mr. Horatio Hale says that it is remarkable that in the Huron-Iroquois mythology the idea of two hostile creators should be so clearly but rudely developed. The idea is commonly supposed to be the main element in the Zoroastrian religion.

§For the comparison between this myth and the creation legend contained in the cuneiform inscriptions, see Chaldean account of Genesis which is as follows: 1. When above were not raised the heavens. 2. And below on the earth had not grown up. 3. The abyss had not broken open their boundaries. 4. The Chaos, Tiamat, the sea, was the producing mother of all. 5. The waters were at the beginning. 6. A tree had not grown or a flower unfolded. 7. When the gods had not sprung up any one of them. 8. Order did not exist. 9. Then were made the great gods. 10. The gods Lamu and Lahamu came and grew. 12. Sar and Kesar were made. 13. A course of days and a long time passed.

ceremonies were based on their mythology and embodied in themselves the cosmogony. They were accustomed to make a hole in the ground and fill it with fire and then cover it with ashes. Their tradition was that through this hole in the ground their ancestors came up and the spirits of the dead returned in the same way, a tradition which resembles that which is common among the Zunis and Moquis. The Choctaws and other Muskogee tribes have a migration myth to the effect that they came from the west, issuing from a mountain of fire; but they tell also that they issued from a pyramid mound, the creator stamped upon the top of the mound and commanded them to come forth.* This story of the creation and the deluge, as held by the Indians, resembles that which is contained in the Vedas.

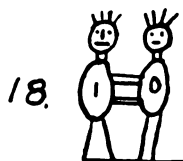
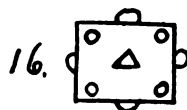
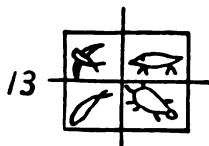
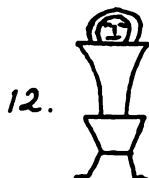
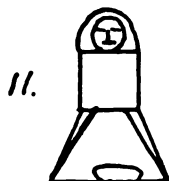
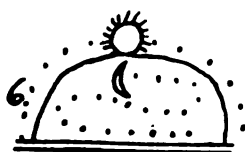
The most remarkable story is that kept by the Delawares in a record which has been preserved from generation to generation, and which has been held as sacred by the entire tribe.† The creation story is conveyed by certain conventional symbols, which were equivalent to the sign language and could be easily interpreted by those who are at all familiar with native symbolism, as the same figures represent the same objects everywhere—an arch symbolizing the sky, the circle the sun, the straight line the earth, the face in the circle the Manitou or Great Spirit, the crescent the moon, the square the four quarters of the earth, the arch in the square earth and sky, a crooked line speech, the triangle friendliness, birds, souls, human figures, first man and first woman, the turtle the earth, the arch turned downward water, the double arch with straight line water, earth and sky. The picture writing abounds with the figure of the snake and of the human figures in various attitudes, and in the figures of the canoe and the turtle, and the rabbit on the turtle. The intrinsic evidence is that the bark record was a genuine aboriginal chart, for no white man would have used such symbols. The story runs very much as it does in Genesis: An extended fog; the Manitou lost in space; extended lands and sky;‡ conflict,§ temptation by an evil spirit, destruction, restoration, etc.

*See H. S. Halbert in *American Antiquarian*, Vol. xiv.

†This record was for a long time unknown, but through the efforts of the eccentric but industrious Rafinesque, the archæologist, who lived in Philadelphia in the year 1833, it was brought to light and secured the attention of Schoolcraft and others. It is written in the sign or picture language and was called the *Walum Olum*, which means "painted red," or red score. It was a dark record written in metrical form. It has been pronounced by the best judges as a genuine oral composition of a Delaware Indian. There is a distinct connection between the pictograph and the sense of the text, each symbol being attended by a verse of the Delaware written in metrical form. The first part of the painted traditions contained the original traditional poems on the creation, twenty-four verses, and on the deluge, sixteen verses. The second part, the historical chronicles from the arrival in America to settlement in Ohio; and from the settlement to the contest of the snake land and of the Talegas. The book was lost for a time, though the translations by E. G. Squire was extant, having been published in the *American Review* in 1849. Mr. W. W. Beach, in his *Indian Miscellany* in 1877, Mr. Drake's *Aboriginal Races of America*. Dr. G. G. Brinton found it and republished it in the *Library of Aboriginal American Literature*.

‡The notion of the earth rising from the primeval waters is strictly a part of the earliest Algonkin mythology.—*Erntton*

§The conflict between the Algonkin hero god and the serpent of the waters is an aboriginal myth shared by Iroquois and Algonkins alike. In one respect it is the deluge myth.



I.—THE CREATION.

1. At first in that place above the earth, was an extended fog.

2. And there the great "Manitou" was.

3. The great "Manitou" was everywhere.

4. He made the land and the sky.

5. He made the sun, moon and stars.

6. He made them all to move.

7. Then the wind blew.

8. The water flowed.

9. And the "Great Manitou" spoke.

10. He spoke to mortals and souls.

11. He gave the first father.

12. He gave the first mother.

13. He gave the fish and the turtles and the beasts and the birds.

14. There was an evil Manitou who made bad beings, snakes, reptiles and monsters.

15. He made flies and gnats.

16. All beings were then friendly.

17. Truly the Manitous were active and kindly.

18. To those very first men and to those first mothers, fetched them wives.

19. And fetched them food.

20. All had cheerful knowledge and leisure, all thought in gladness.

21. Very secretly an evil being came on earth.

22. And with him brought badness, quarreling and unhappiness.

23. He brought bad weather, sickness, death.

24. All this took place of old on the earth, beyond the great tide-water at the first.

II.—THE DELUGE.

1. There was a mighty snake and beings hostile to men.

2. This mighty snake hated those who were there and greatly disturbed those whom he hated.

3. They both did harm; they injured each other and were not in peace.

4. They were driven from their homes, and fought with this murderer.

5. This mighty snake resolved to do harm.

6. He brought a monster; he brought a flood.

7. The waters rushed and dashed and destroyed much.

8. Manabozho, the white one, grandfather of beings and men, was on the Turtle Island.

9. There he walked, and created as he passed. He created the Turtle Island.

10. Beings and men go forth. They walk in the floods and shallow waters down the sea to the Turtle Island.

11. There were many monsters which eat them up.

12. The Manitou's daughter coming, helped with her canoe.

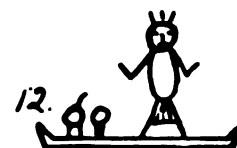
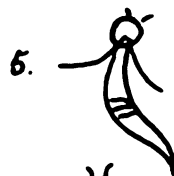
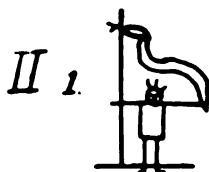
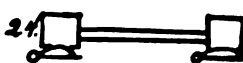
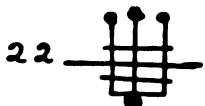
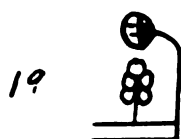
13. Also Manabozho, the grand father helped.

14. The men were together on the turtle.

15. Frightened, the men prayed together on the Turtle that "was spoiled should be restored."

16. The water ran off, the earth dried, the lakes were at rest, all was silent; and the mighty snake departed.*

*We do not find in the bark record anything like the symbol of the tree, yet were we to look in the Ojibwa charts or to the Dakota pictographs we will find the tree forming a very important part, also in the pictographs of such as the Mayas, and is regarded as a symbol of life and is regarded as a symbol of the soul.



II. The story of creation as held by the tribes of the northwest resembles that which we have already represented as the common inheritance of the eastern tribes, and is characterized by the same events; but is draped under entirely different imagery and is preserved in a different way, for here the commemorative columns and ancestor posts serve in the place of sacred books and correspond to the bark records. These tribes were for a time the most remote from the contact with the white man and the latest to be brought under the influence of missionaries, and therefore may be supposed to have retained their native mythology in a purer aboriginal condition. These tribes were engaged in fishing as a means of subsistence, and they were in a comparatively low grade of civilization. Their religion was a modified form of animism and may be called demonism, for they believed that every thing was possessed by a spirit or demon, and they themselves were under the power of the demons. Still they were nearer the Asiatic coasts than many other tribes, and they had very many traditions which resemble those extant in Asiatic countries. These traditions relate: 1. To a being who is called the creator and the changer. 2. To the appearance of a pair who were brother and sister, one of whom dwelt in the sky and the other upon the earth. 3. The prevalence of a deluge and of the reconstruction of the earth. 4. The creation and the naming of the animals. 5. The creation of fire. What is most remarkable about these myths is that many of resemble those found in the classic books.

We begin with the Rev. Mr. Eells' account of the Skokomish "creator." There is among them a tradition of the appearance long ago of a supernatural being called Dokibatl.* He was the creator and supreme ruler of the world but became the changer, for after the world had become bad and the people foolish he changed them into animals as a punishment of their sins—one into a deer, who should jump upon all fours; another into a beaver; another into the woodpecker, giving him a long bill, strong head and wings; another into the humming bird, making his arms into wings and leaving them still swinging in the air; another into a blue-jay, by trying his hair into a knot on top of his head; another into turtle dove, changing his voice into the mourning sound; others whom he found fighting he changed into stones which now lie on the beach; a woman also he changed into a boulder of rounded shape; a man whom he found crying he changed into a stone, the tears on his face being the lines which are still visible; he found two canoes, which he changed into two long stones; three brothers he changed into three spits or tongues of land; a woman he made into an island, which should be the

*The name is called among the Skokomish Dokibatl; by the Skagits and Misknalls, Dokwybutt, the Calallams and Nukimatt have the same rank as the Ikanam of Chinooks, Amoteken of the Flat-heads and Simehu of the Spokanes.

wife of the main land; another woman, who abused her husband, he changed into a mountain, her daughter into a rock and her husband into Mt. Baker. He gave to each tribe their language, their special kinds of food and assigned to them their particular places of abode. He came first to create, and second time to change or make the world new, and will come the third time to make it over again. The natives say we receive this tradition from our ancestors.*

The Assinaboines believed that the Great Spirit formed the earth out of a confused mass. He made a fox out of clay which he sent forth to see if the world was large enough. The fox returned and reported it was too small. The Great Spirit then made it larger—the fox went forth but did not return.†

The name of the next power has not been gained. They called him the Lying Prairie Wolf. He is ever moving and walking over the earth in human form—a spirit which comes to each warrior in a dream after long fasting and is chosen as a guardian spirit.‡

The Chinooks say the first men were sent into the world in a lumpish and imperfect state. Their mouth and eyes were closed, their hands and feet immovable; but a kind and powerful spirit called Ikanam took a sharp stone and opened their eyes and gave motion to their hands and feet. He taught them how to make canoes as well as other implements. In Vancouver Island the chief deity, the maker of the land and water, as well as the first ancestor, was called Quawteaht, a purely supernatural being. He made the animals first and placed within them the embryos, which rapidly developed into men and made use of the huts deserted by the animals. Quawteaht withheld fire from the creatures he made, with one exception, which will always be found burning in the home of the cuttlefish. The Tacullies of British Columbia have a creation myth. The flat earth was covered with water, but a muskrat swam to and fro seeking food; finding none he dived to the bottom and brought up a mouthful of mud. This he did again and again, until an island was formed. The earth grew out of this. According to the Tinnehs the great

*See American Antiquarian Vol. V., p. 391, article by Res. M. Eells.

†See Journal of America, Folk-Lore, Vol. Vol. V. p. 72, Wm. Jono. Potts.

‡Andrew Lang says: "The cosmogonical myths, the deluge myth, the myths of the stars, the wilder adventures of the gods, the myths of death, the belief in evil spirits, the myths of fire stealing, which we find in the Veda and still more in the Brahmins, may all be paralleled in the mythology of Tinnehs, Nootkas, Thlinketh, Tacullies, Papuans, Eskimo and others of the lowest races. The main difference is that among the lowest races animals generally take the chief heroic roles, while in Aryan myths gods do what beasts had done. When a boar in Vedic fishes up the earth the boar is Vishnu; but when a coyote or muskrat performs the same feat he is a muskrat or coyote and nothing more. Animals, not men, are the fire stealers; though a bird brought the Vedic Soma, as a bird brought water to the Thlinkeths." (See Folk-lore Journal, Vol. I, April, '83, p. 112.)

He also says (p. 107) the anthropologist does not call the Tinnehs or the Tacullies primitive men, but backward men and infers that the religious ideas of people which are comparatively near the beginning of the arts of life must be earlier than the religious ideas of peoples which have long acquired all the arts of life.

Max Muller says what we consider as primitive may be, for all we know, a relapse into avagery or a corruption of something that was more rational.

ocean was frequented by an immense bird, who descended and touched the waters, upon which the earth rose up and appeared. According to the Thlinkets, the world is an immense flat plate, supported on a pillar, and under the world silence and darkness. An underground woman guards the great pillar from evil and malignant powers.*

Another version of the story is that a certain mysterious brother and sister appeared after the deluge. The brother was Chethl, the thunder; the sister was the under-ground woman, the earth-maker. They parted and the brother became a great bird, and the sister climbed to the top of Mt. Edgecomb and was swallowed up in the crater. She has never seen her brother since; but when the tempest sweeps down on the mountain the lightning of his eyes gleam down the crater's windows and the thunder of his wings re-echoes through the subterranean halls.†

According to the Haida mythology the work of creation was accomplished by the raven, called Ne-kilst-luss, who brooded over the dense primeval chaotic darkness and produced a race of beings who should be a part of himself and should bear his own image and likeness.

At first there were six little beings who were hermaphrodites, but he made the sex more complete by placing on the abdomen of each a sea snail and divided them into couples who should live as husband and wife. From these sprang the three great families of mankind—brown, white and black. At first the race was very crude and illshapen, having long arms and crooked legs, unable to walk upright, but each succeeding race, by the process of evolution, came to the more perfect state. The climate at first was warmer, the air moister than now, but afterward became colder, but Ne-kilst-luss sought to secure fire for them. He had to use strategy, for the fire was in the possession of a chief called Setlinkijash. Assuming the form of a needle-like leaf of the spruce tree he was swallowed by the girl drinking water and was afterwards born in the house of the chief. In the process of time he assumed his raven guise and picked up a burning brand and flew out of the smoke-hole at the top of the house. Before the Alaskan shore was reached most of the wood and a part of his beak were burned away. Arriving there he dropped the embers and the sparks flew about and fell among the sticks and stones. Therefore it is by striking these stones and by friction on the wood fire is to be had.‡

The raven's connection with the flood is as follows: After Yehl, the raven, had supplied the people with fire, food and water they were contented for a time, but soon grew tired and complaining and became worse and worse. In order to punish them he sent a flood of water and drowned all but a few, who, in their canoes, fled to one of the high mountains. Along with the flood there came heavy and long-continued earthquakes, which rent the earth and broke down the old mountains and raised new ones. After the flood the people who had fled to the mountains came down to find their old homes; but all was changed. Instead of a wide, level country nothing was left but a few small islands. All the mountain valleys were

*This reminds us of the Scandinavian story of the sacred tree whose roots were guarded by certain maidens.

†See Bancroft's Native Races, Vol. III., p. 95.

‡There is a story about Ne-kilst-luss and the boxes which resembles the story of Prometheus and the fire-stealing. Ne-kilst-luss was a great favorite with his grandfather, the mountain divinity, and was allowed to play with the boxes in which he kept the fire. Ne-kilst-luss, after playing with them for a time, broke one of them open and allowed the plagues to escape. In this way the mosquitoes, flies and spiders came to be at liberty as pests. Ne-kilst-luss also afterward broke the box open which contained the fire and escaped with it.

turned into long arms of the sea. The people, who were few in number, felt sad at the loss of their former companions, and felt very lonesome and were afraid of another flood. Yehl appeared to them and was sorry for them, and said that he would give them more company. Each of them, men and women, were to gather together a heap of stones, and when all was ready they were to pick them up and throw them over their heads backwards. This they did. Each stone as it touched the ground jumped up a man or woman. Another version is they picked up the stones as they lay loose.

In this legend of the stone-throwing there is a very striking resemblance to Deucalion, of Greek mythology, who, with his wife, Pirrha, were the sole survivors of the flood. They, too, were ordered by the gods to pick up stones and throw them backwards over the head with the same results.

There is also among this tribe a story of the flood and of the reconstruction of the earth and the creation of the first pair after the flood, but the creator is the raven, instead of the rabbit or the coyote.

According to the Mojave Indians, Mustamho was the creator. When he created and named the animals they were very much alike in appearance. He did not really know what any particular kind was good for. He assembled them together and went among them and separated them; some he called fishes and made them live in the water; some were snakes and crawled on the ground; some to fly, because they were qualified to live in the air. The dog was made at the same time that man was. When a Mojave dies he goes to another country like his own—it is the shadow of his own country—the shadows of its rivers, mountains, valleys and springs, in which his own shadow is to stay. The manner of creation was as follows: The earth is a woman, the sky is a man. The earth was sterile and barren, but a drop of rain fell upon the earth when she was asleep, causing conception. Two gods were born in the west, thousands of miles away. They were Kukumatz and his brother Tochipa. The earth and sky had other children—a brother and a sister. The sister was the "queen of the sky," but the brother died, and now lies on the top of Spirit Mountain. The Mojaves had the story of the deluge: The water remained very high and all the land was covered; but Mustamho took the Mojaves in his big arms and carried them until the water receded.

The Thlinkets say the raven supplied both fire and water. The fire was hid away in an island in the ocean, but he flew to it and brought back a brand in his mouth. A personage called *Khamikh* kept all the fresh water in a well in an island east of Sitka, and over the well he built his hut. Yehl set out in his canoe to secure the water, but Chinook took off his hat and there arose a dense fog and Yehl found himself completely helpless in the darkness. The old sorcerer put on his hat again and the fog vanished. He then invited Yehl to his house and showed him the well. Yehl drank what fresh water he could and then

attempted to fly through the chimney, but stuck in the flue. The old man made up a roaring fire and scorched his crafty guest. The raven before was a white bird, but he was smoked in the chimney and has ever since been black. Yehl escaped from the island, flew back to the continent and scattered water in every direction. Whatever small drops fell are now springs and creeks, and large drops are now lakes and rivers.

The natives of Mt. Shasta say the Great Spirit made this mountain first of all, and that he planted the first trees by putting his finger into the soil. He gathered leaves from the trees and blew upon them and they became birds. He took a stick and broke it into pieces; from the small end he made fishes, from the middle of the stick he made animals and from the big end he made the grizzly bear. The creator made a wigwam for himself out of the mountain; the smoke of which is seen curling up from the mountain. In Washington, the family of giants once lived—four brothers and a sister. These giants had a contest with the monster beaver, which they caught at the falls of Palouse river and tore it to pieces, and from the pieces made the various tribes.

The fire myth of the Mojaves is as follows: When Matyavela died he was to be cremated, but there was no fire. The blue fly put a star in the sky. The coyote was fooled—he thought it was a spark of fire, and so scampered off to bring in the star. He came back on the full run, the blaze following him. All the animals were present at the funeral; the body was cremated, all but the heart.*

The California tribes have a tradition that before the material world appeared there lived two beings, a brother and sister—the brother living above, and his name meaning the Heavens; the sister living below and her name signifying the Earth. The earth and sands were the first fruits of this marriage, afterwards the rocks and stones, then trees, both great and small; then grass and herbs, then animals were created, and lastly was born a great personage called Quiot. This Quiot became old and died and was cremated, and another divinity arose who distributed powers among the descendants of Quiot, one of whom should bring rain, another dew, another make the acorn grow, others should cause all kind of game to abound and the harvest to be sure. He made man out of the clay of the lake and formed him, male and female. This invisible all-powerful being was called Nocuma. The place of worship was an unroofed enclosure of stake, within which was placed the image of the god. This image was made of the skin of a coyote. The enclosure was called Vanquech, and was very sacred. It was a city of refuge, and had rights of sanctuary, exceeding any ever granted in Jewish times.

*See *Journal of American Folklore*, article on Lieutenant Bourke, Vol. II, p. 169.

III. The story of creation as held by the mountain tribes is interesting because of its general resemblance to that which is so common throughout the globe, and is so unique in its imagery. We shall take up the tribes in their order, but would call attention to these points as they may be brought out by the myths.

1. The "creator" or "earth-maker" among these tribes was, as we have said, either an hermaphrodite being who combined in himself both sexes, or was a pair of gods, one male and the other female, both, however, dwelling together and ruling over the elements with united sway. 2. The divinities were born upon the mountains and were clothed with adornments which were borrowed from the mountains—clouds for garments, shells for necklaces, mists for feather head-dresses, turquois and colored stones for bracelets. They wore skirts which were of different colors, resembling the colors of the rocks, but their bodies were painted with white streaks, to represent the white lightning, and wore sashes which had all the colors of the rainbow, and moccasins which were painted the colors of the sky. 3. They dwelt in houses whose roof was arched as the sky is arched, over which was spanned the humanized rainbow, the arms and head reaching the earth upon one side and the thighs and legs upon the other, but the body stretching as a many colored ribbon over the vaulted roof. This conception seems strange among this remote people, for it is exactly the same as that which was held by the Egyptians, who always represented the sky divinity as a goddess, whose body stretched across the vault of the heavens and whose beautiful and tapering arms and legs rested upon the earth. The Egyptian goddess was often represented as double, thus making a double vault, the lower one for the stars, the upper one for the sun and moon and various planets. The stars are represented as mythologic persons sailing along in boats, but the sun is represented as a winged orb, and the moon is represented as a scarabæus or beetle, whose wings are widespread. 4. Another striking analogy between the symbolism of these widely separated nations consisted in shaping constellations in the sky which were exactly the same. The pleiades, or seven stars, were known to all the American tribes, and especially to those who dwelt among the mountains. The morning star, the evening star, the seven stars which formed the great dipper and a part of the great bear were also known, and the "bear" himself is regarded as a supreme divinity allied to the "master of life" and the "earth-maker."

We seem to be brought, by these constellations, into a very subtle intercourse with all the nations of the earth, for the same grouping of the stars prevailed throughout all the tribes of America and were recognized by the most ancient nations of the east as constellations, and what is more, the same story is read by the most distant tribes and nations, the Scandinavians in

Europe, the ancient inhabitants of Thibet and of Mongolia, the Chinese in Hindoo, the people of Japan, the Incas of Peru, the Polynesians, the inhabitants of Oceanica, as well as the white people of our own country, all read the same story in the sky, the constellations which were drawn by the ancient astrologers of the east having been interpreted by all the generations of their children, the tradition having been unconsciously translated into all the languages of the earth, and so transmitted from island to island and continent to continent, the very mountains of the earth waving them back as signs of recognition. Surely if the pictures of the sky are so well known and are so easily read by all the nations of the earth, we see no reason why the "story of creation" might not also have been transmitted by the same hidden lines and interpreted by the same subtle tongues.

The most interesting version of the creation myth is the one which is common to the Navajos and the Pueblos, and which represents the origin of all things to have been made in a dark cave underneath the earth. The following is the Navajo version of it: Our fathers dwelt in four worlds. In the first there were three—the first man and the first woman and the coyote. It was dark and the world was small, so they ascended to the second world. In the second world they found two other beings, the sun and the moon. This world was lighter than the first, but there was darkness in the east which overspread the whole sky, while the blue light was in the south, the yellow light in the west, and a white light in the north. The world became too small. They came up to the third world and they found here a land which was bounded like their present home by the four mountains and a great water at each of the four points. Beyond the mountains there was a great water, which was ruled by the ocean monster called *Triholsodi* (he who seizes you in the sea). This monster became angry at the coyote because he had stolen two of his children. He caused the great waters to arise from the east, south, north and west and to flow over the land. The people took soil from all the four corner mountains and placing it on top the mountain which stood in the north, it began to grow. The waters continued to rise and the people climbed upwards to escape the flood. At length the mountain ceased to grow and they planted a great reed, into which they entered. The reed grew every night, but did not grow in the daytime. This is the reason that the reed has joints. At the end of the fourth night the reed had grown up to the floor—the fourth world. Here they found a hole through which they passed to the surface. Still their troubles did not end. The ocean had not found the children that were stolen, and caused the waters to rise as before. Once more the people were fugitives, but they escaped to the mountain and the reed. Instead of finding a hole through which they could pass it was solid

earth like the roof of a cavern. At this the different animals were called upon to bore through the earth. The badger tried first, but the locust finally succeeded. He arrived at the surface of a lake. He saw four swans—black swan in the east, yellow in the west, blue in the south, and white swan in the north. The swans, when they saw the locust, arose from the lake and flew away. The locust then called to the people to come up. As they came up they beheld to their horror the water again rising, and looking down beheld the horns of the ocean monster. They searched among all their blankets and bundles* and finally threw down the bundles in which the coyote had kept the cubs of the ocean monster and threw these into the water. The ocean monster was appeased and retired, and so the people were left to pursue their peaceful life without danger from another flood. The peculiarity of the myth is, however, not the introduction of the ocean monster, or even of the numerous floods and the repeated escape of the people, but in the mention of the swans and of the mountain maidens, for in these we trace a very striking resemblance to the myths which formerly prevail among the Hindoos, and spread from them to the early inhabitants of Europe.

The cloud maidens in the Vedas are known as Apas, "waters," and "brides of the gods" (*devapatnis*), "navigators of the celestial sea" (*navyah*), and related to them are the damsels whose habitat is between the earth and the sun, and called *Apsarases*, "the formless." They are the personifications of the mists. These *Apsarases* had shirts of swan plumage and it was by putting on these garments that they transformed themselves into swans. The German and Norse swan maidens were in the habit of taking off their swan shirts and leaving them on the margin of the lake where they bathed.†

Another story of the Navajos is to the effect that the mountain gods were born on the top of the mountains out of the union of the dark cloud and the fleecy cloud, but they are brother and sister as well as companions. They seem to have been engendered from ears of corn, as corn was the product of the rain clouds, and in this respect resembled the gods of the east. These are always personated in the sacred dramas and are the chief objects in the sand-paintings. They are generally represented as having human form but dressed in all the colors of the rainbow.‡ The Pueblos have a similar myth which they embody in their house architecture, especially that of the kivas. In the bot-

*See American Antiquarian for April, 1883.

†See Kelly's Curiosities of Indo-European Traditions and Folk-Lore.

Vritra is the demon who makes these brides of the gods captive and forces them to become the brides of the fiends until they are rescued by Indra. The dark cavern in which they are imprisoned is the dark storm cloud.

‡See the Navajo Ceremony of *Hastjilti Dalljls*, by Jas. Stevenson, 8th Annual Report. See *The Mountain Chant*, by Dr. Washington Matthews, 5th Annual Report of the Bureau of Ethnology.

tom of the kiva beneath the floor level is the *sipa puh* with its cavity beneath the floor, and is regarded as the place of beginning—the lowest house under the earth, the abode of the creator *Myuingwa*. The main floor or lower floor represents the second stage. In the kivas there is an elevated section of the floor or ledge which is made to denote the third stage where animals were created. There is a ladder which passes through an opening in the kiva hatchway. This is the means by which the people passed up to the fourth world and to the outer air, the whole construction of the kivas typifying the four "houses," the four caves or four stages described in the creation myth.*

The same conception prevailed among the Apaches and the Comanches, Navajos and Mojaves. Mr. H. H. Bancroft says that the Comanches acknowledge more or less vaguely a serpent spirit, but seemed to use the sun and earth as mediators or embodiments of him. Every Comanche wears a little figure of the sun attached to his neck, or has a picture of it painted on his shield. From the ears hang also two crescents, which possibly may represent the moon. The Apaches recognize a supreme power in heaven who is creator and master of all things, but they render him no open service or worship.

The story as told by the Sia nation, a tribe on the Jemez River, and allied to the Tusayan, is our next illustration. The story is as follows:

"In the beginning there was but one being and that was the spider; there were no other animals, birds, reptiles or living creature. The spider began to sing; the music was low and sweet. After awhile two women appeared, one was called *Ut-set*, the other *Now-ut-set*. These were the first mothers, *Ut-set* the mother of the Sia Indians, *Now-ut-set* of the other tribes, but the spider was the real creator."

There were, according to this account, four† creations. *Pai-a-ta-mo*, the creation of the sun, moon, stars and all men of the earth, *Ha-art*. *Ko-pish-tai-a*, the creation of the lightning, thunder, rainbow, peoples and all animal life. *Kat-su-na*, the creation of beings who have human bodies but monster heads, that is the masked people who appear in the dances.

The earth was called *Ha-arts*. It was produced at a second creation, at the same time with the clouds, thunder and rainbow. The earth was divided into six parts. The cardinal points, zenith and nadir. A mountain was placed in each part and on the summit a great tree; at the heart of the mountain a great spring. The tree, mountain and spring remind us of the Scandinavian myth, though there were six instead of one tree for each division, each one different. The tree on the north was a spruce,

*See 8th Annual Report Bureau of Ethnology, p. 185.

†The myth says three periods, but if we count the creation of the "earth mothers" as the first, it will make four epochs the number which is common among all the tribes of the interior and among the ancient civilized tribes of the southwest.

on the west a pine, on the south the oak, on the east the aspen, on the zenith the cedar, in the nadir the pungen. A people were placed in the middle plain of the world called Tinia, who were mountain spirits, but they were surrounded by the clouds, which served as masks to protect them from the view of the other inhabitants. The people of the earth could not build houses, because it was dark, so they made houses for themselves by digging holes.

The two mothers afterwards made the light. They created the sun from white shell, turquoise, red-stone and abalone shell, four colors; the moon from black stone, and afterward created the star people, and made their eyes of beautiful, sparkling white crystal, that they might twinkle and brighten the world at night. The last which they created were beings who had human bodies and monster heads, who were personated by men and women who wear masks. The sun wears a shirt of dressed deerskin, leggins and moccasins, and kilt having a snake painted on it, and carries a bow and arrows and a quiver, eagle plumes, has a face red like fire and hair around the head. Each day he makes his ascent and passes over the world, stopping morn, noon and night to take his three meals. He passes by the house of the spider by an underground path on his return, and reports the number of births and deaths during the day.* The most remarkable myth is that in which is found the story about the stars. It is as follows: The spider, *Sussestinnako*, placed a reed upon the top of the mesa and called *Ut-set*, who led the way, carrying a sack containing many of the star people. *Ut-set* then called the Scarabæus and gave him the sack of stars, telling him to pass out first with the sack. The little animal did not know what the sack contained, but he grew very tired carrying it, and he wondered what could be in the sack. After entering the new world he was very tired, and laying the sack down he thought he would peep into it and see its contents. He cut a tiny hole into it. The stars began flying out and filling the heavens everywhere. When *Ut-set* looked for the sack she found it nearly empty, only a few stars left. These *Ut-set* took and distributed into the heavens. In one group she placed the "seven stars," the "great bear;" in another three of the stars in Orion; in another group the "Pleiades." Reaching the top of the reed the solid earth barred the exit; but *Ut-set* called upon the locust first to go through; then the badger next to make the hole larger; then the deer, the elk, and the buffalo.

The cloud, lightning and rainbow people followed the Sia into the upper world. They make their homes in the springs. These people labor to water the earth. The water is brought from the springs at the base of the mountains in gourds, jugs and vases

*The latter conception of the underground passage is a very common one among all the tribes of the interior, and known also to the inhabitants of Hawaii.—See Ellis.

which are placed at the base of the tree and then pass through the heart to the trunk of the tree, and then pass on the air to be sprinkled over the earth. The gods are the rulers of the cloud people; but they each have their priests and cult societies just as the people below have. The thunder people have human forms with wings of knives, and by flapping the wings they make a great noise. The rainbow people were created to make the sky more beautiful for the people of the earth. There are different kinds of cloud people—*Hennati* are white floating clouds, and *Hcash* are clouds like the plains. The place where the people emerged was far to the north and its opening was known as *Shipapn*. Here they built a village. Their only food was seeds of certain grasses; but *Ut-set* made fields north, west, east and south of the village and planted bits of her heart from which the corn sprang up, thus doing the same thing for the benefit of her people that the woman divinity of the Iroquois did for her people. Such is the story as told by this people. We notice in it one peculiarity and that is that the earth-makers are in this myth called earth-mothers and that the creator is a female. There are, however, other tribes which have the same traditions.

IV. Of all American peoples the Quiches, of Guatemala, have left us the richest mythological legacy. Their description of the creation as given in the *Popol Vuh*, which may be called the national book of the Quiches, is, in its rude, strange eloquence and poetic originality, one of the rarest relics of aboriginal thought. Although obliged, in reproducing it, to condense somewhat, I have endeavored to give not only the substance, but also, as far as possible, the peculiar style and phraseology of the original. It is with this primeval picture, whose simple, silent sublimity is that of the inscrutable past, that we begin: "And the heaven was formed, and all the signs thereof set in their angle and alignment, and its boundaries fixed towards the four winds by the Creator and Former, and Mother and Father of life and existence, he by whom all move and breathe, the Father and Cherisher of the peace of nations and of the civilization of his people; he whose wisdom has projected the excellence of all that is on the earth, or in the lakes, or in the sea. The face of the earth had not yet appeared—only the peaceful sea and all the space of heaven. There was nothing yet joined together, nothing that clung to anything else; nothing that balanced itself, that made the least rustling, that made a sound in the heaven. There was nothing that stood up; nothing but the quiet water, but the sea, calm and alone in its boundaries; nothing existed; nothing but immobility and silence, in the darkness, in the night. Alone also the Creator, the Former, the Dominator, the Feathered Serpent—those that engender, those that give being, they are upon the water, like a growing light. They are enveloped in green and blue, and therefore their name is Gucumatz. Lo, now

how the heavens exist, how exist also the Heart of Heaven; such is the name of God; it is thus that he is called. And they spake; they consulted together and meditated; they mingled their words and their opinion, and the creation was verily after this wise: Earth, they said, and on the instant it was formed; like a cloud or a fog was the beginning. Then the mountains rose over the water like great lobsters; in an instant the mountains and the plains were visible, and the cypress and the pine appeared. Then was the Gucumatx filled with joy, crying out: Blessed be thy coming, O Heart of Heaven, Hurakan, Thunderbolt. Our work and our labor has accomplished its end. The earth and its vegetation having thus appeared, it was peopled with the various forms of animal life.

Again the gods took counsel together; they determined to make man. So they made man of clay, and when they had made him they saw that it was not good. He was without cohesion, without consistence, motionless, strengthless, inept, watery; he could not move his head, his face looked but one way; his sight was restricted, he could not look behind him; he had been endowed with language, but he had no intelligence, so he was consumed in the water. The bird Xecotcovach came to tear out their eyes; and the Camalotx cut off their head; and the Cotzbalam devoured their flesh; and the Tecumbalm broke and bruised their bones to powder. Once more are the gods in counsel; in the darkness, in the night of a desolate universe do they commune together; of what shall we make man? and the Creator and Former made four perfect men; and wholly of yellow and white maize was their flesh composed. They had neither father nor mother, neither were they made by the ordinary agents in the work of creation; but their coming into existence was a miracle extraordinary, wrought by the special intervention of him who is pre-eminently the Creator. Verily, at last, were there found men worthy of their origin and their destiny; verily, at last, did the gods look on beings who could see with their eyes, and handle with their hands, and understand with their hearts. Grand of countenance and broad of limb the four sires of our race stood up under the white rays of the morning sun—sole light as yet of the primeval world—stood up and looked."

A VISIT TO THE SCENE OF RAMONA.

Nestling against the foothills of the San Bernardino Mountains, a spur of the great Sierra Madre range, is the old Indian village of Saboba. It is the most picturesque of all the strange places in Southern California. President Eliot, of Harvard University, is quoted as saying that nowhere else under the stars and stripes can the primitive, easy life among the Indians, such as Cortez and Coronado found in Mexico and Arizona, be better studied than in Saboba valley. Here the Indians, now a mere remnant of a once powerful tribe, which owned nearly all of California south of San Francisco and the whole of the peninsula of Lower California, can be seen living in the same spot and in almost the same way as their ancestors, employing much the same rude implements of agriculture that the Sabobans used when Balboa first looked out upon the Pacific.

Here lived, until a year ago, Chief Vistorianno, who was undoubtedly the oldest man in America at the time. He reached the extraordinary age of 139 years. The Sabobans have cherished their traditions and have preserved the best Indian literature (if that word may be used) of any tribe in the southwest. There can be no doubt as to the genuineness of the dates they give in their tribal history and the records of the lives of the old men. The Franciscan missionaries, who came from Spain to California to christianize the red savages in the latter part of the eighteenth century, found the Sabobans the most tractable of any tribes and the padres learned from them almost all that we now know of the early Indians of the Pacific coast. The name of the village, which in the mouths of the Indians takes on a far more musical sound than its appearance in type would appear to make possible, is familiar enough to all readers of Helen Hunt Jackson's romance "Ramona," some of whose most thrilling, though apocryphal scenes are located here. The greater number of those readers doubtless have set down the village of Saboba as being as much the fiction of the imagination as the remainder of the tale which gave it fame, and they may be surprised to learn that such a place actually exists and in one of the loveliest valleys in the Golden State.

Thousands of people come and go at San Jacinto, the thriving town of modern build, four miles or so distant, without knowing that close at hand is this ancient Indian rancheria, and the "oldest inhabitant" receives with an expression of surprise any inquiry concerning the place. He cannot for the life of him see why anybody should care to concern himself with the abiding-places of a lot of Indians. Some there are, however, in the town who take the liveliest and friendliest interest in the

remnant of the tribe of Saboba, or Pachango, Indians, who cling so tenaciously to the spot where their forefathers dwelt from time immemorial.

A gentleman chanced to have a few spare hours at his disposal on the occasion of a recent visit to this locality a few days ago, and the subject of "Ramona" having been broached, it was suggested that a visit to Saboba and a possible call on Senora Ramona herself, who is a resident of that neighborhood, might afford an agreeable experience.

It was a lovely morning in midwinter in the semi-tropics. The hills that surround the valley like an amphitheater were green with their growth of wild grasses, the plain was carpeted with flowers of varied hue which filled the air with their fragrance. The atmosphere was fresh with the breeze from the pine-clad mountains, whose snowy summits towered 7,000 and 8,000 feet in the near distance. Orange groves, olive orchards and fields of alfalfa stretched across the valley from mountain base to foothills.

From San Jacinto the road runs up the valley for a short distance and enters the thickets of guatemote that line the bed of the San Jacinto River. With a watchful eye for quicksands the stream is crossed; then a belt of willow jungle is traversed, the road being only a single track, almost overgrown with brush, and when this is passed a belt of clear land is reached and we are in the outskirts of Saboba.

There are some little vineyards and orchards, the vines and trees in which appear to have been planted in haphazard fashion, without regard to straight lines. There are two Indians plowing in their little fields—that is to say, they are supposed to be doing so. The oxen stand, with heads down, apparently asleep, while in the shade of the blossoming peach trees sit the two toilers, lazily rolling and smoking cigarettes. They have done perhaps a dozen furrows this afternoon and this is doubtless the fourth or fifth time they have halted to have a neighborly smoke and a monosyllable chat.

The scene is thoroughly typical of the Indian character. It is difficult enough to keep one of the tribe at work under the watchful eye of a white overseer, but when he is his own master and servant at the same time he becomes most gloriously careless of the passage of time and heedless of the condition of the work to be performed. So long as he has a pouch of tobacco in his pocket, a shelter, no matter how rude, for his head, a blanket, a pair of overalls and a shirt for his body, with the wherewithal for filling his stomach at more or less regular intervals, he is "muy contento."

Why should he worry? The year is long, and after that another will come, and then another, and so on to the end. Why work one's self to death, like foolish Americano? Do not the birds, when building their nests pause frequently and twitter to each other as they sway side by side on the bough? Why should a man pretend to know more than a bird? There

is plenty of time to prepare the beans, the maize, frijole and sandia patches, not forgetting the rows of chiles. Where is the harm, then, if Pedro and Ramona sit down in the shade for a quite smoke, or even a comfortable little snooze, with the snowy branches sending down showers of pink and white petals, and the meadow larks over yonder in the willows singing sweetest melodies? "Manana—manana"—never do to-day what you can just as well put off till to-morrow. That is the Indian's philosophy, and as he appears to thrive and be happy upon it, who shall say his is not the most sensible way of getting through life? Go over into the American settlement yonder and see the white men rushing to and fro from early morning until late at night, driving, hurrying, as only an American does. Yet what does he get out of life more than the Indian?

Now the road climbs up on the mesa above the bottom lands, which have been tilled by the Indians these hundred years. The strip of arable land is small, hence none may be wasted in roads, which are relegated to the barren mesa, where no water is. Down below a row of cottonwood trees—their soft, downy blossoms floating away on the breeze and making little drifts in the road—marks the line of the zanja which carries the water from the river to the little fields of the Indians.

And, by the way, these poor, miserable, ignorant, untutored savages have hit upon a solution of the land question which is the acme of fairness and which all the combined wisdom of ages cannot well surpass. It is nothing more nor less than a practical and successful exemplification of the theories of those who do not believe in individual ownership of land. To begin with, none of the villagers are speculative farmers—that is to say, none of them care to raise larger crops or cultivate more land than will provide for the simple wants of their families. None desire to accumulate beyond that point. So each year the village chief allots to these who apply such tracts of land as they desire to cultivate. No man is given control over a larger area than he actually cultivates, and there is enough for all. So long as a man desires the piece of land and will care for it he can retain it, but the moment he refrains from cultivating the whole or any portion of it, then it is taken away, provided any one wants it. But no one owns an acre of land. It belongs to the tribe as a whole and is subject to the control of the captain, in whose decisions all acquiesce.—*The Record*, April 13, 1895.

STOCKADES AND EARTHWORKS IN NEW ZEALAND.

BY ELSDON S. BEST.

Although we do not see the numerous remains of fortified *pas* here that are met with at Taranaki, Turanga and other places, yet this is to be accounted for by the fact that the nature of the soil prevented the forming of the *pa maioro* or earthwork defences in this Land of Tara. Therefore most of their forts were formed of stockades consisting of large posts or tree trunks set upright in the ground and bound by long horizontal saplings to which the palisading was lashed. Such were the Maupuia, Oruati, Mata-ki-kai-poinga, and other old-time *pas* of Hataitai. Also the ancient *pa* known as Ngutuihe, which was situated on Pukeatua, and close to the road from Waiwhetu to Te Wai-nui-o-Mata, the Korohiwa opposite Mana, and many others. One ancient earthwork *pa* was situated on the summit of a spur up the Korokoro stream, and another was the historic Waimapihi at Pukerua. Probably the strongest fortified place in the district was Te Pa-o-Kapo, which was situated on a small headland projecting from the cliff between Whitireia and Titahi Bay, at Porirua. Three sides of this headland were perpendicular cliffs, with the exception of a narrow passage down to the sea, and on the fourth it was connected with the mainland by a narrow neck of land which had evidently been cut away in former times, and a deep ditch formed. Above this ditch was a stockade of huge totara posts, of which some of the stumps are still to be seen. Inside this was another embankment and palisade, so that the whole must have formed a very strong fortress in those gunless days.

Thus by building numerous forts on their lands, and by alliances with the powerful Ngatikahungunu of Wairarapa did the Ngati-ira hold possession of the land of Tara and become powerful as a tribe. As time wore on there arose within them that strong love for their lands and pride in their own tribal name, which would seem to be ever-strongly implanted in the minds of a people who dwell amongst hills or mountains. Why is it that a hill-dwelling people are ever more independent and possess a greater love for their country than do the residents of the plains? Possibly because the surrounding scenery is more sublime and ennobling, and therefore more liable to develop a thinking people, and to endow that people with a powerful love for their native lands.

I think it is Spencer, in his "Development of the Human Species," who says, "For the mighty aspects of nature, forest, mountain and sea, play their part in moulding the character of a nation."

Memories of past scenes come back upon me as I write these lines, scenes that will never fade from my mental vision until I too shall descend by the sacred *pohutukawa* root that leads to the *rerenga wairua*. Back over the space of years comes the remembrance of the grand panorama which greeted my eyes as I gazed upon the forest ranges of Tutuila one sunny morning in the long ago. Grandeur yet was that scene which lay before me as I looked from the summit of the Sierra Madre in far away New Mexico, where from the Great Continental Divide I beheld the Rio Grande speeding away to the Mexique Gulf, and saw far across the western desert the line of green cottonwoods which marks the head waters of the Rio Gila, ever hurrying onward to the Vermilion Sea. The man who could thus look down upon that mighty mass of sombre, rugged mountains and mile deep *canons*, on those desolate *mesas* with their strange relics of an ancient stone-building race, on the great waterless desert stretching away to the Gulf of California, and yet not experience that singular sensation of mingled awe and exaltation which comes to most minds at such a time—then do I maintain that he is only fitted for the plainsman's life, and that his intellectual faculties are inferior to those of the Children of Ira.

The love that the Ngati-Ira had for their lands is shown in the many songs and proverbial sayings which have been preserved by their descendants. It is but a few weeks since that I stood on a hill overlooking the harbor of Tara in company with a lineal descendant of the great chief Whanake and his famous wife Tamairangi, and well do I remember the tone in which he spoke of the lost lands of his tribe. How well he knew every point and hill, bay and flat, stream and forest, and the old names thereof, together with many strange tales connected with them. With what pride he pointed out the scenes of former combats in which his people had been victorious, and recounted to me the legends of the land of Tara. How earnest he was in showing me the places named in remembrance of his ancestors, such as Te Papa-o-Tara on Matiu (Soames' Island) and Te Ana-o-Kahungunu (the cave of Kahungunu) at Nga Mokopuna (the rocky islets off the North end of Matiu), which was ever held a sacred spot by the Ngati-Ira, so much so that no fisherman dared cast line or net there. How he described to me the beautiful appearance of the harbor in those pre-pakeha days, when the hills were covered with forest, which extended down to the water's edge, the flocks of wild fowl which frequented the beaches of Whioru, Pito-one and Waitangi, and the favorite fishing grounds of his tribe. How different the harbor of Tara seemed to him in those past days before Te Atiawa had caused the streams of Heretaunga and Waiwhetu, of Te Koro-koro, Okaitu and Tiakiwai to run red with the blood of the Ngati-Ira. How blue the water was, how bright the sky, how green and beautiful the forests of Ohiti and Pukeatua, of Whata-ahiahi and Papakawhero.

Coming down to later times he spoke of the encroachments of the white people and the disappearance of the Maori in their old-time homes. No trace of anger or resentment could I detect in his words or tone, but a certain spirit of proud melancholy and despondency, as he said:—"Very great is my love for this land. Look you, friend! The *pakehas* increase in the world while the Maori dies before them. What says our old proverb? '*Ka ngara i te ngaro a te moa*' (lost like the losing of the *moa*). *E Hoa!* That proverb is for the Maori. Therefore I say to you, do not cause the genealogies and sacred knowledge of my tribe to be printed in the *pakeha* newspapers for ignorant people to stare at, but keep these things in your heart, that your thoughts may be good of the Maori when they have gone to join the lost *mora*. *E Koro!* This saying is for me and my people."

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THE DISCOVERY OF A NEW TRIBE OF INDIANS.

The remnant of a once powerful Indian tribe, which is now nearly extinct, has been discovered by Dr. Franz Boas, near the head of Portland Canal, in the Naas River country. Of the once numerous people that ranged the great extent of country from Behm's canal, in Alaska, to Cape Fox and extending down to the lower part of the Naas River, only twelve souls remain. They have lost their very name, for their present name Tsutsout is taken from the Naas River language. These Indians differ in appearance and measurements from the other Indians of that part of the country and are without doubt a distinct tribe.

Dr. Boas put in some time also examining the Naas River Indians, took many measurements of the people and brought back many of their traditions. He finds they show marked differences from other Coast Indians. They are shorter than the Haidahs, but larger than the Vancouver Island Indians, but the great peculiarity about them is the broadness of their faces, which are about a third of an inch wider than those of other Indians. Dr. Boas considers that they are an offshoot of the Athabaskan tribes, which roam from the Rockies to the shores of Hudson's Bay. The data he has collected Dr. Boas will compare with measurements and other information he has when he returns to the East.

After spending some four weeks among the Naas River Indians, Dr. Boas then went to Fort Rupert, where he felt pretty well at home, as he had been there before and is well known among the Indians. A family peculiarity of the Fort Ruperts, he says, is their immense noses, big prominent fellows, quite different from the snubs and flats of the other Indians.

THE CHOCTAW ROBIN GOODFELLOW.

BY H. S. HALBERT.

As something that may interest the readers of the *AMERICAN ANTIQUARIAN*, I give them a curious bit of Choctaw folk-lore.

The Choctaws in Mississippi say that there is a little man, about two feet high, that dwells in the thick woods and is solitary in his habits. This little sprite or hobgoblin is called by the Choctaws Bohpoli, or Kowi anukasha, both names being used indifferently or synonymously. The translation of Bohpoli is the "Thrower." The translation of Kowi anukasha is "The one who stays in the woods," or, to give a more concise translation, "Forest-dweller." Bohpoli is represented as being somewhat sportive and mischievous but not malicious in his nature. The Choctaws say that he often playfully throws sticks and stones at the people. Every mysterious noise heard in the woods, whether by day or night, they ascribe to Bohpoli. He takes special pleasure, they say, in striking the pine trees. A young Indian once told me that one night, whilst camped in the woods, he was awakened out of a deep sleep by a loud noise made on a pine tree by Bohpoli. Bohpoli, or Kowi anukasha, is never seen by the common Choctaws. The Choctaw prophets and doctors, however, claim the power of seeing him and of holding communication with him. The Indian doctors say that Bohpoli assists them in the manufacture of their medicines. Most Choctaws say or think that there is but one Bohpoli. In the opinion of others there may be more than one.

Can it be that this bit of Choctaw folk-lore is a dim traditional reminiscence of some race of dwarf people, with which, at some remote period, the prehistoric Choctaws may have come in contact?

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SUBMERGED FORESTS AND PEAT BEDS.

The bulletin of the Essex Institute, Salem, Mass., has the following summary of the changes in the height of the land and in the soils which have been recognized on the borders of the sea near Salem—changes which are as marked as are those found in the valley of the Mississippi or on the borders of the great lakes. The evidence of man's antiquity in any of these regions is thus far lacking, or at least not proven, and yet the time may come when the date of man's appearance even in America may be carried back two or three stages, and his antiquity proven to be equal to that in Europe and the American division of prehistoric time become conformed to the European; or shall we say that possibly the European

finds in caves and peat beds will yet be found to be as modern as those in America. The writer first speaks of the localities and then gives conclusions as follows:

There are several places at Nahant where peat beds are seen at or near low water mark. One in the southwest cove of Crescent beach is quite extensive and contains many logs and stumps of old forest trees; another on the northwest side of Little Nahant is of similar character. Lynn harbor and the marshes of Saugus furnish numerous examples of old peat beds in which large logs of pine and oak lie embedded below the recent accumulation of marine peat and salt grass roots. At Chelsea beach, a few years ago, some excitement was occasioned by the supposed discovery of a supply of natural gas. No doubt the decay going on in one of these old peat beds and the throwing off of marsh gas caused the disturbance.

On the Beverly shore are many stumps of forest trees which may be seen, when the water is clear and still, at a depth of twelve or fourteen feet at low tide. A piece secured from one of these stumps proved it to be white pine. In Kettle cove, Manchester, there is one large oak stump four feet below low water mark. On Kettle cove beach a good section of the submerged area is visible at low water during the spring tides. Near the old road bed, inside of Crow's Island, the marine peat and salt grass roots are from ten to fourteen inches thick. Directly under the marine peat is a bed of leaf mould and fresh-water peat, from three to four and one-half feet in thickness, in which are found numerous logs of pine, spruce and white cedar and the branches of the ground yew (*Taxus canadensis*), the last named remaining in its normal prostrate position. Below the peat are large oak stumps standing where the trees grew on glacial drift. While securing a specimen of one of the larger oak roots, scratched pebbles and grooved stones were found with oak roots growing around them in their natural position. From these observations it would appear:—(1) That the ancient oaks grew on the glacial till which became depressed; (2) that a lake formed on this area in which accumulated the peat and leaf mould upon which grew the pine, cedar, spruce and ground yew; that (3) this in turn became submerged and the marine peat and salt grass formed above it; and, lastly, (4) that the seaward slope has become so great that the waves are cutting into and carrying away these earlier formations and thus exposing them to view. Salem harbor furnishes additional evidence of subsidence. Oak stumps are often found in the coves, and on the land near Forest River are several oak stumps standing in beds of peat."

The writer says according to previously accepted theories the Quaternary period was one of great and widely extended oscillations of the earth's crust. It was divided into three epochs: I. The Glacial. II. The Champlain. III. The Terrace. During the Glacial epoch, in high latitudes, the land became elevated until the continents were from one to two

thousand feet above their present height. The Champlain epoch, on the contrary, was characterized by a downward motion of land surfaces in these same regions, until the sea stood, relatively, from five hundred to one thousand feet above its present level. The Terrace epoch was characterized by the gradual rising of the land until the present conditions of the continents and their climate were attained.

When the flood waters of the Champlain epoch, which undoubtedly covered nearly all parts of New England, subsided and the land surfaces were elevated in the Terrace epoch, doubtless many of the so-called inland sand beaches and alluvial terraces were produced which are now faintly recognizable in some parts of Essex County.

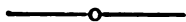
According to the Powellian theory (Prof. W. J. McGee) the sea bottom, being continually weighted down with the detritus furnished during the Glacial, Champlain and Terrace epochs, must have been depressed. The denuded inland hills and mountains which furnished this detritus that built up the drumlins and kames and the deltas at the mouths of the streams,—the outer lobes of which have been cut away by the inroads of the sea, and which are now seen in the forms of marine marshes and clay beds,—being lightened of their loads, would naturally become elevated.

But the study of the submerged forests and the comparison of soundings in our harbors indicate a different story for the later portion of the Terrace epoch, and necessitates a probable modification of the theory, so far as it applies to this region.

In this connection the following extract from an article in the *Forum* (June, 1890, p. 448) by Prof. W. J. McGee, entitled "Encroachments of the Sea," is of much interest. "The cautious estimate of the rate at which the New Jersey coast is sinking, made by the official geologist of that state, is two feet per century. Now the mean seaward slope of the coastal plain, including its sub-aerial and submerged portions, is perhaps six feet per mile; so that each century's sinking would give a third of a mile and each rear a rod of low land to the ocean. This is probably the maximum rate for this country." The evidence of geographic outline furnished by "drowned rivers" and half flooded and outlying islands indicates that the land has either been recently submerged or is now sinking.

During the past summer, Lieutenant Ripley, U. S. N., and a corps of assistants, have been surveying Salem harbor in connection with the work of the U. S. Hydrographic Survey. Lieut. Ripley has authorized me to say that the results of his work show a greater depth of water over all the ledges in the harbor than was recorded by Dr. Bowditch in 1804-5, and that the seaward slope in the outer harbor has apparently deepened from one to one and one-half fathoms since that time. This corroboration of my observations is especially gratifying for the reason that I had no knowledge of the work of the survey until these results were obtained.

From the accepted rate of subsidence,—two feet for each century,—and as indicated by my observations here, it is fair to assume that the peat beds stood in their normal position and that the trees, whose remains we find to-day beneath the ocean, were flourishing in their full growth from one thousand to twelve hundred years ago.



PRINTS OF THE HUMAN HAND IN THE RUINS OF THE CLIFF-DWELLINGS.

Captain Jackson, of Mancos, gives some interesting narratives of his finds among the ruins of cliff dwellers on the west fork of the Galena River says the *Great Southwest*.

From pictures on the white walls of the ruins it is plain that the cliff dwellers inhabited that region when there were yet active volcanoes among the mountains. Captain Jackson describes one picture as representing three ranges of mountains, the lower one made of slate-colored pigment; the next perfectly black, as if to represent pine timber, and a third range higher, perfectly white, representing snow, and one peak showing dashes of red radiating from the top, giving a very good representation of an active volcano.

In one canon ruins were found, half imbedded in lava and obsidian, or volcanic glass, and in the cinders and ashes, the charred bodies of the little people were found.

In many of the rooms perfect outlines of the left hand of different cliff dwellers were found upon the walls. They seem to have a singular custom of making these impressions in the following simple manner: The left hand would be held flat against the face of the wall, and the paint spattered on between the fingers and around the outside by the other hand. Thus when the left hand was removed the outline would be left upon the wall in more or less perfection. About the only consolation we get out of this queer custom is the knowledge that they had small hands and that they were evidently "right-handed."

EGYPTOLOGICAL NOTES.

BY WILLIAM C. WINSLOW, SC. D., L. H. D.

THE TEMPLE OF QUEEN HATASU.—It is doubtless no idle figure or speech for Dr. Hogarth, of the Egypt Exploration Fund staff, to write from Deir-el-Bahari (Thebes), under date of January 18, that "the Funerary Temple of the XVII Dynasty takes once more as conspicuous a place in the Theban landscape as the Memnonia of the XIX and XX Dynasties." Such is the progress of excavation at this unique temple, built by the greatest of queens in the Nile valley. Within a few weeks' time, over 42,000 cubic metres of rubbish have been removed from the North Court. Now the brilliantly white columns of the northern colonnade and hypostyle hall and the walls of the north and south porticoes show boldly against the yellow cliffs of the Libyan hills, which rise 350 feet, quite perpendicular, behind the temple, with the picturesque groups at work, the clear skies above, and, with an historic inspiration, an artist of name might make fame out of such a scene.

I can now touch upon but three of many interesting points. Was this site ever pre-occupied? Mariette thought that he detected remains of the small shrine of Mentuhotep II. of the VI Dynasty, when, in 1858, he disclosed the famous mural scene of the voyage to Punt. Dr. Naville now finds no trace whatever of that shrine, and through excavation reveals nothing in the enclosure, whether construction or debris, earlier than the time of Queen Hatasu.

Where is the tomb of Queen Hatasu? It has been supposed that Mr. Rhind, in 1841, found her place of sepulchre near the temple. The exclusive funerary character of most of her temple and its peculiar position against the cliffs have led to the belief that some concealed entrance to her tomb would be found within the enclosure. Indeed, Arab tradition still holds to that opinion. But so far Dr. Naville has discovered no such entrance.

A bit of rare luck comes through Mr. Carter, of the staff. He has picked out of the disinterred ruins of the south wall the portrait of the lost king of Punt and much of the scenery of his land. These pictures of marsh-dwellings in tropical Africa, of a period at least 3,600 years ago, are of scientific value. It seems impossible to disinter an ancient Egyptian temple without several branches of science receiving a benefit; many men, however, still think that antiquarian lovers and a little fragment of history are alone favored. Quite emphatically the conservative Naville states that the two colonnades in the north-western corner of the middle platform are the

most perfect yet disclosed in that land. The side of art in such work as his is not the least important for consideration.

The introductory volume entitled "The Temple of Deir-el-Bahari: Its Plan, Its Founders, and Its First Explorers," has just arrived. Contents: I. The First Explorers, Champollion, Wilkinson, Lepsius. II. Mariette. III. Plan of the Temple. IV. The Family of the Thothmes V Hatshepsu (*i. e.* Hatasu.) VI. Hatshepsus' Naval Expedition to the Land of Punt. VII. End of Hatshepsus's Reign, Thothmes II. and Thothmes III. The plates are superbly executed. All readers of this magazine, if unable to subscribe for this work, should see that their town or city library has it. The Annual Report of the Fund, also just received, shows a decrease in subscriptions and a deficit for the year. The Rev. Morgan Dix, D. D., D. C. L., of New York, offers to be one of ten to subscribe \$50 each to form a special "Queen Hatasu Fund" of \$500.

PROFESSOR SAYCE, ever on the alert, writes from his dahabeah that valuable clay seals have been found in a newly opened tomb on the east bank below Siut, on one of which is the title of a commander of the soldiers of Pepi, of the sixth dynasty. These little treasures are the by-play of archæological research. Dr. Naville, for instance, picked up a crystal bead bearing the name of Senmut, the architect of Queen Hatasu's temple.

PROFESSOR PETRIE, the Hawkeye among archæologists (as James Fenimore Cooper would have named him), has found opposite Coptos (where he delved last season) some graves and temple remains, the latter bearing the name of Thothmes III. This temple he calls "the Ombos of Denderah, the natives of which warred against the Denderites." This was the idea advanced by Dumichen, and Petrie thinks he has verified it.

Professor Petrie puts in another spoke into his ever-revolving wheel of corroborations. Touching the list of names of Thothmes III. at Karnak, he says that last year he got at Coptos an altar dedicated to Baal Yakub in the last year of Caracalla. Now he has a scarab marked Yakeb-hez, the name having the same signs as in the list of Thothmes, and the date of the ninth to tenth dynasty. "Here, then," he says, "we have the god Yakub in 3100 B. C., in 1450 B. C., and in 217 A. D."

In the July ANTIQUARIAN I alluded to Prof. Petrie's belief that he had found at Coptos relics of a period contemporaneous with the stone age in Europe. The great work of Maspero, *Les Origines*, recently published, declares that "nothing, or all but nothing, has come down to us from the primitive races of Egypt; we cannot with any certainty attribute to them the majority of the flint weapons and implements which have been discovered in various places."* And Erman remarks that "the learned men of Egypt imagined the time before their first king Menes to have been a sort of golden age, in which the

*The Dawn of Civilization, p. 49.

gods reigned; learned men of modern times call the same period the stone age; both theories are certainly ingenious, but both are alike difficult to prove."† So far as I have looked into the matter, the excavation of flint knives and flakes at Coptos does not, as a consequence of their form and substance, touch prehistoric times.

Prof. Petrie announces, in the *Academy* of April 20, that he has discovered the graves and remains of an hitherto unknown race on the soil of Egypt, and that his work the past season produces "results" "filling the greatest blank in Egyptian history." He claims for them a period between the IVth and XIIth Dynasties. This, if true, dispels the notion, at first conveyed, that he had found evidences of a prehistoric race. He thinks the race a cross between the Libyans and the Amorites. They used metal and flint, and the variety and fineness of their pottery is surprising. Farther and established evidences of this remarkable discovery, between Ballas and Negada, will be welcomed by the anthropological world.

THE tomb of Senmut, the famous architect of the temple of Queen Hatasu, has just been discovered by Mr. Newberry, of the Fund, and Prof. Steindorff, at Gurneh, consisting of three chambers elaborately decorated.

PROF. ADOLF ERMAN, Ph. D., has just accepted the position of vice president of the Egypt Exploration Fund for Germany.

PROFESSOR REGINALD STUART POOLE, D. C. L., LL. D., who died in London on February 8, was eminent in the domain of archæology. Tyndall said of him as a lecturer that no one was more welcome to the Royal Institution. His varied attainments as numismatist, linguist, Egyptologist and in Biblical lore were, as a whole, unequaled by any other man of our age. His main pillar of fame is in the British Museum; a very finished shaft has been his chair of archæology in University College. He took the place of Miss Amelia B. Edwards as honorary secretary of the Egypt Exploration Fund.

THE position of Punt is being clearly shown by various circumstantial discoveries of interest. Dr. Naville, having reunited many pieces of mural sculpture dug up at Deir-el-Bahari, says that its African character comes out more and more clearly. Although the name of Punt may have applied also to the coast of South Arabia, it is certain that the Egyptian boats sent by the queen landed in Africa. In the newly-discovered fragments we find two kinds of monkeys climbing up the palm trees: the dog-headed baboon, the sacred animal of Thoth, and the round-headed monkey. Then we see bulls with long and twisted horns, like the animals which, as I have been told, were brought to Egypt some years ago from the Abyssinian coast.

†Life in Ancient Egypt, p. 34.

Two panthers are fighting together; a giraffe is showing its head, which reaches to the top of a tree; and a hippopotamus is also sculptured as one of the animals of the country. A small fragment speaks of "cutting ebony in great quantity." And on another we see the axes of the Egyptians felling large branches on one of the dark-stemmed trees which had not hitherto been identified, but which are now proved to be ebony. A small chip shows that the people had two different kinds of houses, one of which was made of wickerwork.

MORE JEWELRY.—Mr. H. Villiers Stuart describes, in a letter to the Fund, another disclosure, which indicates that the children of Israel did not "borrow" of the Egyptians all their "jewels of silver and jewels of gold." He says:

A few days ago there were discovered at Dashour the graves of two princesses of the XIIth Dynasty intact. The coffins had mouldered away, and the mummies lay each with a coronet on her head, and wearing other jewelry. When an attempt to move the mummies was made they fell to fragments. The jewelry is very beautiful. One of the coronets was, in fact, a wreath of forget-me-nots, made of precious stones mounted on gold stems. At intervals occurred Maltese crosses and precious stones set in gold. This lovely wreath was as perfect and looked as fresh as on the day it was made—a couple of centuries before the time of Abraham!—more than four thousand years ago. It illustrates a passage in the poetic epitaph on the funeral pall of Queen Is-em-Kheb, "She is armed with flowers every day." I visited Dashour and saw, *in situ*, the sarcophagus in which these treasures were found, as also that of the other princess. She also had a lovely coronet, fitted with a socket in which was inserted a spray of various flowers made in jewels, with gold stems and gold foliage. Besides these, there are necklaces, bracelets, armlets, anklets, daggers, charms, etc.

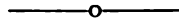
THE ASHMOLEAN MUSEUM.—This famous collection at Oxford has just been enriched by the chief results of the excavations last year at Coptos by Mr. Petrie, which he considers to have yielded prehistoric fragments of archaic sculpture and terra cotta. Among the sculptures are the colossal head of a bird, a lion's head, and the head of the god Min, the rest of whose statue is *en route*. We cannot assert these remains to be prehistoric, but may indulge the fond belief that they belong to Egypt's era. Captain H. G. Lyons, R. E., of the Fund, has presented the same museum with stelæ of the XIIth Dynasty found on the site of the temple at Wady Halfa, and with two hieratic stelæ from the village of Mut in the Dakhla oasis, which refer to the artesian wells in that district and the water supply.

THE value of the Archæological Survey department of the Egypt Exploration Fund, whose chief mission is the recording of important inscriptions, which are being constantly obliterated, is well illustrated in a letter from Professor Sayce. At El-Kab, near an ancient well under the cliff, he found a platform of rock which had been cut for the foundations of a chapel of some size. Here he discovered many texts relating to the Old Empire, including one of special value, as it gave the names of two temples built on the spot in the period of

Pepi of the VIth Dynasty. One of them was named *Kenb-set* (corner of the mountain). The texts are so numerous that weeks of labor would be required to transcribe them.

At Esneh, the recently found paintings in two subterranean Coptic churches, Dr. Sayce says, are already nearly destroyed by the fanatical Arabs. Of the few still untouched paintings, he writes that "one representing the Virgin and Child is especially good, though it will probably have been destroyed by the Mohammedan iconoclasts before this letter reaches England."

"NOW OR NEVER," seems to me a good motto for the Fund, in pressing its claim for aid to prosecute its work with the utmost dispatch. The new circular, just issued, will be sent on application to every reader of the *THE ANTIQUARIAN*, many of whom have friends interested in our varied work of exploration in the land of the Pharaohs. The volumes (see the notice elsewhere) contain illustrations of value and interest to every intelligent person in the land.



PALESTINE EXPLORATION.

T. F. WRIGHT, UNITED STATES SECRETARY.

In the statement of the Palestine Exploration Fund for July, 1874, is reprinted a communication which M. Clermont Ganneau had printed in the *Athenæum* in regards to the then recently discovered head of Hadrian. It seems that a donkey driver, whose business it was to find building stones where he could, found among the ruins of an old stone wall a marble head of natural size. He could not make use of it, but preserved it and sold it to an effendi, who afterwards sold it to the Russian archimandrite. The head was found a few minutes' walk north of the Damascus gate, where it had probably been thrown with rubbish carried out of the city. A minute description of the face is given, and M. Ganneau states that he was first in doubt as to the person represented, but reached the conclusion that it was the Emperor Hadrian. We know that, after Hadrian subdued the final revolution of the Jews under the leadership of Bar-Cochbar, he sought to efface everything Jewish from the city, erected on the site of the temple a place for the worship of Jupiter Capitolinus and set up his own statue in it. The Bordeaux pilgrim saw it. Jerome saw it, and says that it was an equestrian statue. The statue was intact down to the end of the fourth century, but it disappeared through the invasion of the Persians, or perhaps of the Arabs under Omar, and its head seems to have been cast out as rubbish.

The identification of the head as Hadrian's was confirmed

by Mr. W. S. W. Vaux of the British Museum, whose perfect familiarity with the coin department qualified him to speak with authority. Mr. Vaux said, in the statement referred to, "I have no doubt that the head is that of Hadrian." The face was reproduced as Hadrian's by the Fund in several publications, by Morrison in his work on "The Jews Under the Romans," and by the *Illustrated London News*. I have compared it with several representations of him. The likeness is more striking because he had the unusual mark of a beard.

But now I have received from an intelligent resident of Jerusalem a photograph of this same head, of which he says, "I send you a photograph which will interest you. It is the head of the old Herodos of Jerusalem. This head was found in the Tombs of the Kings and was sold to the Russian archimandrite and still remains there.."

There is a face which might be Herod's, and there is a kind of collar below it on which is written in archaic form:



The second of these words was unmistakably "Herod," whatever the last sign may mean. The first was not so plain. But a second look at the face led me to consult the records of the Fund for Hadrian's head, and there it was, properly authenticated. So far as I know, we have no head of Herod anywhere. It does not appear upon his coins.

This photograph is certainly a fraud. The head seen by Ganneau at the time of its discovery and still in the possession of the archimandrite, has been taken and furnished with this collar of cloth on which the photographer or some other untrustworthy person had written these words in white paint. No doubt many copies have been sold to the unsuspecting. The fraud is especially flagrant if we read the first word as Iesous, and this reading, for which I am indebted to Professor W. W. Goodwin, seems the only admissible one. "Jesus-Herod" must be intended to mean Herod, the Great. As the Fund has considered the work of exposing such frauds a part of its duty, I have written this note.

The work of excavating along the line of the old south wall of Jerusalem goes bravely on under Dr. Bliss. It is the most interesting period in all Palestine exploration thus far, and the interest increases as he draws near to the hill where it is believed that the remains of Solomon's palace lie hidden. It is unscientific to predict, but it is not unlikely that the results will exceed our hopes.

42 Quincy St., Cambridge, Mass.

THE CALENDAR SYSTEM OF THE CHIBCHAS.

TRANSLATED FROM THE SPANISH OF ACOSTA.

We speak of hieroglyphics, a Greek word which means *images or sacred figures*, and we give this name to the signs and figures used by the Egyptians to represent the dogmas of their theology or of their political and moral science, which are found sculptured upon stone and upon the pyramids. The paintings and sculptures of these Indians are also purely symbolical.

They were thought of little value in those times in which they could have been studied without much labor and with success. None as yet have been able to penetrate the Egyptian hieroglyphics. Neither as yet have those of the Indians of America been explained. Thus it is that the two peoples, who most assiduously cultivated symbols or primitive characters, from which originated the use of letters, are equally celebrated and equally unintelligible, the monuments of both serving more to torment the ingenious and curious than to advance knowledge. As it is, ancient America has not failed to have some evidences of its symbolism among the erudite, but until now the Chibcha have not taken a part in this honor. Father Torquemada has complained of the negligence of the first men of letters who came to this section. Bishop Piedrahita has asserted that the Chibcha had no knowledge of hieroglyphics, and even were ignorant of the quipus of the Peruvians, all of which is untrue, as may readily be seen in the many fragments of their ancient superstition. I have the honor, therefore, to offer to history a new discovery and to explain the year and cycle of the Chibcha, interpreting the signs which they contain and which I have found by careful personal investigation. This interpretation is founded on my knowledge of their customs, of their history, of their idolatry and their language, the last having been of much service, but cost me much labor in obtaining a knowledge of it, as it is not now spoken by any one. It has, therefore, been necessary for me to reconstruct it from the memoranda taken by my predecessors while reducing the Chibcha tongue to Latin, with which it has no analogy, to restore it to its true basis, forming it anew upon the principles of the Oriental languages, to investigate its roots and etymology.

The Chibcha counted upon the fingers, only having names for the numerals to 10 and for 20. Thus: Ata, 1; Bosa, 2; Mica, 3; Muyhica, 4; Hisca, 5; Ta, 6; Cuhupcua, 7; Suhua, 8; Aca, 9; Ubchihica, 10, and Gueta, 20. Concluding the ten upon their fingers they swept their hands in a circle toward their feet, repeating the same words, prefixing to each the word

Quihicha, which is Chibcha for foot. Thus: Quihicha Ata, 11; Quihicha Boza, 12, etc., to Gueta, 20.

The number 20 expressed by the word Gueta meant in the Chibcha *house and cultivated ground* (perhaps the English word "*home*" would better express the idea of centralization intended to be expressed by Gueta-*Trans*),—the house and garden in which were concentrated their food, their wealth, and where centered their happiness and was the sum of all their hopes and desires. When thus concluding with one twenty they returned to another and another to 20 twenties, for the same reason that mathematicians divide the circle into 360—a number divisible by a great variety of smaller numbers. The Chibcha used the number 20 as the basis of their calendar, dividing the 20 into four parts of five numbers each. The numbers 5, 10, 15, 20 were therefore those of most value, and as such were the basis also of all their negotiations. The moon was the object of their observations and their studies. This satellite, which they never allowed to be absent from their thoughts, gave them the model of their houses, their enclosures, their temples and their cultivated fields; in a word for everything pertaining to them.

They fixed a pole in the earth and with a cord attached to the pole as a center traced a circle. This pole and cord, if we consider well the character or symbols which are seen, we shall learn were the principal elements upon which they were formed.

The different significations which their numeral words had in their language are all allusions to the different phases of the moon, to their labors in the cultivated fields and to the superstitions of their idolatry, and thus conduct us to their calendar.

The Chibcha had these symbols literally at their fingers' ends, these signs and symbols being to the Chibcha what the system of Arcturus is to astronomers, and thus with only a numbering of the fingers, they knew the phases of the moon and the corresponding government of their labors and of their cultivated fields.

Their vulgar year consisted of twenty moons and their vulgar cycle of twenty years or four hundred moons. They began to count in the month after the opposition or full moon, represented by Ubchihica (10), which signifies *brilliant moon*, and beginning at Ata they counted seven days, finding the quarter in Cuhupcua (7). Counting forward again, they found the next quarter in Muyhica (4), which means dark or darkening, and the day following the conjunction in Hisca, which in their conception was the union of the moon with the sun, which represented the nuptials between the two, this being the most important dogma of their creed and the object of their most execrable teachings. After counting eight days more they found the third quarter in Mica, which signifies a thing varying, having reference to the ever varying phases of the moon.

The first aspect of the first phase they placed in Cuhupcua,

and as in this symbol fell also the quarter, it was given *two ears* and was called deaf for other superstitious reasons.

The same symbols served to count the years and contained a general law. In such time *ata* and therefore *aca* represented the rainy seasons by the frog or toad. The frequent croaking of this reptile served as a sign that such time was approaching.

Bosa represents a space sowed outside of the central or principal crop to protect the latter from damage. *Mica* means to seek for—to find—to select minute things, indicating the careful selection they should make in the seeds for intended sowing.

Muyhica.—A thing dark, black or obscure, having reference to tempestuous weather; its root also signifying the growth of plants, because they by means of the benefit of the water acquire body. *Hisca*.—A thing green. With the frequent showers the earth dons her mantle of green, everything becomes beautiful and joyful. It also means to rest from labor, and that the plants most grown make joyful the heart with promise of harvest. *Ta*.—The field. The sixth month corresponds with harvest.

Cuhupcua.—Graneries. These had the form of a snail shell. (cornucopia), or the human ear. *Cuhutana*, a word having the same root, signifies the corners of the house where grain is deposited, and also alludes to harvest. *Suhuza*.—Tail or termination. A month which comes at the finish or winding up of their season, and also has allusion to the pole at the termination of the graded way leading from a chief's house to the place where was made these solemn sacrifices after the harvest was done. *Ubchihica* alludes to their convivialities after harvest. *Gueta*, house and grounds, has a toad stretched out, which was their symbol of felicity.

The Chibcha looked upon these and many other signs as oracles. Their sons were rigidly taught these lessons by their elders, and not content with these precautions and that the government of the year should not be forgotten they sealed their teachings with the blood of many victims. They never used the word Zocam (year) by itself but with the number to which it corresponded, viz., *Zocam-ata*, *Zocam-Bosa*, etc. They did the same with the graded way where they made their religious sacrifices and masquerades, using *Suna ata*, *Suna Bosa*, etc. And in this way these places were like a book in which accounts are kept.

Twenty moons made their vulgar year, which being ended they began to count again another twenty and thus until a cycle of twenty vulgar years was counted, which was made by their priests to correspond with the astronomical year in the manner hereafter shown.

The intercalation of one moon after each thirty-sixth moon, to make the lunar correspond with the solar and thus preserve the seasons, they executed with great facility. For having on their fingers the calendar they signed two seedings in succession, with an intermediary between, and then signed the third

seed time with two, as upon this principle turns all their astronomy, idolatry and political economy, and also that which now interests us most, their iconography, and therefore it is necessary to explain it with great particularity. We will therefore distribute these Chibcha signs upon our fingers, and this table of digits will give us all the combinations. Suppose that *Ata*, which is the first finger, corresponds to January, and that it is the month for seeding. Following the fingers, the second seeding is in "*Mica*", passing *Bosa*, which is between *Ata* and *Mica*, so that the second seeding falls upon the thirteenth lunar month, counting *Ata*. The third seeding, counting as before, we find in *Hisca*, passing *Muyhica*. Counting again as before, but intercalating one, we find it in *Suhuza*, passing *Ta* and *Cuhupana*, being the fourteenth from *Hisca*.

The month *Cuhupcua*, which is the intercalated and in Chibcha is the deaf month, is the seventeenth month of the second vulgar year, which aggregated to the preceding year makes thirty-seven lunar months, and the lunar and solar year are equalized in *Suhusca*, which now becomes the true January. This intercalation, which is followed perpetually, leaving each thirty-seventh lunar month to pass without office or as deaf, enables us to perceive that within the two vulgar years of twenty lunar months each there is concealed their astronomical year, which consists of thirty-seven lunar months, so the thirty-eighth month becomes the true January.

This people, without understanding the theory of this proposition, which has been embarrassing to more civilized nations in consequence of this lunar month that must be added at the end of three lunar years, because of there being twelve lunar months counted for two years and thirteen for the third year, they had, nevertheless, great facility in the practice of making the intercalations by following the method set forth, preserving thus the astronomical year without the commonalty perceiving or noting any difference in the vulgar year of twenty months. The vulgar year was used in their treaties, as is seen in their history, also in all commercial and social transactions, but the astronomical year held good in their agriculture and their religion, and thus the *Xequés* or priests and the leading chiefs, by whom only these mysteries were understood, carried their calculations to great prolixity, noting the epochs with most striking sacrifices and engraving them upon stones by means of symbols and figures.

DESCRIPTION OF THE SITE OF "OLD COOSA,"
TALLADEGA COUNTY, ALABAMA.

By T. H. LEWIS.

In the year 1540, Hernando de Soto, an able Spanish commander, passed with his little army through at least a portion of the then famous Coosa Valley, while exploring his "great realm of Florida" in quest of precious metals. Somewhere on his route he came to a great Indian town, then known as Coza, or Cossa. It is not for me to do otherwise here than to accept the generally received opinion of the Soto commentators, that the Coza of the sixteenth century is identical with the Coosan, Coosa, Coussa, Koosah or Kusa of the eighteenth. With this assumption I will now proceed to a more precise description of the site than has hitherto been attempted in print, for no one has yet given anything like a definite description of it.

A couple of miles due north of the modern town of Childersburg will be found the site of Coosa, both ancient and modern. It is situated on the east side of the Coosa River, between the Talladega and Tallassee Hatchee Creeks, the mouths of which are fully one mile apart. That the Coosa Valley, with its level and gently rolling lands, bordered with high hills that here and there rise with perpendicular sides for several hundred feet, is beautiful and fertile, goes without saying, and the river, with its clear and placid waters winding through the vale, lends additional enchantment to the scene.

According to the government survey, this old town site is located on the S. $\frac{1}{2}$ of the S. $\frac{1}{2}$ of section 8, the N. $\frac{1}{2}$ and the N. $\frac{1}{2}$ of the S. $\frac{1}{4}$ of section 17, of town 20, and range 3 east of the Huntsville meridian.

The ancient village remains extend from Talladega Creek on the north to Tallassee Hatchee Creek on the south, averaging over one mile in length and fully three-fourths of a mile back from the river. Broken pottery, arrow and spear heads, awls or perforators, knives, axes, celts, hand hammers, stone balls, mullers, small shallow mortars, stone hoes, sea and gulf shells, etc., are scattered over nearly every acre of the territory described, showing that all portions of the site have been occupied at one time or another. Apparently the principal center of the town was located on a low hill which is from sixty to seventy-five feet above the bottom lands and from ninety-five to one hundred and ten feet above low water in the Coosa River. This elevation is about one-third of a mile in length and one-eighth of a mile in width. The southwestern angle of the hill, which is the nearest point to the river, is some three hundred

yards distant from it with bottom land between. On the side next to the river the slope of the hill is quite steep, but on all other sides the slopes are much more gradual. The principal center of the ancient remains, the part most occupied, was along the top of the hill and down the gradual slope extending north to Talladega Creek. This section was evidently occupied for a long period of time. While the debris is not so large in quantity as might be expected, even as compared to the time of its modern historical occupation, yet the remains are deeply embedded in the clay soil, thus indicating great age.

Of the fragments of pottery found upon the site, in the great majority of cases, it is composed of broken mussel shells and clay, but many fragments are of broken stone and clay and in a few instances they are of sand and clay. The first of these is apparently the most modern, while the other two are the most ancient, being deeply bedded in the clay. The colors used are white, brown, red, black and the ordinary brick color. The ornamentation in general was done with grooved lines, straight and curved, and in some instances the rims of the vessels were notched. Of the implements found most of the arrow-heads and knives are of white quartz, while a few are of various colors of granulated quartz, horn-stone, chert, slate, with two or three specimens that are apparently novaculite. Most of the chisels, celts and axes were of black or green trap-rock, and the majority of the hoes are of micaceous slate. Many fragments of clay pipes are to be found, but those made from stone are rare. One small catlinite pipe ornamented with grooved lines was obtained from the site, and others were reported as having been found in the same vicinity.

At two points, viz: along the Coosa just below the mouth of Talladega creek, and on the main townsite on the hill, there are several round saucer-shaped excavations which are from one and one-half to three feet in depth, and from twenty to thirty feet in diameter. Their use is wholly conjectural, but they were probably half underground huts or houses, being somewhat similar in character to the ruins of the old Mandan winter lodges.

On the highest point of the hill are the remains of the more modern occupation. Here evidently were located the houses of the traders or others, as evidenced by the traces of old stone hearths, etc. Around these old hearths fragments of thin copper and brass plate, scraps of iron, old flint locks, gun flints and glass and stone china beads are found, together with a few old French, Spanish and British coins, none of which date back of 1740. There are also similar evidences at the junction of the Coosa and Talladega, but these are very slight.

There is a large number of village sites along the river, above and below Coosa, and at points farther to the interior, where there are fine springs, and along the creeks, in fact, the best and most alluvial portion of this whole section of country seems to have been occupied—the poor lands are not cultivated to

any extent, and where cultivated do not seem to have been occupied.

Just south of the Tallassee Hatchee Creek, mostly on the S. $\frac{1}{2}$ of the S. $\frac{1}{2}$ of section 17, are the remains of a village site that extends along the creek for over one-half mile and for nearly the same distance down the river from the mouth of the creek. The remains—village debris—are of about the same general character and quantity as those found on the site of Coosa. Whether this site is to be considered as part of the old metropolis, or as some other town with another name, is a question that can not be decided at present. It may have been the town somewhere high up the river, known in the last century as Abeika, Abika, or Abi'hka, whose exact location no one can now give; it can scarcely be the Abeycochi of the old maps, shown by them as situated on the river a little below "Cousa," for the former town (Abeycochi) has been definitely described on the best authority as lying five miles up the Tallassee Hatchee Creek, and on the north side of it. This site, like that of Coosa, immediately north of it, has been under cultivation for many years.

The facts for the above description of the old townsite of Coosa, its environs and relics, were obtained on the occasion of a visit made there by me on the 30th of November, 1894.

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A consideration of the celebrity of Coosa, or Coza, in old times, in view of its also being one of the principal towns at which DeSoto sojourned and obtained supplies, now prompts me to append some concluding paragraphs of an historical nature.

Garcilaso de la Vega, also known as the "Inca" by reason of his Peruvian descent, who some forty years after the time of the expedition in question compiled a very interesting narrative of it from the accounts furnished him by eye witnesses, when speaking of the quartering of the troops in the town, says:

"The governor was lodged in one of three houses that the Cacique had in different parts of the town, made in the way of other similar ones already described, situated high up and having all the advantages lords' houses have over those of vassals.* The town was built upon the bank of a river; it had five hundred large and good houses, which well proved it to be the capital of such a great and renowned province as has been described. Half of the town (as far as the quarters of the governor,) was vacated, and in there the captains and soldiers were lodged. And they all established themselves in the town because the houses were capacious and could accommodate many people, and the Spaniards remained there eleven or twelve days."

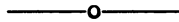
*As there are no artificial mounds in this immediate vicinity, the three houses said to have belonged to the Cacique must have been located on the higher points of the hill.

Previously, in describing the town of Osachile, which the expedition passed through the preceding year, the Inca states that "the Indians of Florida always seek to locate on a high place the houses of their caciques and lords, when they can not do it for the whole town." He then proceeds to describe how they would construct a mound of earth from two to three pikes in height, with a space on top for ten or twelve to fifteen or twenty houses for the use of the lord and his family and servants—the size of the structure depending on his means and the greatness of his rank. As no large mound exists in that portion of the Florida peninsula where this Osachile one should apparently be located, this, with other statements made by the Inca, should be taken with a grain of salt, excepting in as far as they are corroborated by the other narratives of the expedition.

Probably the earliest definite notice in English of this town is that given by James Adair, who was in the Indian trade for forty years, from 1735 to 1775. In his *History of the American Indians* he incidentally remarks as follows:

"The great and old beloved town of refuge, Koosah, which "stands high on the eastern side of a bold river, about 250 "yards broad, that runs by the late dangerous Alebahma fort, "down to the black poisoning Mobile, and so into the gulph of "Mexico."

Montgomery, Ala., Jan. 2, 1895.



THE SYMBOLS OF THE SAMOANS.

The national god of the Samoans was a female, who, in conjunction with her consort, were the *war gods*. In addition to these, each separate district had its own special gods. The priests were the keepers of the emblems of the war gods and were called "warships of the war gods." These emblems or symbols were various, but resembled those which were used by the aborigines of America. The fleets of Manono generally carried two emblems—one a kind of *throne*, and the latter *astreamer*, or pennant.

The symbol used by the warrior of Matauta was a *conch shell*, called "Gods of the Heavens." This was always carried by the keeper of the war god on land when they engaged in battle. In *Atua* the symbol of the gods' presence was a large box or chest, which was placed upon the canoe of the priest of the war god and accompanied the fleet into battle.

The temples were always in charge of the keepers of the war gods, who were called "warships." The emblems of the god were always placed in these temples. These symbols were consulted as oracles, as the god was supposed to enter into the symbol and deliver answers to the questions asked. The temples were built upon raised platforms and were placed in the principal marae or square of the village, but were built similar to the ordinary dwellings.*

*Rev. John B. Stair in *Journal of the Polynesian Society*, December, 1894.

Editorial.

SACRED CALENDARS AND ANCIENT CODICES.

One of the most hopeful things connected with the study of American archæology is that so much advance has been made towards the proper understanding of the sign language, the calendar system, the system of time counts, and the various methods of recording events and communicating thought, and that so much certainty has already been reached in reference to the subject. It should be said, moreover, that these results have come from the indefatigable industry of a few individuals in this country and in Europe, and the coöperation of the government in furnishing the facilities for pursuing these studies.

The greatest progress, however, has been made and the best results have been secured in the line of native American symbolism—a line to which we have devoted much thought, and it is therefore gratifying to be able to review the work which these gentlemen have accomplished, and to call attention to the conclusions which they have reached, and especially the benefits which may follow the continued study of the subject. We also take pleasure in acknowledging the aid we ourselves have received in the preparation of these papers.

1. We shall begin with the sign language and the signal system which prevailed among the aborigines, for this is the most primitive stage of American symbolism. There was, to be sure, in the country a vast amount of pictography, which impressed itself upon the rocks as well as upon the tents, blankets, "bark records," "winter counts," mnemonic charts, and which was useful as a means of conveying thought, but as there was very little symbolism contained in it we shall pass it by as belonging to another department.* We would here call attention to the work which has been accomplished by Col. Garrick Mallery, Dr. W. J. Hoffman and Col. Clark in the sign language and in the interpretations which they have secured from the aborigines. It is not certain how the sign language arose, but the resemblance to the language used by deaf mutes and the signs used by the ancient Etruscans would indicate that there is a natural method of communicating thought which does not depend upon speech or the art of writing. The same might be said of the signals used by the natives. While these were inventions among these tribes, they were very natural and practical.

*The best work upon pictography is one prepared by Col. Garrick Mallery and published in three different volumes of the Ethnological Bureau.

It is remarkable that the signal service and the telegraph have a history which leads back to the earliest methods of conveying tidings to a distance. These, to be sure, are modern inventions and are the products of civilization, but they were preceded by methods which were at the time very useful and adapted to the circumstances. It would be impossible to describe all of the methods or to show how they came to be adopted. The earliest methods may, perhaps, be learned from the aborigines of the west. One of these consisted in lighting fires and raising columns of smoke of varying lengths, which appeared at intervals, thus resembling the modern telegraph. The manner of doing this was as follows: "The Indian simply takes a blanket and goes to some sightly place; after lighting the fire he places out in the grass and weeds, by which a dense white smoke is created, which arises in a column, he then puts the blanket over the fire and rapidly displaces it, and thus is enabled to cause the column to appear and disappear, the number and frequency, and varying length of the column serving as signs which would be easily understood. The materials used in making smoke would give sufficient diversity in the color to make the signals quite numerous. The material consisted of pine or cedar boughs, or leaves and grass, each of which would make a different colored smoke." This method of signaling is not peculiar to America, for it is practiced in all parts of Australia, the Canary Islands, the peaks of Teneriffe, and something similar to it was common in the Highlands of Scotland. Another method practiced by the modern Indians is as follows: A single horseman goes to a prominent height, where he can be seen by all the camps or villages, and when an enemy appears he rides rapidly around in a circle and occasionally fires off a revolver. Another is to take a mirror and throw a flash of sunlight to a distance, thus anticipating the search lights which are so common now. The most expressive and varied method is one used by the tribes of the west, where there are high precipitous cliffs and deep cañons, making access difficult and requiring some means of communication. It consisted in the person taking the different attitudes of the body, which were understood, some of them naturally expressing alarm, others defiance, others peace and friendship, welcome, direction, submission, inquiry.

Still another method was practiced by the Omahas and Ponkas, who were hunters. It was used at the time to signalize the discovery of buffalo. It consisted in taking a blanket or buffalo robe, holding it with an end in each hand, spreading it out in sight of the people at a distance.

Illustrations of this have been given by Col. Garrick Mallery, who has studied the sign language of the western Indians and learned the interpretations, and has furnished a plate to show the method of signaling by signs practiced among the Pani

Indians. The signal in this case is a question—Who are you? It is made by raising the right hand and moving it right and left. It is answered by raising the two hands, giving the usual tribal sign of the Panis.*

2. In reference to the method of keeping time and recording the changes of the seasons and making the almanac, much benefit has come from the study of symbols. It is regarded as one of the great improvements of the nineteenth century that the observation of the elements and the watching of the storms has been systematized so that warnings can be given and storms predicted. It is well to notice, however, that a surprising system of time-counting and weather-watching existed among the American tribes long before the discovery. This system was not altogether for the benefit of commerce, nor was it conducted by means of electricity and the telegraph, but it was, nevertheless, an elaborate and complicated system, and was under direction as closely as the "weather bureau." A few men held the charts and interpreted the symbols. The system varied according to the grade of civilization. Among the wild tribes it was very rude, was founded upon the observation of the sky and the changes of the seasons, the deifying of the elements; but among the so-called civilized tribes it was perhaps founded upon a knowledge of the astronomical principles in which the position of the sun at the summer and winter solstices, the position of the constellations in the sky, such as the Pleiades, the Dipper or Great Bear, the appearance of the planet Venus and the revolutions of the sky, as well as the creation epochs, and the order of the seasons.

This system of time-counts was connected with the religious ideas of the people, for the "Cardinal points," the four quarters of the sky, the different seasons, the various elements, were all symbolized and worshiped. The symbols frequently are suggestive of myths, which themselves are expressive of the religious beliefs and superstitions which prevailed. It is singular that the serpent, the circle, the cross, the humanized tree, and the bird, the suastika, the triskelis, the "Nile key" or the Egyptian "tau," the horse shoe, the scroll, the loup, square, the tree of life, are found in nearly all parts of America, and generally in as elaborate shapes as in India and the east, and have a very similar significance. There was, to be sure, a difference in the system of "time counts." The calendar system was founded sometimes upon the solar year, sometimes upon the sacred year, the revolutions of the sky and the progress of the seasons being marked in one, and the return of the feast days and the ceremonial regulation of the employments of the people by the other.†

* This sign symbolized the ears of the wolf, as the Panis had the wolf for their tribal emblem, and were called wolves by other tribes.

† The following is the list of time counts given by Dr. D. G. Brinton, in his pamphlet, "Primer of Hieroglyphics." 1. The sacred year, divided into twenty months of thirteen days each, equal to two hundred and sixty days. The month was also divided into four weeks of five days each. 2. A solar year of eighteen months of twenty days each, or a year

There were also sacred mysteries, or secret societies, among the aborigines to which the time counts were committed. These have not been understood, but specialists have gained access to the ancient charts kept among the wild tribe, others have been initiated into the secret societies of the tribes of the interior, and have brought to light an immense amount of symbolism and traditional folk-lore which is very important, as it throws light upon the aboriginal religions, and at the same time perpetuates the mythology which prevailed. The sacred dramas, which are practiced in secret by these tribes, are all founded on myths and represent the religious beliefs of the people.*

It is a singular fact that nearly all of the myths and symbols which are used in the sacred mysteries of these, as well as of the wild tribes, go back to the story of creation as the starting point and from that work up to the latest event, which consists in the healing of the sick by the aid of the supernatural beings, which are symbolized and personated. It is interesting to trace the analogy between these sacred mysteries and to see how many symbols were used which were common on both continents, and how the myths resembled one another, especially those which relate to the "storm-gods" and the natural powers.

3. The esoteric system is very remarkable. It is known that the custom of having a learned class, who should monopolize the power over the people, regulate their customs, direct their employments, and control their destiny, prevailed in America as in Chaldea and Egypt. This is evident from the testimony of early writers and historians. Sahagun says that "the Indians who knew the secret of the calendar taught or revealed them to a very few, for through their knowledge they gained their livelihood. It was only these "master calculators" who knew these many secrets and counts that the calendar continued. Those who spoke, knew not; and those who knew, spoke not."

What is more, there was a system of astrological divination connected with the calendar which resembled that which prevailed in the east, especially in Babylonia. A system which consisted in casting up one's horoscope from the study of the stars and making the guardian divinity, and the personal destiny dependent upon the situation of the stars at the time of one's birth.

It appears that every day in the month had some animal or

of twelve months of thirty days equal three hundred and sixty days. 3. The solar year of thirteen months of twenty-eight days each equals three hundred and sixty-four days. Dr. Fostermann says that five revolutions of Venus were identified, and divided into ceremonial years of two hundred and sixty days each; the year of Venus was divided into four unequal parts assigned to four cardinal points and to four divinities. Venus was called the "great star" and the "guardian of the sky." 4. Landa states that the Mayas measured the passage of time at night by observations of the Pleiades and Orion. Dr. Fostermann thinks that their position in the heavens decided the beginning of the year.

* The best work on the subject of sacred mysteries as related to predicting events and casting the horoscope is Dr. Brinton's little pamphlet on Nagualism. There were secret societies and sacred mysteries among the wild tribes, such as the Ojibwas and Dakotas, and among the sedentary tribes. See my article read before the Congress of Anthropology at Chicago, 1893; also Dr. Hoffman's essay in Report of the Ethnological Bureau, and Dr. Walter Fewkes' articles in the *Anthropologist*.

object in nature, from which it took its name, the shape of which was engraved upon the calendar. The sorcerer would use the symbol which marked the birthday of a child and would predict its destiny. The transformation into eagles, loons, tigers, trees, was one of the gifts of Nagualism.*

Among the Mayas the employments of the people were regulated by the calendar, for it was supposed that the priests had control of the "powers of nature" and the regulations of seasons. There was also a close connection between the meaning of the days of the months and the experiences of the individual in the course of his life, very much as in the "sacred mysteries" of Egypt and Greece, a deep undercurrent of thought being contained in the symbols, and an esoteric system which was known only to the priests, who resemble the soothsayers of the Chaldeans and the augurs of the Romans.

4. The light that is thrown upon the origin of the numerical system is another advantage which has been gained by the study of symbolism. It is not now known what the origin was of either the Arabic numerals or how the decimal system came into vogue, though the number ten seems to be very natural for most of the primitive races. It has however been discovered that the vigesimal system prevailed among the so-called civilized tribes, including the Mexicans, the Mayas, the Peruvians and the people located in the U. S. of Colombia and in other South American provinces. This system, according to Acosta, a Spanish historian, came from the habit of counting the fingers and toes, these parts of the body giving to them the unit for counting; as the length of the fingers, toes, fore-arm, full length arm, gave the division of inches, ells, feet, cubits and yards in the measurements of the Indo-European race. It appears that there was a sacredness about the human body to the ancient Americans for all the parts of the body, such as the head, the arms, the breast, heart, brains were symbolized by certain animals, the same animals being used to indicate the signs of the zodiac, exactly as was the case among the ancient nations of the east. It was the mental habit of the people to ascribe supernatural qualities to the bodily parts and represent them under various semblances. This will perhaps account for the application of the vigesimal

*Gucumatr, according to the Popal Vuh, every seven days assumed the nature of a serpent and became truly a serpent, and every seven days the nature of an eagle, and so on. Dr. Phillipp J. J. Valentini has advanced a novel and startling theory about the hieroglyphics of the ancient Mayas. He has written a pamphlet to show the "glyphs" on the Palenque Tablets were pictographs and not phonetic signs; the inference is that the glyphs contained in the codices were also pictographs. He calls the Temple of the Cross the Temple of the Sacred-tree, the cross being the conventional form which the "tree of life" assumed. He thinks that the symbols are made up of glyphs arranged in seventeen transverse rows and six columns, but these really represent the offerings brought to the temple and offered to the cross, the bird on the cross being the symbol of divinity. Some of these glyphs contain portraits of priests, others arbitrary signs or numerals, which designate the days of the month, still others the incense vessels and animals, which were offered. There are two hundred and one glyphs, fifteen of them portraits, seventy-nine give dates, twenty give days of the month, twenty-eight incense vessels, twenty-three birds heads, three tigers, eighteen tapirs, fifteen bugs, eleven hands.

system to the calendar and the use of the symbols in connection with the calendar stones and the codices, for the human and the divine were supposed to be mingled together in both of these. The appropriation of so simple a method of counting to the sacred purposes of the calendar made the system a power among the people.

The same is true of the system which was introduced later, namely, that of counting thirteen with twenty. The origin of this number is uncertain, but a common supposition is now that it came from the sacred geography of the tribes of the interior, as the number seven did among the Chaldeans and the number nine did among the Chinese.

The wild tribes, as we have seen, divided the earth and sky into four houses, but the sedentary tribes, according to Mr. Frank Cushing, divided them into six houses, the zenith and nadir having been added to the four quarters, a seventh house being in the center. By doubling the six houses and keeping the center the same we have the number thirteen, and this combined with the twenty makes the sacred year. As the number twenty completes the body, and all the directions complete the body of the universe, the sky and earth combined, i. e., "all the directions and all the potencies," as Dr. Brinton says, so the two numbers thirteen and twenty formed the basis of the ritual calendar, just as fifty-two (4×13) made the American "cycle."

Dr. Cyrus Thomas has given prolonged study to phonetic characters, and holds the opinion that they are phonetics, but is so far unable to decipher the codices on the tablets by the phonetic key. It should be said, however, that Dr. Thomas has done more than any other man toward the clearing up the mystery which surrounded the codices. He has shown, in the first place, that they were calendars used by the priests in regulating the religious feasts, and that they all contain dates. He next discovered the symbols for the cardinal points, though it was after much uncertainty and long discussion that he identified the points with specific symbols, either phonetic or hieroglyphic or pictographic. The discovery of symbols for the twenty days of the month, as used by the Mayas, followed. The division of the months into weeks of thirteen days was also recognized, notwithstanding the fact that this complicated the calendar so that it became very obscure to the common people and could be read only by the priests. This itself was a triumph. The next step was to trace out the sacred calendar and separate it from the secular, or, in other words, divide the sacred year from the solar year. Dr. Thomas thinks that the codices were made up of pictographs, but the transverse symbols were phonetic characters, and the columns which run from top to bottom along the left side of the pages represent the twenty symbols for days. Thus we have the arithmetic side clearly deciphered, but the hieroglyphic side

is obscure. Dr. Valentini claims that these may be cleared up by the study of the glyphs. He says, in whatever kind of carving, or relief of sculpture on temple or palace walls, on large stone slabs, on drinking cups, or on jade celts, the selfsame symbols appear, the numerals are their monitors; the "pictorial nature" of both written and graven symbols are proved by this means. In the codices the images are abbreviated and obscure, but in the sculptured tablets the figures show distinct objects and are in reality pictographs. The interpretation of the pictographic figures in the codices was also undertaken by Dr. Brinton, many of which, he thinks, were astronomical, but others were ceremonial.

Mr. James Wickersham has noticed that some of the tribes of the northwest coast had the method of counting by tens exactly like those used by the Asiatic nations, and his opinion is that it was derived from the Japanese or Chinese.* Mr. W. P. Clarke says that the decimal system originated among most of the tribes of North America. Dr. Thomas, on the other hand, thinks the vigesimal system may have been introduced from Southern Asia.

5. The origin of the alphabet is another subject which comes up in connection with the study of the symbols. This has interested the Oriental scholars, but no satisfactory results have been reached. The old theory was that Cadmus was the inventor of letters; another theory was that the Greeks borrowed from the Phoenicians, the Phoenicians from the Egyptians, but the Egyptians were the oldest writing known. A still later opinion is that the Cuneiform alphabet preceded the Egyptian hieroglyphics, and that this was borrowed by the Semites from the ancient Accadian or Turanian race, and was originally connected with sun-worship. It is now the opinion of Dr. Sayce that the petroglyphs or rock inscriptions of Arabia are older than either of these, that they furnish the primordial form from which the letters were drawn.

It is to be noticed that the Chinese alphabet, which seems so complicated and mysterious, has certain elements and conventional figures which may have been drawn from pictographs, and are nothing more nor less than abbreviated and degraded forms of hieroglyphics which originally resembled those of Egypt. The study of the pictographs of the American tribes, as related to the symbols, is very suggestive in this connection. It is not certain that the symbols grew out of the pictographs, for there are various symbols which have the stereotyped form from the very outset, and it is supposed that these have been transmitted from another continent. Still it is the general opinion that the so-called hieroglyphics were originally pictographs and portraits. This opinion was first advanced by Dr. Phillip J. J. Valentini in

*See *American Antiquarian*, Vol. XVI., p. 79.

1879, in connection with study of the celebrated calendar stone in Mexico. The following are his remarks, which he made at the time: "They are not to be read in the same manner as those of Egypt or Assyria, by sound." "If you look upon a Mexican picture sheet and see in sculpture a group of connected ornaments made up of human heads, animals, flowers, and see them projected in a horizontal or vertical line, do not conclude that each ornament in a group is a letter, and the group itself a word, and the union of such groups a sentence, the meaning of which may be deciphered by the aid of the alphabet key." "The Mexicans possessed a language very highly developed, they had expressions for each idea, abstract and concrete, and could convey them with wonderful subtle shades full of feeling and of thought, but to separate the human voice into vowels and consonant sounds, and to depict each sound by a symbol or letter and then to form of these letters a word, and to place one syllable after another as we do in writing, was to them an unknown art."

It is noticeable that the latest effort made by Dr. Valentini is to prove that the hieroglyphics of Mexico and Central America are not phonetic, but ideographic—they do not express sounds, but ideas, what is more, they are made up of pictographs, which are their own interpreters, and in this respect resemble the pictographs of the ruder tribes. He bases his opinion upon the study of the remarkable tablet at Palenque. "This contains pictographs of objects brought into the temple, portrait, idols, animals, vessels, etc., thus it is picture and not alphabetic writing." "These very same pictures are found engraved on all the monuments that cover the soil of Central America." The whole race of the American Indians was unacquainted with phonetic writing. Those who were unacquainted with the manufacture of paper left their records engraved on rock or sculptured into tablets, but in an advanced form of picture writing. In conclusion, he quotes Bishop Landa, saying, "all these objects of which I have spoken may be seen engraved on the temple and the palace walls."

6. This brings us to the subject of sacred books in America and the analogies which may be drawn from them, and those in the east. Here we refer to the fact that the creation tablets and deluge tablets discovered by Mr. George Smith in Babylonia, twenty-five years ago, still furnish the foundations for much of the knowledge about the pre-historic races in the valley of the Tigris. These are the earliest sacred books or records in the world—certainly earlier than the "book of the dead" of the Egyptians, and much earlier than the sacred books of the Hindus.

The deciphering of these tablets and of the seals, which have been discovered since, has brought out a vast amount of information about the god Isdubar and goddess Ishtar, and many other divinities of the Chaldeans. Still all of these "books" showed an advanced stage of civilization and conveyed the idea

that there may have been something ruder, and earlier, though these have not been identified. In America, however, we have sacred books which present all the stages which are possible to put upon record. Some of them very rude, perpetuated in a rude form of "bark records," "picture charts" and inscribed sticks," others in the form of sand paintings and "formulas" for the healing of disease. These prevailed among the wild tribes, Delawares, Ojibwas, Dakotas, Cherokees, the most of them having the story of the creation or of the deluge very prominent, giving the idea that they may have been based upon borrowed traditionary myths.

It is due to Dr. W. J. Hoffman and Dr. D. G. Brinton that these pictographic records, which constitute the ancient sacred literature of these various tribes, have been brought out before the public in an intelligible form, free from any fanciful interpretations. They had, to be sure, been known to the archæologists for many years, Henry Schoolcraft and E. G. Squiers, and the eccentric Rafinesque having published translations of them as early as 1849.

There are, however, other records among the civilized tribes which are far in advance of these and which may well be called books, for they have the forms of books. They are made of paper, are folded in the shape of a fan, have wooden covers and are tied with strings. These are called codices. They are written in picture language with certain arbitrary symbols which are called hieroglyphics, mingled with the pictures. Much study has been given to the deciphering of these pictographs and much progress has already been made. The question now is whether the sacred books are astronomical records founded upon the appearance of the planet Venus, the knowledge of the various motions of the sun and its return to the solstices, and the observation of the heavenly bodies and the constellations, or were they "books" which had regard to the ritualistic ceremonies and religious feasts? On this point Prof. Forstemann, who is professor librarian in chief of the Royal Library of Saxony, and Dr. D. G. Brinton have taken sides in favor, and Dr. Seler, of Berlin, and Dr. Cyrus Thomas have expressed a distrust. Dr. Thomas says these records are, to a large extent, only religious calendars. Dr. Brinton says they are primarily and essentially records of the motions of the heavenly bodies and are to be interpreted as referring, in the first instance, to the sun and moon and planets and those constellations which are most prominent in the night sky." Dr. Brinton says further: "Those who follow Forstemann's views must accustom themselves to look upon the animals, plants and objects as largely symbolic, representing the movements of the heavenly bodies, the changes of the seasons, the revolutions of the sun, moon and the planets just as in the ancient zodiacs of the lower world we find similar uncouth ani-

mals and impossible collocations of images are presented. The great snakes which stretched across the pages of the codices mean time; the torches in the hand of the figures, often one downward and one upward, indicate the rising and setting of the constellations; the tortoise and the snail mark the solstices; the mummied bodies, the disappearance from the sky of certain stars at certain seasons.*

7. The most remarkable discovery in connection with symbols contained in the sacred books is the one made by Mrs. Zelia Nuttall. She says: "There are strong indications proving that the different branches of industry or pursuit were identified with certain day signs, and in this way the entire population of Mexico was sub-divided into twenty castes or kinships grouped under four heads; also a division of products into four categories, according to the elements with which each industry or pursuit was connected; that on the market days of *Catl*, the god of water, aquatic or vegetable products; on *Tecpatl* (flint) days, mineral products; on *Calli* (house days) all manufactured articles; on *Tochtli* (tiger) all products of animal life should predominate in the market place." From a practical point of view nothing could be more simple and admirably adapted for a communal government than such a distribution of labor. By this means a thorough control of all human activity and the products of the lands was in the hands of the rulers. The paramount importance of the market as an institution of a communal government, the regular rotation of market days, with the day of enforced rest every twenty days, were the prominent and permanent features of the civil solar year; these were permanent while the great festivals of the religious calendar shifted their positions at the rate of a day every four years and were rectified once in fifty-two years. This is a far reaching explanation and if accepted will prove that the Mayas were far advanced in the science of government, for at the end of fifty-two years, or four times thirteen, which constituted the sacred knot of years, all of the fires were extinguished and the new fire was lighted from the fire-drill which was placed on the body of a sacrificial victim. In this way the sacred calendars were brought together and harmonized. Sun worship prevailed and ruled the religious calendar, but the sun also controlled the seasons and their products, therefore there must be a reconciling of the two calendars. The ritual year formed the kernel of the solar year, kept revolving like a wheel within a wheel, but the two came together at the end of fifty-two years.

*The tortoise was a symbol of the summer solstice and the snail of the winter; the frog, the well known symbol of the water.

ETHNOGRAPHIC NOTES.

BY ALBERT S. GATSCHET, WASHINGTON.

RAOUL DE LA GRASSERIE ON ROOTS.—To find the origin of affixes in language is difficult enough, but to discover the way in which roots took origin is still harder, and most linguists have despaired to venture anything else but theories on that subject. The fossil called root is so deeply embedded and mixed up with derivative syllables or sounds, or has altered its shape by evolution so entirely that we get from one dilemma into another when launching our brain powers on this slippery field of investigation. The inquiries of the above author are probably approaching the final goal closer than any other book ever did, for he was able to utilize the opinions of so many predecessors and illustrate them with his own wide-reaching linguistic experience for all parts of the terrestrial globe. He establishes three classes of roots—pronominal, interjectional and significative, all of which are produced by *subjective* onomatopœia. Four other classes are indebted for their origin to *objective* onomatopœia. Other divisions of the work treat of vocalic and consonantic apophony, growth and decay of the radical syllable, union of two or more roots and segmentation of them, earliest evolution of language in phonetics, morphology and syntax. The title of the publication is: *de l'origine et de l'évolution première des Racines des langues*. Paris, J. Maisonneuve, 1895, octavo, pp. 174.

ABORIGINAL ART IN ARIZONA AND NEW MEXICO.—The researches concerning the history and ethnography of the *Southwest* of the United States are now pursued as persistently by American scientists as those of other portions of North America, and it is desirable that linguists should also join their efforts in clearing up the problems still awaiting solution there. Mr. F. W. Hodge has published in the *American Anthropologist*, of April, 1895 (eleven pages), the results of his inquiries into "The first discovered city of Cibola," from the old chroniclers, as well as from personal knowledge of the country around Zúñi, where he spent about a year. He finds that the special city of the Cibola country that was first discovered by a white man, the friar Marcos de Niza, was Hawikuh (occupied by the Zúñi Indians long after his time, until about 1670), and not K'iakima, as believed by others. The historical details given after Bandelier and other authors give an especial interest to the article.

"Similarities in culture" may be observed among peoples of regions most distant from each other and which have followed a development entirely independent and *sui generis*. Still certain similarities in art products, poetry, basketry, in the calendar and other sides of human culture are so peculiar that they become a constant puzzle to thoughtful minds. Prof. Otis T. Mason, as a curator of the ethnological portion of the United States National Museum, has had full opportunities to study phenomena of that sort and has classified them systematically in the same number of the *Anthropologist*, giving his impressions and conclusions.

Dr. J. Walter Fewkes was surprised early in the course of his investigations at perceiving similarities between Zúñi and Moqui art and their analogies in the pictorial remnants of the Nahua peoples; we may add of the Maya also. One of his papers relating to this was discussed in a former number of the AMERICAN ANTIQUARIAN, and now lies before us his "A Comparison of Sia and Tusayan Snake Ceremonials" (*American Anthropologist*, April, 1895) and "The Tusayan New Fire Ceremony" (Proceedings of the Boston Society of Natural History, Feb. 9, 1895, Vol. XXVI). The "comparison" was suggested by the publication of an extensive monograph on the Kéra pueblo of the Sia (Cia, Cilla), by Matilda Coxé Stevenson, and published in the Eleventh Annual Report of the Bureau of Ethnology. In spite of many differences in the Sia and Tusayan (Moqui) ceremonials, in essential points they are the same, says Fewkes. The lighting of the "new fire" once every year is a ceremony found with most tribes of the western and eastern hemisphere, and here with the Moqui this art is surrounded with so much detail of a most ancient date that we understand how great and sacred the fiery element appeared to primeval man. Phallic rites are mixed with these ceremonies, which last during eight days in November. During the rites, which are full of interest, occur many allocutions and set speeches, of which Dr. Fewkes may perhaps give us the original Indian text some other time.

During 1894 Dr. Fewkes wrote his treatise on the "Dolls of the Tusayan Indians," in "Schmeltz's Internationales Archiv für Ethnographie," Vol. VII., p. 30, quarto, which is published in Leiden, Holland, by E. J. Brill. The article embodies the material which Fewkes collected in 1891 and 1892 in Walpi, while attached to the Hemenway Archæological Expedition. The figures described are represented on six magnificent plates, in vivid colors, and although they are used by the Moqui children for dolls, they, or the majority of them, are *tihus*, or images, intended to represent mythological figures. Their symbolic nature is expressed by the masks worn by them; some are game animals, some birds, some men with phallic characteristics, while some represent women with rich symbolic appendages.

CHINOOK TEXTS BY FRANZ BOAS is the title of a linguistic collection of Indian myths, with an interlinear and a free translation into English. The dialect represented in them is the Lower Chinook, and the few individuals still surviving who speak this language live at Bay Center, Pacific County, Washington. Only one of these survivors, Charles Cultec, was able to act as interpreter, but he proved to be a true storehouse of information. Eighteen long myths, besides numerous points on beliefs, customs and history, were obtained from him, and his portrait adorns the title-page. The Lower Chinooks and the Clatsop have all adopted the Chehalis language, a dialect of the Salishan family, as a medium of inter-communication. The texts were taken down in 1890 and 1891, and are published as one of the bulletins of the Bureau of American Ethnology, and with the use of the Bureau alphabet. (Pp. 278, octavo.)

THE latest publication on CENTRAL AMERICAN ARCHÆOLOGY is Dr. Philipp J. J. Valentini's treatise on the problem of the Maya hieroglyphics. It is published by the Worcester American Antiquarian Society in its Proceedings of 1895, 4to, pp. 24, and has the title: "Analysis of the pictorial text

inscribed on two Palenque tablets," with a photographic table uniting all the three slabs of the tablet into one plate. The article starts from a careful analysis of the signs, all of which are imitations of natural objects. Many occur in full shape, and also in abbreviated, tachygraphic form. The written symbols are of the latter form, and show on their face the traces of abbreviated, degenerated images, and thereby suggest the pre-existence of a prototype. Their prototypes are detected in sculpture, and represent images of a distinct object—all of which are of a *ritual* nature. The method of recording both symbols on paper and on stone was not alphabetic, syllabic or intermixed, but simply *object* and *picture writing*.

THE SUMO LANGUAGE is spoken in the southeastern parts of Nicaragua, on the Kukra River, and its affluents, and is a dialect of the Woolwa or Ulua, Ulva family. The area of this family or stock is not fully known as to its limits, but in a general way may be said to extend from the Patook River of Honduras to the Blewfields River of Nicaragua and south of it, bordering on the east on the Misquito family. A vocabulary of Sumo has just been published in the May number of the *American Archaeologist* (Columbus, Ohio), taken down from the natives by the explorer and naturalist, J. Crawford B., which embodies nearly 200 terms and clearly proves its affinity to Woolwa. The Sumos are a portion of the Cookras, or Kukra people. A small number of its terms agree with the Misquito language, but none with the Xicaque, a neighboring family of languages in Honduras.

As far as a classification can be attempted at the present epoch, the following dialects make up the Woolva or Ulua stock:

1. Ulua or Woolwa, of Blewfields River, Nicaragua. They are also called Mico, Chontalli (savages), Chontalli proper.
2. Cookra with Sumo, on Kukra River, which runs into Blewfields lagoon.
3. Tumbra, on Tungla River, Nicaragua.
4. Twaka or Toaka, on headwaters of Patook River.
5. Parrasta, near Loviguiska, Dept. Chontales, Nicaragua.
6. Subirana, near Camoapa, Dept. Chontales.
7. Rama or Melchoro, on Rama River.
8. Seco, on Secos and Tinto (or Black) Rivers.
9. Poya or Bulbul of Olama, Honduras, on Tinto and Patook Rivers, in the Poya Mountains.
10. Carcha and Siquia, on the rivers of the same name, tributaries of Blewfields River.

The affinity of the Pantasma, also that of the Coco language, on Coco River, Nicaragua, is still undetermined.

BOGGIANI'S I CADUVEI.—The name Caduvei for a South American tribe sounds almost new to ethnographers, but along the Paraguay River it is used to designate the Mbayá, who are best known by their Tupi name of Guaicurú, or "runners". An artist of Rome, Italy, has in the present year published the results of his investigations and travels among these natives in a large volume, royal octavo, of splendid typographic exterior, and richly illustrated from photographs, under the title: *Guido Boggiani, Viaggi d'un artista nell' America meridionale. I Caduvei* (Mbayá o Guaicurú) con prefazione ed uno studio storico ed etnografico del Dott. G. A. Colini. 112 figure intercalate nel testo ed una carta geografica. Pubblicato col concorso della Società Geografica Italiana di Roma. Roma, Ermanno Loescher

e Co., 1895. Pp. xxii and 339. To do full justice to the contents of this beautiful literary achievement would take several pages of our periodical, so we simply turn the attention of our readers to the book with the remark that the linguistic side of the Guaicurú is made the object of a long, elaborate and circumstantial appendix—vocabularies and grammar as well. (Pp. 249 to 283.)

BOOK REVIEW.

The Story of the Nations or Vedic India. By Zenai de A. Ragozin. Published by G. B. Putnam's Sons, New York. 1895.

The author of this book has a remarkable faculty of making a difficult task easy, a heavy subject light, and bringing out the most abstruse thoughts and themes so as to make them interesting. She calls the Vedic, India, the wonderland of the East, and so it is, for it contains the greatest variety of scenery and climate, the strangest kind of plants and animals and many of the wonderful products of literature and art. Its population is ancient and varied. The Aryan or Indo European race were late to occupy and were preceded by varied aboriginal tribes, among these are the Dravidics, the Santals, and others, classed by this author as among the Turanians, though this term is rejected by many as meaningless. The sources of our knowledge are briefly described. The writings of Sir William Jones, Schleigel and Humboldt, the reports of the Asiatic Society of Bengal the translation of the Sacred Books, are chief. The Vedas are not the fountain head of literature, though they are the oldest books of the Aryan family of nations, and from a collection of (*Samhitra*) the hymns and sacred texts called mantras of that people, 1,028 in number. They are three-fold, the Rig-Veda being the most ancient, the Atharva-Veda being the most modern. The Rig-Veda opens to view a world of "weird, repulsive, darkly scowling demons," such as never sprang from Aryan fancy, a goblin warship, the exact counterpart of that which we find in Turanian Chaldea. The oldest manuscripts do not date back earlier than 1500 A. D., but the process of memorizing began as early as 600 B. C., the time of the making of commentaries coming in with the Christian era.

It is noticable that this author takes the position that the earliest literature and mythology of India was derived from the ancient Accadians of Chaldea—a position that some of the Americanists are inclined to deny. This is significant, for it may be that it was through this channel and the Island of Java that the American myths and art forms were derived.

The Brahmanas mark the transition from Vedic culture to Brahmanic modes of thought and the Upanishads containing the philosophy of the entire period. The laws of Manu and the old stories, or the puranas, are the oldest of the sacred writings. The cycles are contained in these, including (1) the creation, (2) dissolution, (3) the theogony, (4) reigns of patriarchs, (5) the dynasties of kings, thus making a parallel to the sacred scriptures. The Rig-Veda marks the epoch where the ancient gods, representing powers of nature are yielding before the deities of a new heavenly generation which center around Indra the Hindoo national god. The distinction between these different periods, as drawn by the author, is very

suggestive, though there is no attempt to enter the subject in a critical or oracular method.

The ancient gods are Dravidic; the intermediate gods are Aryan, and belong to the proto historic period; the later gods are Brahmanic and are purely historic, the serpent and the nature power pertaining to the first, the worship of Vishnu to the second, and the worship of Indra to the last.

Manual of Geology. By James G. Dana. Published by American Book Company, New York and Chicago. 1893.

The name of Prof. J. G. Dana has been known for many years as that of the leading geologist in America, and his manual of geology has been used as a text book by the most prominent schools and colleges throughout the country. The fourth edition of the book had hardly appeared before the tidings came of the death of its author. The book can, therefore, be regarded as his crowning work and monument. It is a volume of 1,087 pages, illustrated by over 1,575 figures. It is divided into four parts, entitled Physiographic, Structural, Dynamical and Historical Geology. Under the first part we have the topography and general contour, relief and surface forms of the continents, and the geographical distribution of plants and animals. Under the second, the kinds of rocks are described and their constituents, and the formations called stratified and unstratified. Under the third department, the forces which make the rocks; (1) chemical forces, (2) life, (3) atmosphere, (4) water, (5) heat, (6) hypogeic work, underground forces. Historical geology occupies a large proportion of the volume—700 pages. The subdivisions of the history are as follows: (1) Archaean, subdivided into Laurentian and Huronian; (2) Paleozoic, divided into one Cambrian, Lower Silurian, Upper Silurian, Devonian, Carboniferous; (3) Mesozoic, subdivided into Triassic, Jurassic, Cretaceous; (4) Cenozoic, subdivided into Tertiary and Quaternary periods. It is a singular fact that the progress of geological study in America during the lifetime of this distinguished writer has passed from the Archaean rocks through the different periods, but in the last decade has been concentrated on the Tertiary and Quaternary periods; the period just preceding that of the advent of man having been dwelt upon with especial interest, so that the author was able to give in this book a complete history of geology itself.

There is another noticeable feature in Professor Dana's life—his faith was never shaken by his special studies, from the foundations given by the Scriptures, but became more and more established as his knowledge widened and deepened. There is no controversy in the book.

The changes of theory never disturbed his mind, or if they did it is not seen in any of his writings. This is a remarkable fact, for he lived at a time when there were great changes in scientific thought.

The subject of the antiquity of man has agitated geologists and archaeologists alike, but there has been no special controversy recognized or hinted at in his books. Prof. Dana died when the controversy over the two distinct glacial periods was subsiding and when the unity of the period was being subdivided into many successive episodes.

The book merely hints at this ostensible change of base. A face worn by hard study is presented as a portrait on the cover of the volume, its lines sharply drawn, a strong face, but it will be seen no more on earth except in portraits; but like the eternal hills the soul continues and God continues.

What would Prof. Roswell Hitchcock say were he to come back and note the progress of the science to which he gave his energy? It is certainly a noble science and has made wonderful progress. Its giant strides remind us of those of one of the Hindu divinities, which took in the whole earth and claimed it for his own.

Demon Possession. By J. L. Nevius, D. D. Published by Fleming H. Revell Co. New York and Chicago, 1894.

The literature of the occult has an accession in a book written by a minister who was forty years a missionary to the Chinese, but without the usual mystery, for the book is based upon facts.

The author takes the scriptural view that there is a demoniacal possession in ancient and modern times, in India, in China and in christian countries; then he speaks of the different theories, which may be used to account for it, as follows: (1) The development theory, a law inherent in man's nature. (2) Pathological or diseased states of the nervous system. (3) The psychological insanity and hipnotism. (4) The Biblical theory or actual possession by unseen spirits or demons. The historical sketch of demonism is drawn mainly from the bible and the christian fathers, but comes down to the days of Salem witchcraft and to modern spiritualism. It proves that there is a streak of human nature which is constantly presenting itself and always under the same abnormal condition. The subject of demonism, as presented by the Aborigines of America, seems, however, to have accepted the notice of the author. Only eight pages are given to it and not one of them treats of the particular type which is known to ethnologists as a system of native religion. The book is written from a theological standpoint, though the type of psychology, as taught by the new school represented by Dr. William James, of Harvard University, and M. Ribot and others, is referred to at considerable length. The materialistic view seems to be rejected. What purpose the book will serve is now uncertain, though the position that there are actual demons which get possession of men may deter some from trifling with themselves and their fellows. The publishers have put the book into excellent type and is easy to read and is an attractive volume.

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were centres of civilization in other parts of the world, as Peru in South America, and certain points on the Eastern Continent, furnishes no answer to the inquiry, until the cause or reason for this development at the other points is shown. The time has passed when the mere statement that such things have occurred elsewhere and again and again, will suffice as an answer to these inquiries. The investigation of to-day demands a specific reply to the question, "Why is this so?" or a candid confession of inability to solve the mystery. Where the latter concession is made, the subject is open to suggestion and theory so far as these can be based upon legitimate data. There is nothing inconsistent with the true scientific method in this course, if the steps are legitimately taken and the suggestion or theory is merely a reaching out beyond the last determined foothold for other ground.

There must have been a cause, an impetus, which gave rise to the civilization of Mexico and Central America. What was this cause, this impetus? Terrien de Lacouperie* says: "The science of history has now shown, in all known instances, that centres of civilization never arose elsewhere than amid a conflict of races, when sparks, coming from a more enlightened quarter, have brought in an initiating and leading spirit, under the form of one or several men, or of immigrating tribes, incited by trade, religion, or in search of safety. The same science has shown, moreover, that man has always traveled more extensively than was formerly supposed, that there is no such thing as the history of one country."

It is true it may be said there must have been a first center where civilization arose, so to speak, spontaneously, consequently the same thing may occur again and elsewhere. This is doubtless a reasonable supposition, but the writer alluded to refers to the "known instances," to the facts as revealed by history. Therefore if his statement be correct this historical fact should be our guide in discussing the question, rather than a mere supposition, though apparently ever so reasonable.

The civilization of China was for a long time considered unaccountable and was generally supposed to be of indigenous growth. Recent investigations have, however, at last dispelled this view, and brought conviction that this civilization was, in part at least, derived from the more western regions in the basins of the Tigris and Euphrates.

That California was the converging point of numerous ethnic stocks is made evident by the linguistic map of the Bureau of Ethnology. But the spark necessary to kindle the blaze of civilization was wanting, hence naught but the heaps of savage rubbish or the evidence of savage life remain to tell the story of the past.

The region of Southern Mexico and that drained by the Usumacinta was also an area of converging stocks. Here

*West Orig. Chinese Civilization, p. ix.

civilization developed to a wonderful degree as contrasted with the savagery of the rest of North America. If Lacouperie's theory be correct, whence came the spark?

Although it is admitted that the question is one difficult to answer satisfactorily, there are some broad and comprehensive considerations which seem to eliminate some of the supposed factors of the problem and at the same time point out the direction in which we must look for a solution. Two suggestions which have been advanced appear to be gaining acceptance among investigators. One, that the types of the Pacific slope (including Mexico and Central America), when taken as a whole, differ widely from those of the Atlantic slope; the other, that the former have so many resemblances to those of Oceanica and the opposite Pacific coasts, as to suggest the possibility of having received an impress therefrom. If these be conceded, as now appears will most likely be the final conclusion, notwithstanding the numerous blows they are destined to receive, all reference to the eastern side of the continent, for the original germ, will be eliminated.

There are also other general considerations which seem to have a bearing on the question, and a tendency to restrict the line of research. Bancroft asserts that "the tendency of modern research is to prove the great antiquity of the American civilization as well as of the American people; and if either was drawn from a foreign source, it was at a time probably so remote as to antedate any old-world culture now existing, and to prevent any light being thrown on the offspring, by a study of the parent stock." This may be, and probably is true in regard to the origin of the people of America, but there is nothing to prove its truth in regard to the great antiquity of Central America civilization—in fact all the evidence lies in the other scale.

This writer, as do nearly all others of the present day, attribute the remaining evidences of this civilization to the direct ancestors of the people occupying the country in the sixteenth century. That many of the edifices were in use down to the arrival of the Spaniards, though others had been long abandoned, is generally conceded. On the other hand, it is evident from the range of this civilization, and the number of stocks it included in whole or in part, that its development must have taken place after these various stocks had reached substantially their historic seats, and after their differentiation into the known tribes. I venture the assertion, which I do not believe can be successfully controverted, that one thousand years preceding the Spanish conquest is a sufficient allowance of time for the development and progress of this Central American civilization. I do not say it did not reach back to a more distant date, but that this length of time or perhaps even less, is sufficient as a minimum allowance. If the opinions of Fergusson and Wheeler be accepted, the budding and complete development of the architectural art in India embraced

much less time than we have allowed as the minimum in Central America.

Max Muller says: "Any attempt to recognize, in the inhabitants of America, descendants of Jews, Phenicians, Chinese or Celts are for the present simply hopeless, and are in fact outside the pale of real science." This may be true, but it is not a fair statement of the general question. The investigation of the origin of the American aborigines is not necessarily outside the pale of real science any more than is the question of the original home of the Aryans. Science has reached the conclusion that America was peopled from the old world. Such investigations therefore as have for their object the elimination of factors and narrowing the bounds of the discussion are, notwithstanding the assertion of such high authority, clearly within the pale of science. New data are constantly coming to the surface which enable the investigator to correct some error or strengthen some argument.

That the original peopling of the continent lies so far back in the past as to render the comparison of customs, habits, arts, etc., with a view of determining from what particular people they were derived, valueless, is doubtless true. This, however, is but one branch of the general question, but one phase of the subject. Other, possibly many, arrivals at points along the coasts may have occurred during the long series of centuries which have passed since the arrival of the first immigrants. This possibility, or rather strong probability, opens a wide field for legitimate scientific investigation, which is quite distinct from the question of the original peopling or first introduction of population.

In this view of the subject the conclusion that the Pacific types have by some means been impressed on the west coast tribes becomes important, for, as Prof. Dall has well said, these "are not primitive customs, but things which appertain to a point considerably above the lowest scale of development in culture." It is evident therefore, if this conclusion be correct, that this impress must have been received many ages after the first peopling of the continent. Stocks and tribes must have been developed and spread over a large part of the continental area, and those of the Atlantic slope must, if derived from the same original stock, have been separated from those of the Pacific slope. If the existence of these Pacific types be admitted, as will certainly be ultimately the case, this conclusion is inevitable. It proves beyond question the fact of prehistoric contact with peoples of the Pacific islands or eastern Asia. More than that, it proves that the theory, which has been generally, though far from universally, adopted in recent years, that all the steps of culture progress of the natives of America have been indigenous, is untenable.

The object, however, of the present writer, is far more limited in its scope than the broad fields covered by these questions. It relates only to the native civilization of Mexico

and Central Mexico. And is limited to a discussion of the question of probable contact in prehistoric times with Asiatic or Oceanic peoples, by which this civilization was brought about, accelerated or affected.

This civilization, as is well known, was not general in its character, but along certain lines, which is of itself an indication of exotic origin. "The art," says one writer, "in which these people excelled was that of architecture. They were born builders from a remote epoch."

There is nothing therefore in the broad and general view of this civilization, of its era, character, or extent, that militates against the theory that the original spark, the germ, was derived from Malaysia or Southeastern Asia.

In a recent article in one of our periodicals, the writer, after alluding to a paper by Dr. Seler in the *Preussische Jahrbucher*, adds the following remark:

"In singular and sad contrast to these truly scientific views are the efforts of a local school of American students to rehabilitate the time-worn hypotheses of Asiatic and Polynesian influences in the native cultures of our continent. The present leader of this misdirected tendency is Professor O. T. Mason, whose articles in the International Archives of Ethnography, and in the American Anthropologist bearing on this question do the utmost credit to his extensive learning and the skill with which he can bring it to bear in a lost cause. His latest, entitled "Similarities of Culture," (Amer. Anthropol., April, 1895) is so excellent an effort that it is all the more painful to see its true intent is to bolster up a moribund chimera. It is to be hoped that they will not influence younger workers in the field to waste their energies in pursuing these will-o'-the-wisps of science which will only lead them to bootless quests."

This is decidedly refreshing, coming as it does from one who but a short time ago put forth a theory in regard to the peopling of America which does not appear to have a single sound leg to support it. If Prof. Mason's theory is without any probable basis, this will no doubt be made apparent. This method of contrasting the theory of one writer with that of another settles nothing except that the question is a controverted one. Mere dictatorial statements are no longer current coin in science. Prof. Mason's opinion as a scientist in the lines he follows is entitled to as much weight as Dr. Seler's. The facts and arguments presented are the only true tests by which to judge them.

The origin of the American Indians, and also of the native American civilization, are yet unsolved problems which science may legitimately attack on all sides with the hope of possibly clearing the way to a satisfactory solution. Conclusions in regard to the origin of the civilizations of the old continent which were considered settled are being rudely shaken, and in some cases overturned by recent investigations. The new data bearing on these subjects will from time to time be brought into

the study of the unsettled questions, and it is proper they should, as some additional light will be gained, though the problems remain unsolved. I therefore advise the writer not to feel "pained," though he should fail to bridle these investigations; some good will come from them though they be by "American students."

I have not seen the *Preussische Jahrbucher* that contains Dr. Seler's article, yet if permitted to judge by an extract in the "Literary Digest," his reasoning in one instance at least appears to be based on error. According to this extract he says: "The attempts to deduce the beginning of American civilization from foreign sources are all the more curious as nobody tries to prove that Chinese civilization began in Egypt or Indian civilization in Chaldea." Of course no one will contend that the reference is intended to be limited to Egypt, as it is clear the writer merely means to say that no one attempts to derive Chinese civilization from outside, or foreign sources, otherwise the illustration is inapplicable.

Now it so happens that I have before me at this moment a large octavo work, (1894) of some four hundred closely printed pages, by Terrien de Lacouperie, (professor of Indo-Chinese Philology, director of "The Babylonian and Oriental Record," whose works have been laureated on two occasions by the Academy des Inscription at Belles-Lettres), the object of which is to prove the "Western Origin of the Early Chinese Civilization"; the centers of civilization in Southwestern Asia or the basins of the Euphrates and Tigris being the chief sources from which it was drawn. This writer asserts in his introduction that his views have "received the approbation of no less than four scores of scholars of eminence, including some of the leading Sinologists, Assyriologists and Orientalists of the day." In a previous work the same writer produced evidence to show that the Chinese written characters were derived from the archaic cuneiform writing. This he says "has received confirmatory evidences, direct and circumstantial, from all sides, and is now definitely settled." It is certain therefore that Dr. Seler has erred in referring to Chinese civilization as one which no person claims to be of exotic origin.

Fergusson, who is accepted as high authority in regard to architecture, declares in his "History of Architecture" that the Indians learned this art (stone architecture) from the Bactrian Greeks. This, however, is disputed by Mitra and Cunningham, though the latter agrees with Fergusson in believing they derived the art of sculpture from the Greeks.

Before referring to other items of comparison, attention is called to a general consideration relating to the opposite or Asiatic end of the line, which must not be lost sight of in this discussion. We have referred to the calendar formerly in use in Java as presenting strong and remarkable resemblances to that of Central America and as furnishing a justification for the belief in prehistoric contact. As by tracing back the race of

this island to their probable continental home other and earlier phases of their customs, arts, beliefs, etc., may throw additional light on the subject now under discussion, we call attention to the following items:

Notwithstanding the strong Hindu influence in shaping the mythology, architecture, religious belief and language of this people, yet the theory that the Malays are connected with or derived from the Hindus or Indo-Aryan race is by no means universally accepted. The school which suggests an Indo-Chinese origin contains a number of able scholars. This region, as is claimed by A. H. Keane, was the meeting point of the two great Asiatic races, the Caucasian (which he uses as nearly synonymous with the Aryan) and the Mongolian. Although he does not follow Wallace in connecting the Malay with the Mongolian type, he believes "the brown races of Malaysia consist exclusively of these two elements variously intermingled, the Caucasian forming everywhere the substratum." As our only object at present is to justify reference in our comparisons to the customs, beliefs, etc., of this Indo-Chinese region, a further discussion of this point is unnecessary here. However, we quote the following from the writer named, and proceed with our discussion.*

"We have seen that the Caucasian Khmers were the first to reach Farther India, where they may be regarded as the true aborigines, and that the Mongolian, Annamese, Burmese, Siamese, etc., were later intruders from the north and the north-west. Now my contention is that the Caucasians were also the first to reach Malaysia, driven southwards in fact by the pressure of the Mongolians from the north. This is the natural sequence, and this is the condition of things required by the state of the Malaysian languages. The polysyllabic speaking Khmers were everywhere in possession of the field when the monosyllabic speaking Mongolians also reached the Archipelago. But the two linguistic systems are absolutely irreconcilable; hence when settling in the islands, and amalgamating, as we know they did, with Caucasians, the Mongolians were fain to lay aside their peculiar speech, and adopt that of those in possession of the land. Crawford opportunely remarks that 'the Chinese have been settled in great numbers throughout the Archipelago for many centuries, and intermarry with the native inhabitants; yet there are certainly not a dozen words of the Chinese language in Malay, Javanese, or any other native tongue of the Archipelago.' So also with the Siamese, who, though continuous with the Malays at the north frontier of Malacca, 'have not adopted half a dozen words of Malay, and the Malays no Siamese words at all.'

"We find therefore that in Malaysia, as almost everywhere else, the ethnical elements are mixed—Caucasian and Mongo-

*A. H. Keane, "On the Relations of the Indo-Chinese and Inter-Oceanic Races," *Journal Anthropol. Inst. G. B. and Ireland*, Vol. 9, pp. 269-270.

lian—but the linguistic remains, as it always does, unmixed in its structure. We can speak of a pure Malay ethnical family. The latter is everywhere made up of Caucasian and Mongolian elements variously combined; the former, as we shall now see, is substantially Caucasian or Cambojan."

The following from J. Harmand: "Les Races Indo-Chinese," as given in the *Revue d'Ethnographie*,* is so applicable here that we cannot refrain from inserting it.

"It would be important to search out the analogies which may exist between the Cambodgiens and the Kouys on one side, and the populations of the interior of Java on the other side, which have, as is known, left monuments which present, with those of the ancient Cambodge, most striking analogies. According to M. Pierro, director of the botanical garden of Saigon, these Javanese are almost identical in aspect with the Cambodgiens. Is not the one descended from the other? or rather have not the two peoples but one common origin? Would not there be in that a new mode of explaining the evident traces of Malay blood which are found everywhere in Indo-China, save among some families of genuine savages of the great chain?"

This statement by Harmand is valuable in this connection, as it seems to indicate the particular section from whence the Javanese were derived. The fact that in Cambodia monuments are found presenting the features of the pre-Hindu structures of Java, carries back the date of the knowledge of the building art to a time sufficiently distant to cover any expedition which we may suppose to have been stranded on the Mexican or Central American coast, and which gave impetus to the civilization of that section.

Time is, of course, an important factor in the discussion of the theory or supposition presented in this series of articles. If the Maya and Mexican civilization was derived from or largely influenced by the introduction of a foreign element from Malaysia or Southeastern Asia, this introduction must have occurred at a date sufficiently distant in the past to allow time for the development of this civilization so far as it was thus derived. On the other hand the arts, customs, etc., introduced must have been in existence in the section from whence this foreign element came, at the time of its departure therefrom.

It is supposed by more than one author that the peopling of the Polynesian islands by the brown race, or Malays, began at a date not earlier than the beginning of our era. If at the time this dispersion was going on an expedition from the original hive, driven by stress of weather and drifted by the ocean currents, was stranded on the Mexican or Central American coast, all the requirements of the theory are met. On the one side, sufficient time is given for the development of the

*Tom. II, 1888, p. 85.

civilization in Central America, and on the other the date is not carried back of the culture era on the Asiatic side. Moreover, the supposition includes nothing but what is paralleled by numerous examples; and furnishes explanations of facts on the American side with a less stretch of imagination than that which assumes that this civilization was wholly indigenous and local.

In this connection attention is called to some resemblances in architectural monuments which appear to be significant, though I confess that I am not sufficiently versed in the history of architecture to decide to what extent similarities must be carried to render them pertinent in this discussion.

By referring to Raffles' "History of Java" (Edition of 1830), plate 31, we observe the figure of a pyramid so nearly resembling some of those figured by Stephens—as Mayapan, etc.—as to present scarcely the slightest distinguishing characteristic. It is truncated and situated on the most elevated of three successive terraces, and the sides face the cardinal points. It is one of the most ancient structures discovered on the island, and, according to the writer referred to, bears indications of pertaining to a different form of worship than most of the other monuments. It evidently belongs to the pre-Hindu era of the island's history.

Unfortunately the only work I have at hand relating to Cambodia is a short article by Aymonier in the *Journal Asiatique* (April-June, 1883), relating to inscriptions found on the monuments. However, it appears from two or three brief statements that it was the custom there also to place the structures on two, three or more successive terraces. That the same custom prevailed in Central America, especially in Yutacan, is well known. "Having fixed upon a site for a proposed edifice," says Bancroft, "the Maya builder invariably erected an artificial elevation on which it might rest." "Buildings resting on the natural surface of the earth are unknown." "Most of the larger mounds have two or more terrace-platforms on their slope." Three successive terraces are observed in several instances, as at Uxmal and elsewhere.

Another particular in which the structures of the two sections agree is that of forming the ceiling by the "triangular arch," or arch in the form of an inverted V. Compare plates 30 and 33 of Raffles' work with the examples given by Stephens, when it will at once be seen that precisely the same method in this respect was adopted in the two sections. So nearly alike are some of them that an interchange would scarcely introduce an error worth noticing.

Having alluded to Cambodia, I can not refrain from introducing an item of evidence from that country which is of the utmost importance in this discussion, which is in fact a complete reversal of a hitherto supposed insurmountable objection to our theory. The Malays and Hindus, as is well known, use the decimal system in enumeration; while, as is equally well

known, the Mayas use the vigesimal system, counting by twenties instead of by tens. This difference in methods is a serious, though I do not think by any means fatal objection to the theory, for it is not claimed that every item of culture among the Mayas was introduced. An examination, however, of Aymonier's article above mentioned shows that this objection was not well taken. This enterprising explorer and investigator has discovered, by an examination of the various inscriptions of Bakou and Loley, two systems of enumeration. One of these, which appears to be the more recent and generally used, corresponding to the Hindu or decimal system; the other and more ancient being the vigesimal system, and hence similar to the Maya method.

The examples he gives in the original characters make this so clear as to leave no doubt on the point. There are characters for each of the nine digits, for 20 and for 100. The character for 20 is distinct, and not two tens. "The greater part," says Aymonier, speaking of the figures, "have a special form. Moreover, instead of having the value of position, each has only its proper value and must be added to the adjoining figures to give the number indicated. * * * The total of 198 in enumerating is represented by 100, 80, 10, 8. The special form of the figures of tens offer us a trace of the ancient enumeration by twenty and by forty up to one hundred. It is known that the names of the tens used to-day are borrowed from the Siamese language." He then refers to the examples given on the opposite page, in which he separates by a dash the corresponding numbers of the two systems. Of the characters for the digits, "4 to 9 are common to the two systems."

The characters are to be read from left to right. For two twenties the character for 1 is placed over that for 20; for three twenties, that for 2 is placed over it; and for four twenties that for 3. From this it would appear that the upper number indicates the repetitions, the character for 20 being counted as one time. In order to indicate 37, there is first the character for 20, then for 10, and last for 7. The 40 is two twenties; 50 two twenties and ten; 60 three twenties; 80 four twenties; 98 is four twenties, ten and eight; for 384 is three hundreds, four twenties and four. A mingling of the two systems is apparent in some of the examples given by Aymonier, but the evidence of the ancient vigesimal system is too clear and distinct to permit of doubt. This fact, as all must admit, is a strong point in favor of the theory of contact with people from Southeastern Asia.

It is perhaps worthy of notice that the Javan inscriptions were in low-relief, as the Maya are.

Turning again to India, we refer first to an account given by Caleb Wright in his "India and Its Inhabitants" of certain religious penances and sacrifices practiced in certain sections. For example, he states that in some sections it was not unusual for religious devotees to bore the tongue and pass through it a

cord or even a serpent. Now it is well known that a similar custom was followed in Mexico and Central America. This is testified to by Sahagun, Torquemado, Clavigero and Landa. It is also distinctly shown in a figure given by Charnay* from a stone lintel found at Lorillard City.

Wright also mentions a kind of human sacrifice which reminds us strongly of a horrible practice of the Mexican priesthood. He says the Kunds (Khonds) worshiped a goddess called Bhuenec, to whom they offered at certain times human victims. "The victims, who must be in the freshness and bloom of youth, are procured by stealing children from distant villages and rearing them until they become large enough to be acceptable to the goddess. At the time of the sacrifice, the victim is tied to a post; the sacrificer, with an axe in his hand, slowly advances towards him, chanting to the goddess and her train a hymn. As soon as the hymn is finished, with one blow of the axe the chest of the devoted youth is laid open. The sacrificer instantly thrusts in his hand and tears out the heart. Then while the victim is writhing in the agonies of death, the multitude rush upon him, each one tearing out a part of his vitals or cutting off a piece of flesh from the bones; for, according to their superstitions, the pieces have no virtue unless they are secured before life is extinct." Sir John Lubbock† mentions the same sacrifice.

The Mexican custom of offering human sacrifice by opening the breast and tearing out the heart, is too well known to need any proof here. It is true that it has been said that this was a comparatively modern innovation with this people, but there is no satisfactory evidence to sustain this opinion. How far back it reaches is unknown. So it has been said in regard to human sacrifice in India, but a native of that country—Rajandrala Mitra—"Indo-Aryans") has recently shown from the ancient writings that the practice was at least as old as the Vedas.‡ He also substantiates Wright's account given above, at least so far as to mention this sacrifice by the Khonds of Western Orissa to the earth goddess Tari Pennu (as he writes the name). In immediate connection he quotes the following from Prescott's "Conquest of Mexico," where he speaks of sacrifice to Tezcatlipoca: "A year before the intended sacrifice, a captive distinguished for his personal beauty and without a blemish on his body, was selected to represent this deity. Certain tutors took charge of him and instructed him how to perform his new part with becoming grace and dignity." Let the reader compare this with Wright's statement.

Of course I do not allude here to the simple fact that human sacrifice was practiced in the two distant regions, but to the particular method of this sacrifice and the special character of the victim.

*"Ancient Cities of the New World."

†Origin of Civilization, p. 240.

‡I have not seen the reference to this sacrifice, by Reclus, *Mem. de la Doc. d'Anthrop. de Paris*, 1883.

In Mexican mythology the deceitful and crafty Tezcatlipoca in his contests with the mild and gentle Quetzalcoatl at last deceives him into drinking the wine of the maguey plant, by which he is intoxicated, and his downfall accomplished. A precisely similar myth prevailed among the Burmese in regard to their Bhudda, Godama. But in this case Bhudda, who among the Hindus corresponds more nearly to the Mexican Quetzalcoatl, is the deceiver. The myth, as recorded by Father Sangermano and Francis Buchanan,* is as follows. It is necessary, first, however, to premise that among the Burmese their ancient deities or beneficent geni were called Nats or Nat. "Godama, who was then called Maga (or Maja) began to contrive how he might drive these Nat from their ancient possessions. He and his companions accordingly pretended to have drunk wine, but what they drank was not true wine. The former Nat, Tavateinza, imitating the example of these men, drank real wine and became intoxicated. Then Maga, making a signal to his companions, they dragged the Nat, while insensible with wine, by the heels, and cast them out of the abode Tavateinza. But as the lot, acquired by the merit of the good actions of these Nat was not expired, a habitation formed itself for them between the feet of Mienmo (a certain mythical mountain); and this habitation is called Assurabon, which in everything except its sacred tree, resembles that called Tava-teinza."

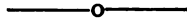
According to Lacouperie, a state sacrifice (human) was held in early times in one part of China every year at the vernal equinox for the renewal of fire. All fires had to be extinguished for three days previously and food taken cold. The management of these fires was placed in the hands of a "Director of Fire."

The Mexican festival of the renewal of fire, with accompanying human sacrifice, held at the close of each cycle of fifty-two years, is well known. As the day drew near the people cast their household gods of wood and stone into the water, and also the hearthstones used for bruising pepper. They washed thoroughly their houses and put out all fires. The stars were carefully watched to note the hour of midnight, at which moment the last year of the cycle having closed, the priests renewed the fire and immediately the sacrifice took place. Special priests were selected as the chief actors in this ceremony.

If Mrs. Nuttall be correct in her theory that the Mexican year began at the vernal equinox, then we find here additional resemblances in the ceremonies mentioned. In both cases all fires were extinguished before the final day; there is a renewal of fire; human victims are offered in sacrifice; special officers are appointed; the time is the vernal equinox; and the moment, midnight. Although it does not appear to have always been

* The Burmese Empire, p. 18; Asiatic Researches, Vol. VIII, p. 211.

the custom in China to begin the day at midnight, it is expressly stated to have been the method at the time referred to. It is true we here refer to China, but it is possible the same custom may have been carried to Farther India in those early days. According to Lacouperie the Chinese year, at the time mentioned, commenced as above stated, with the vernal equinox, but the beginning of the calendar was the winter solstice.



THE SOIL WHICH MADE THE EARTH.

A LEGEND FROM THE NORTHWEST COAST.

BY GARDNER C. TEALL.

There is, perhaps, no people whose legendary lore is as extensive or more interesting than that of the Indians of the North West Coast of America. The extent of detail and the minute descriptions they employ excite the wonder and admiration of the listener.

Every phenomenon of nature is accounted for by these Indians with an ingenuity that reminds one of some of the clever animal stories by Mr. Rudyard Kipling. In their tales these people give to the animal, human attributes. They are made to think, reason, speak and to act like men, and it is quite natural that it should be pictured thus, for the Coast Indian believes himself to be descended from some animal or even plant, (you see their idea of evolution is cousin to that of Darwin) and so he makes his supposed ancestors converse and act as he himself would. The following is one of the earliest of these Indian myths.

Hundreds and hundreds of years ago, right after this earth was created, there lived in the world but one man. How he came no one is quite sure, but it is believed that he dropped down from *Kee-wuck-cow*, Paradise, because, when the *Cow-gan*, wood-mouse, asked, *Keesis tout ah ejin?* or "where do you come from?" the man pointed up to where *Choot*, the eagle, was soaring. This man seemed to acquire a great power over all the animals then living. They also liked him, for he treated them kindly, sharing his food, that they might not go hungry, and in other ways showing his goodness. These animals would do anything for him, and one day with the help of some of the stronger ones, and the cliff-birds, he hollowed out a rock to serve as his canoe. The paddles of this remarkable canoe were likewise of stone, for no wood was to be had, in fact no plants existed then for everything was stone and water and there was no soil in the land. One day this man went salmon fishing. His hooks were fashioned from flints and bone and secured by strips of hide, used also as line. The fish were able

to see it at a great distance. The man used shreds of the tough white octopus flesh for bait. He was out a great while, but there seemed to be so few fish at that depth that he greatly lengthened his line and let it all out. What was his surprise upon pulling the line in, to find that the bait had turned a very dark color. He immediately knew that the hook must have reached bottom and also knew that the bait must have touched soil of some kind. How he knew that is a mystery, but he did, for this man knew everything. He paddled to shore quickly, and speedily summoned all the water birds and animals before him. Said he: "I know where there is some sand to be found. Now which of you will go down to the bottom of the sea and get some for me?"

"I," said the Grebe.

"Let me," said the Goose.

"No," said the Duck, "I can do it best."

"Well," said the man, "you shall all have a trial."

The beaver and the mink were afraid to venture out too far, and so the other animals said they would remain and keep them company while the birds went out with the man in his stone canoe. The sea was so calm that the man did not anchor. "Well," said he to the puffin, "try your luck." So down dipped the puffin, but came back with nothing but a pebble. Then the goose tried it, but with no better success, for he said he got very dizzy when he went so deep. The duck was more successful, but unfortunately he swallowed the sand that he carried in his mouth. And so with them all, until the man became quite discouraged. "If I may, I should like to try" said the loon—they had forgotten all about him, so down *he* dived. The loon was gone so long that they thought him drowned, the more so when they saw him come to the surface feet uppermost. But no, he soon keeled over, flopped into the canoe, and dropped some sand which he had clutched in his feet, into the bottom. Great was the man's joy and he rewarded the loon handsomely, taking him to live with him. The friendship between them became so strong that when the man died, the loon went off alone, and to this day has not ceased to mourn for him. Well, to go back to the man in the canoe, he took the sand thus procured and went ashore with it, sprinkling the rocks with the precious material, and in a surprisingly short time it multiplied, and after a few years it nearly covered the land. From the sea-weeds that were washed upon the shore were gathered the seeds and these dropped by the other birds on the soil grew up under these different surroundings, into these various forms of plant life. All this is as it was told to me.

THE MOQUI SNAKE DANCE.

BY RUPERT H. BAXTER.

[WRITTEN IN 1893.]

The snake order in an Indian tribe is the most exclusive and respected, and the priests of this order are regarded by their fellows as men holding their very destiny in their grasp. Among the Moquis of Arizona this snake order is highly developed, and the ceremonies, handed down to them from their ancestors long since departed for the happy hunting grounds, are today followed as reverently as they were 250 years ago when the simple natives gave up the meaningless religion of the white man from the sunny shores of Spain, and returned to their own early idol worship.

During the week previous to the public ceremony of the Moqui snake dance, the native priests start out in the early morning to collect the snakes. Upon reaching the plains, they stretch out in a large circle, each man being assigned a territory. Meeting a snake the Indian will address him in a familiar way, and reciting a prayer, endeavor to gather him in. If the snake shows fight, the Indian simply waves a few feathers before his eyes and after a moment the charm works, the snake thereupon being peaceably secured. On the night before the ceremony all the snakes are washed, and the priests then bathe their own faces and wash their hair in the sacred water. I have already described the kiva in which these preliminary ceremonies of the snake dance are held, and I now come to the great public ceremony which I witnessed in the villages of Cunopovi and Cipaulovi on the Moqui mesas. In this dance two orders take part, the antelope and the snake. On the first devolves the task of furnishing the prayer songs of the dancers.

Twelve men and two small boys, their chins painted black and white and their heads decorated with a single red feather, come up from their underground temple of worship, and a weird rattle and clanking sound announces to the assembled multitude that the great Moqui snake dance is begun. An old man heads the fantastic procession bearing a bowl in one hand, in the other he grasps tightly a bunch of turkey feathers, or a ti-poni, as they call it. The dusky natives following carry rattles and dishes of water, and as they approach an altar of saplings arranged in the open court they form a large circle and halt. Continuing their march the circle grows smaller and smaller until finally the men are massed together. Then begins the prayer song, at first weird and faint, then loud and harsh. They are now praying to the rain god, and beseeching

the snake deities, who are always supposed to have their eyes open, to hear their fervent supplication. This prayer is a signal to the warrior snake dancers, who file into the court with stately tread and face the singers. Now the song changes, and the war chants have begun. As the song becomes louder both groups of Indians shuffle back and forth till their utterances reach the height of frenzy. A shiver runs through me as I look upon the crazy throng and for the first time realize that I am the only living white man among them. An Indian steps up to me and utters a word. I simply say "ne Stiel ik watci," I am a friend of Mr. Stephen. These words have a potent effect and I am regarded as a friend.

Now the dancers moderate their tones and their shuffle becomes monotonous. The high priest speaks a word and the dusky warriors quickly divide themselves into groups of three, a dancer, a helper and a gatherer. An old weatherbeaten warrior stands near the altar and as the newly formed groups begin to move puts his hand into the bunch of saplings and draws forth a living, hissing snake. The dancer grasps it in his hands and—horrors!—carries the slimy, loathsome reptile to his mouth, holding the body two thirds above the tail with his teeth. Recoiling from the sight, I hurriedly scrambled up a ladder, and from the housetops looked down upon the scene every moment becoming more hideous. Pen can not depict the sight. Each dancer is supplied with a rattle, and as they circle about and their teeth become tired, the snakes drop to the ground only to gather into coils and hiss, striking out with the rapidity of lightning. Here the assistants come into service, for it is their duty to pacify the now thoroughly maddened snakes and fondle them in their arms for safe keeping. With the most extreme nonchalance they perform the delicate task. A snake escapes the vigilant eye of the gatherer, crawls off towards the women bearing the sacred meal and immediately produces a panic. Confusion reigns supreme, and it is only when the reptile is safely secured by the doting priests that the terror subsides.

Finally each snake has been danced with, and the gatherers have them twined about their naked waists and necks, the rattlers being more carefully guarded. The sun is fast reaching the horizon and casts a ruddy glow over the entire scene. Just as it passes out of sight, the Indians with a blood curdling yell quickly mark off a circle on the ground with meal and throw in the snakes. Such a wriggling, hissing mass of flesh I never saw, and my blood turned cold as I watched the men thrust their naked arms into the heap and drag out as many snakes as their hands would hold, rushing with them out of the village down to the plains below, there to set them free. The dance was one of the most interesting ceremonies I ever witnessed, but one in which I should not care to participate.

Directly following the ceremony the dancers drink long draughts of a root-extract specially prepared and blessed for

the occasion. This liquor produces the most violent forms of nausea, and is said to prevent any of those poisoned by the snakes from suffering ill effects. I have it on the best authority that the fangs of the snakes are not tampered with, nor are the snakes themselves drugged.

Just before the snake dance at Cipaulovi I strolled down into the antelope kiva to attend final prayers, and before holding them the natives crowded about me, importuning me to decorate their bodies preparatory to the dance. This I did, much to the amusement of my friend, Mr. Stephen, who saw my works of art in their final stages. While I was playing the role of artist my attention was attracted by a most mournful howl from a corner of the kiva. Looking towards a dark crevice in the wall, I saw a friend of mine, an old chief, was suffering from something terrible I was convinced. By signs and groans, I finally understood that the old fellow had managed in some way to get a splinter in his foot. Whipping out my knife I removed the offending thorn and for the first time in my life acted as surgeon to the highest potentate of the Moquis of Arizona. At this point a plaque of blue bread or piki, and a bowl of parboiled beans were lowered down from above. The Indians invited me by signs to share their meal, and despite my fervent protestations of "just had dinner, thank you," they seemed to resent my hesitation to eat with them. I saw that there was nothing for me to do but to go in for it. A big lump did come up in my throat, I will confess, as I saw the beggars blow dirty water upon their hands, Chinese fashion, preparatory to the feast. I selected a corner of the bowl, and keeping my eye upon it, unceremoniously dipped in. Before the natives were aware of it I had made a deep furrow in the bowl. They hurried to catch up with me, but as soon as their hands came too near my corner, I declared the race off and insisted that my hunger had been abundantly satisfied, leaving them to enjoy the remainder of their repast alone. The beans and piki were very good despite the surroundings, but when living among native people these must always be ignored.

The day after the dance at Cipaulovi, Mr. Stephen and I walked across the plains to Walpi and Tewa, where I remained over Sunday. The next morning bright and early Joshua brought my horse to the door of our cabin, and with a "God bless you, my boy, God bless you" from my dear old friend, Mr. Stephen, I hurried down the mesa and up the canon to the ranch of Mr. Thomas V. Keam. The days passed in this secluded spot waiting for the stage to carry me to Holbrook, were very pleasant ones and long to be remembered. One week later I was speeding across the continent, and my summer's work for the Ethnological department of the Columbian Exposition was completed.

A LITTLE KNOWN CIVILIZATION.*

BY JAMES DEANS.

By "civilization" I mean the advance which any people has made from a primitive low estate to one of considerable refinement and intelligence. The subject of this paper is not the civilization of the lost Atlantis, nor that of the Mayas, the Incas, the Toltecs, the Aztecs, nor of any nation of Central or South America; nor that of the Mound-builders and others of North America. Neither is it on those civilizations in other parts of the world, the theme of many an ancient story. Mine is not a treatise on the conquests of Alexander, of Philip, of Cæsar, the Saracens, nor of others of by-gone or modern times, nor do I mean the kingdoms of whom a poet has said:

"Sometimes a little kingdom stretches out,
And elbows all the kingdoms round about;
Crushed by its own unwieldy weight
It rushes onward to its fate.
Thus, headlong down the stream of time it goes,
And sinks in moments, what in ages rose."

It is on a civilization at our own doors, in this province and in Southern Alaska—the civilization of the Haidas, or as they pronounce their name Hidery, the signification of the name being People. This civilization in various forms spread over the greater part of British Columbia and part of the adjoining State of Washington, and all Southern Alaska. Its greatest development, in one form, was amongst the Quackuts on this island and on the mainland adjoining. In another and more extensive form it was found along the Rivers Naas and Skeena, amongst the Simskeans and numerous other tribes on the mainland and isles adjoining; on the Queen Charlotte group and on the southern isles of Alaska. Although some writers classify all of these tribes as Haida, I shall treat only of the various tribes who call themselves by the name of Haida, or rather Hidery, because among them this civilization was best developed. Having spent many years amongst these people (that is the Queen Charlotte Hidery), I know them best, and shall to the best of my ability explain the unique hieroglyphics on their *gargings*, that is their totem poles and houses.

While giving readings of such difficult matter as are these ancient picture writings, I do not say they are perfect. A description of their clans and crests is but a history of these people and their civilization. There are, as part of their social

*Read before the British Columbia Natural History Society.

usages, three sorts of crests. 1, the clan crest; 2, the sex crest; 3, the individual crest. The first two are called by the Hidery ton; for example, the Kimquestan ton is the frog's crest; the Choo-itza ton is the wolf's crest; the Chootsa ton is the bear's crest. The first of them is a distinguishing mark or coat of arms, inherited and acquired. The sex crest is one inherited from the mother which controlled the system of marriages. For example, a man or woman was not allowed to take a wife or husband from the same crest. If the one belonged to the raven phratry the other had to belong to the eagles. The third was not in reality a crest, it is a totem. Among the Indians of North America the totem is an animal, a bird or a fish, and is regarded as the protector of tribes and individuals. The above-mentioned clans or crests were in two great divisions called phratrics or brotherhoods. These two phratrics had their representatives in the raven and eagle. In some villages the raven was the highest, in others the eagle. Each of these phratrics was divided into clans or crests, which were likewise represented by a certain object.

The crests belonging to the raven were eleven. Their English names I give first, then the Hidery. First comes the wolf, "chooitza" the bear, "choots"; the scannah or killer whale, "the skate-fetra"; the mountain goat, "mut"; the sea lion, "the chee-mouse"; a river, "snag"; the moon, "kung"; the sun, "troore"; the rainbow, named "coot-coo-towell-coh-coot-coo," meaning the roadway of the angels; and lastly, the thunder bird, "scamsum".

The eagle phratry had fourteen crests or clans, namely, the eagle, "choot"; the raven, "cho-e-ah"; the frog, "kimquestan"; the beaver, "sing"; the moon, "kung"; the shark, "san cuchuda" or dogfish mother; the duck, "ha ha"; the codfish, the wasco, an extinct land and water animal resembling an alligator; the whale, "boon"; the owl, "coot-quee-ness"; the dogfish, "cachada"; the sculpin, "bahie"; the dragon-fly, "chicka".

These were the crests or coats of arms for the clans, and as soon as a youth or maiden had the means to pay for it, they had themselves tattooed with all the crests belonging to their phratry—the boys on their breasts, arms and legs, the girls on their arms and legs. By doing so they not only raised higher but got a better name. They were also by these means initiated into other privileges in unison with the social usages of their nation or people.

As I said before, a man or woman could take a wife or husband from any phratry but their own, or in other words a man was allowed to take a wife from any crest belonging to the eagle phratry, provided he himself was of the ravens, and so forth through all the others.

All the people belonging to one phratry were considered as related and consequently lived together in one of those large houses which were often seen in a village. There were a number of very good points in this civilization; for instance, when

any person had the misfortune to be taken a prisoner of war and was conveyed to a village belonging to hostile parties, what he had to do on landing was to look along the village for a crest showing his own clan. If he found one, all he had to do was to tell his captors, "I belong to such a crest or clan; let me go to such a house." They would give him his liberty, saying "go; you are safe." Although the two tribes were still at war, as long as he chose to live there he was safe. If he or she wished to go home they had a safe conduct to the boundary of their own country. If any one were hungry or sick or blind in a strange village, or old and infirm at home, without relations, those of their crest had to take care of them, and if they died they had to dispose of the body in the dead house belonging to the same crest.

If a party from a distant village went to another, on arrival they divided, each one taking his or her abode in the house which showed their several crests; while there they were entertained free of charge, and those not belonging to it were expected to pay or, at least, make a few presents. From long-forgotten ages down to within a few years past, every one who could afford to keep them had a number of slaves obtained by purchase from other tribes or taken as prisoners of war. When a chief or slaveowner died his slaves were killed in order that they might be useful to their dead owners in the other life. Moreover, when a house was being built a slave was killed and his or her body placed on the bottom of the hole in which the *guyring* or main carved column was to stand, its lower end being placed on the body. If a slave had been killed for that purpose an image of a man or woman, as the case might be, was carved with their head down, on the lower part of the column, showing what had been done. I have never yet known nor heard of the Hidery killing slaves for that purpose. Being always on the make, to the Hidery one living slave was worth forty dead ones. So they quietly sold a slave to another tribe. Of course they had to place an image, with the head down, all the same as if one had been killed and the body placed underneath.

Every man was expected to build a house during his lifetime, more especially when he took to himself a wife. With the house he had to raise his column on the front, showing the social standing of himself and wife, the wife's crest being generally placed on the top of the post, while his own was placed on the bottom. Every house when finished got a name, either connected with the house or the people living in it or some event happening while in course of erection. For instance, the house of the owls, "nah coot quinees," owl house; the people living in it were owl house people—too quinees Hidery—so named because they belonged to the coot-quinees ton or owl crest. A house through which the wind sounded was named "neh querga-heegan." That is, wind sounding house. A house in which were a lot of boxes or had a box for its door step was

named "cotta nass," box house. "Cotta" (box), and ("nass"), house of, i. e., house of the boxes. Such names as "nah blee-has," new house; "nah youans," large house; "loah heeldans," house of the shaking or earthquake, because while building it there happened a severe one. The house in which the rainbow clan lived was named rainbow house, and the people rainbow people—"coot-coo-towlh-cah-coot-coo hidery." One house in Skidegate was named "seen-ah-coot-kai-nai," house of contentment. One man built a house and looking over the house when finished said, "I have a regular thunder and lightning house." So he named it "now gah-declans." "Now-gah" (house best), "declans" (thunder and lightning.) Often a figure on top of the house showed its name. For example, a raven on top of a house gave the name "chooacah-nass," the ravens' house, because all the people living in it were of the raven clan or ton, as the Hidery call it.

Before I take up the subject of crests I shall begin with the two phratries, the raven and the eagle. The eagle I shall take first. Not far from the last end of Skidegate town, Queen Charlotte Islands, formerly stood a house named "choot nass," Eagle's house, because all the people who lived in it belonged to the eagle clan. The eagle, commonly chosen as their representative or coat of arms, is a bird very common on those islands—the bald, or white-headed variety. I had a model of this house made and sent to the World's Fair. It always drew a great amount of attention, not only for its elaborate carvings but for the stories connected with it. I shall now give a reading of its picture writings, including the story of the eagles.

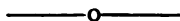
On the projecting ends of the roof beams, six in number were six bears; on top of the two front corner-posts were as many eagles. The bears showed the crest of the husband, and the eagles that of his wife, and at the same time gave the name of the house to be "Choot nass," the eagle's house. The figures on the post—on the totem post—were seven figures, namely, a man, a brown bear, a young bear. These show that the man who built this house belonged to the bear clan, and the young bear that he had a son. This part belongs to the husband alone. The next part belongs entirely to the wife. The fourth figure was a dog-fish with a woman's head. This woman had several names; first, Hath-lingzo, or bright sunshine; and second, "Callcah jude," or woman of the ice; and the third was "Ittal-cah-jud," or typical woman of the Hidery. In this paper I can only tell the story of the eagles; were I to tell the story of the bears and of the woman it would be too long, so I must leave them to another time. This much I shall say, that the woman got the name of woman of the ice because in by-gone ages, Haida tradition says, when the people fled before the encroachment of the ice she was the leader of the Hidery people to a country further south. In all the Hidery carriages she is represented as having a large labret or lip piece. In by-gone days every Hidery woman's ambition was to be like her.

The third figure is the king of the eagles, and the first one connected with the wife's crest and story. The sixth figure is the "Atiseek" mentioned in the story. The seventh and last figure is the eagles. The scene of the story is laid in the south of Queen Charlotte's islands, in Skiddanses country, and is as follows:

Long ago a king lived in Captain Skiddanse's country who had a sister. She and her family lived with him and kept his house. How many of a family she had tradition does not say; one boy, the hero of our story, being mentioned in particular. This boy in some manner displeased his uncle, who turned him out of doors. Having no home nor anywhere to go, he wandered about aimlessly. One day three women overtook him, one of them being ahead of the other two. The one to find him was a princess, her father being king of the eagles. Having heard his story and being a nice-looking boy, she asked him to come with her and she would introduce him to her father. This invitation he gladly accepted. She led him into the timber. They came to a town up on a tree. It was a town of the eagles. A large number of them were flying about; they lived in this town. After a while she presented him to her father, saying, "Father, I have found a nice husband." The old king was highly pleased to think he had such a nice looking son-in-law. This boy, as I shall call him, soon became a great favorite with the old king by studying his ways and likings, as well as attending to his every expressed want. One day the old king said: I very much want a piece of whale fish for dinner. The words were hardly spoken when the boy was dressed in a suit of the old king's wings and flew off, returning before evening with a piece. Thus prepared, he had flown over the sea until he had found a lot of whales. Out of one he cut a piece and started for home. This very much pleased the old king and led him to like the boy more than ever. Being able to fly pleased the boy so much that he was always on the wing. After a while he badly wanted to have a dress of his own, so in order to obtain his wish he and his wife spoke to the old king, who went to a box from which he took feathers enough to make the boy a full-fledged eagle.

Again, another day, the old man asked him to get him some more whale meat when he returned. This time he flew further than he usually did, going to where the sea was full of whales in every direction. Among so many he was able to catch one, which he presently took home and gave to the old king. This led the old king to like the boy more than before. After this the boy spent whole days flying about, returning only late at night. Noting his fondness for spending his time amongst the whales, the old king told him to be careful and shun every appearance of danger, and, above all, to be on the outlook for "Ah-seek." If he saw it floating about on the water he was not to trouble it by any means, because it would do him a deal of harm if he were not careful.

For a long time he profited by the old king's advice, until one day he saw a strange looking object floating about. In order to see what it was he took hold of it. Instantly it took hold of his hand, and pulled him down and kept him under the water. While held down by "Ah-seek," for such it was, he managed to always have one hand or arm held above water. When the boy did not return, all the other eagles went to search for him. After flying about for a long time over the water they all, one by one, came to where "Ah-seek" lived. The first one took hold of the boy's arm and tried to pull him out. As soon as he touched the boy's hand he, too, went under, his arm being also held up. Thus every one in turn went under, the arm of the last one being held above water. Seeing that neither the boy nor the eagles returned, the mother eagle, fearing "Ah-seek," went to look for the lost ones. When she came to where he lived, and saw the upheld arm of the last eagle, she knew at once what had become of them all. Now, "Ah-seek" having no power over the old lady, she took hold of the upheld arm and pulled them out one by one, hand over fist, until they were all out. When she had them all out she passed her hand over them all and restored them to their first estate, saying, "What are you doing here? Go home." So they altogether flew home a happy lot.



A MAP OF ILLINOIS IN 1680.

BY HIRAM W. BECKWITH.

In Illinois, south from the mouth of Wood River to that of the Kaskaskia, is a vast alluvial bottom, some eighty miles long by a width that varies from three to seven miles. It is lined on the west with narrow forest belts, or patches of rank willows, that fringe the Mississippi, and is flanked toward the east with a range of bluffs that either raise their steep walls of rock boldly out to the plain, as at the ancient village of Prairie du Rocher [Rock Prairie], or tone down to the rounded cones that deck the foothills east of St. Louis. Within the writings of men this bottom has been a nearly level prairie, varied with little lakes, bayous, ponds, creeks meandering from the table land, and groves that formerly stood out like islands in the sea of tall waving grasses.

Accreted by the "big river" in unknown ages this valley, in extent, fertility, and other striking features, only finds its like in places along the River Nile. And if the latter have their pyramids and catacombs so this one of the Mississippi has, across the river from St. Louis, its great terraced earthwork towering amid a group of lesser and rounded ones, while the "bluffs" named are as so many miles of "an immense cemetery." Any of their numberless "cones" can hardly be dug

into without unearthing human remains, or the more lasting trinkets, utensils, or implements of shell, pottery clays, or stone buried with them.

The main one of this cluster on Cahokia Creek is ninety-nine feet high. Its base covers sixteen acres of land. And if made all in all by men, as every re-survey goes to show, it is the largest mass of the kind in the world. The map below shows its position with reference to its fellows. And it may be said here that in treating of this prehistoric people in Illinois they are not to be severed from their race on the St. Louis or Missouri side of the river. The figures shown in the cuts represent mounds and tumuli, which were common on either border of the Mississippi.*

Above Peoria on conspicuous points of the high bluffs, between which Black Partridge Creek flows from the east into the upper end of the present two Peoria lakes, the writer here was shown several mounds, supposed from their relative positions to have been used in ancient times as places for beacon fires to signal news or alarms up and down the lakes. Below them a few miles each of two neighbor valleys has a mound looking like an immense grain stack in an open, level field. They deserve more careful notice.

The first or upper one is a short way below Spring Bay, and although washed by the elements and worn away by the plow it was forty-five yards in circuit and twenty odd feet high more than half a century ago. Prior to that time it had been opened and human remains had been found under its base. The writer has made several trips in the last ten years or more from opposite Peoria to Black Partridge Creek for a special purpose. With the original accounts and later French maps, not until of late accessible, in hand, he has carefully studied the topography of the lakelets and river links, valleys and bluffs over that distance, with a single reference to the three minute descriptions of them and their connecting incidents as given by Sieur de La Salle himself and Father Louis Hennepin respectively, who was with him at the time. And with due allowance for the changes that time has made in these lakes and connecting channels, apparent everywhere in their proximity, enough still remains there, with that seen above and below it, to fairly identify the Spring Bay Mound as the little "mound" (small eminence) whereon La Salle, in the first months of 1680, built his fort of the "Broken Heart" (*Creve-cœur*).

The similar mound on the valley below it, from early de-

*The view of the great mound, the map of its position with respect to its surroundings, and the plate showing the "finds" that go with its class of structures appear in a late history of Madison County, Ill., of W. R. Brink of Edwardsville, to illustrate a very able paper of Prof. William McAdams of Alton on "The Antiquities" of that county. All along the valley of the Illinois River are other mounds, and, while of lesser note, prove the former presence of a by-gone people. Some of their works below Peoria have been explored with very fruitful results by John F. Snyder, M. D., now of Virginia, Cass County, a native, and of a noted early Illinois family, whose printed reports on such "finds" in Missouri as well as in Illinois, and contributions on archæology are so much well arranged material as to form a valued part of any collection on those and kindred subjects.

scriptions of that locality, and the French as well as Indian remains found near by, marks the probable village site of the Illinois-Kaskaskia Mission as a stage on its progress down the river. Both this last and the Spring Bay mound were described by Henry Joutel, there in September, 1687, leading the survivors of La Salle's fatal journey in Texas on their mournful way to Canada. And because of the presence of these mounds, Joutel says "the voyagers and men of the country (of that day) named" the adjacent river passway "The Canal of the Two Mammals" (*des deux Mammells*), after their laudable habit of fixing the identity of places on the routes of their journeys with descriptive names.

Joutel's forlorn hope found a good canoe navigation where is now only the plain visible marks of an ancient channel. Passing on up two miles or so above the mouth of the Vermillion [of the Illinois River] they reached their assassinated commander's Fort St. Louis, their long and wearily sought goal, then crowning a rocky and precipitous height on the south bank of the main river.

: A sketch of "Le Rocher" ["The Rock"], now better known as "Starved Rock," was taken by the scientist, Henry R. Schoolcraft, in August, 1821, "from a position across the river and directly in front." At the time and for years after it had not been identified, but it is the site of the oldest military defense of Europeans in all the Mississippi Valley, especially if we except LaSalle's "Fort Creve-Cœur," made to fortify his party for the winter. So, speaking of it, Mr. Schoolcraft says, "On gaining the summit, which is level, and of about three-fourths of an acre, we found a regular entrenchment, corresponding to the edge of the precipice, and within this, other excavations, which, from the thick growth of trees and brush, could not be satisfactorily examined. The labor of many hands was manifest, as well as a degree of industry that the Indians do not usually bestow on defensive works."

Schoolcraft's description will not apply to the other primitive structures of this region, nor was it written with the intent to identify the Fort, but merely to introduce a natural feature which attracted his attention in going up the river.

Still northward and on above the mouth of the Desplaines, the original river "Che-ka-gou" of early French mention, is another mound, more of an elliptic in outline and nearly as large at base as the great one of Cahokia. It first appears in history on a hand map, in colors, made in 1674 by Louis Joliet, showing, among other new geographical features, his and Father James Marquette's voyage on the Mississippi and return by the Illinois River the year before. This French native of Quebec, before then an extensive explorer in other parts of New France, without comment, for he was a modest and most worthy man, sketches in the mound and under it writes the words "Mont Joliet." A quarter of a century later it is described by the Rev. John F. Buisson, known best as De

St. Cosme, a missionary priest, as he styles himself, who was there, in November, 1679, going from Canada to teach the Natchez, sun worshipers of the Lower Mississippi, the ways of Christianity. He spells the name "Monjolly," which is very nearly as the French would pronounce Mount Joliet [Mon-Jo-li-e], treating it as a compound word.

He says: "It is a mound of earth on the prairie, on the right [of the Desplaines] as you go down, slightly elevated about thirty [it is nearer sixty] feet high. The Indians say at the time of a great deluge one of their ancestors escaped and that this little mountain was his canoe [ark] which he turned over here," referring to a common tradition, though changed to suit the locality among many aboriginal tribes, about the flood, the form of the mound suggesting the location of the story.

The picture of Mount Joliet was also made by Mr. Schoolcraft a few days later than the other by him, who, in company with Lewis Cass, Gen. Solomon Sibley, United States Indian Commissioners, with their retinue, were then coming on to Chicago, there to treat with the Ottawa, Chippewa, and Pottowatomie Indians for the purchase from them of a large section of country in Northern Indiana and Southern Michigan. Thus has a mere incident of an ulterior purpose saved a view of this historic mound and its outlook in natural form, before the one was defaced by the canal and railroad at either base and the other hedged in and changed by fields, houses, roads, or orchards. For at that time, 1821, as Mr. Schoolcraft well says, there was not a white inhabitant between Fort Clark (now Peoria) and Chicago." He computed the height of this mound at sixty feet, its narrower width at "seventy-five yards," the greater length twice that distance, with "a top perfectly level," and adding that "few would pass without giving an hour to examine it, nor leave without a conviction that it is a work of human hands."

Its origin is, or has been a subject of quite the opposite opinion, while the better judgment is that it is the result of both art and the elements. "Except where used as burial places by the Indians known to the Europeans these and the like remains in all the Central Mississippi Valley are the works of an ancient and numerous people of whom research so far offers little else than conjecture. They left no written records, no tablets on metals, stones, or walls, as in Egypt or other parts of the older world, and it is only from a study of their earthworks, utensils, trinkets, stone implements, or ornaments of the like, and a careful comparing of them with those found in other and distant sections of our continent that these nameless inhabitants of the Illinois and their race in Missouri, Indiana, Wisconsin, Michigan and Ohio may be traced into the broader light of history."

And in this connection it is notable that the early French religious men, learned as they were and well versed in botany, natural history, and ethnography of their day as they all were, and close observers withal, as their pastoral and social letters prove, were, with few exceptions, singularly silent as to these earth monuments along their pathways and often near the very door of their missions. Likely it is that, learning enough from the living natives to assign such works to a race of sun worshipers, who being long before dead or gone away, the good fathers thought no mention need be made of the remains of their idolatry.

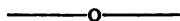
REMARKABLE ARIZONA RUIN.

Near Flagstaff, Arizona, and on the Upper Verde, there are ruins of buildings still in a good state of preservation, and much reminding us of those in the north of England and Scotland, the ages of which we may approximate with a considerable degree of certainty. One in particular that is very interesting stands near the head of the Verde river on a peak that constitutes the extremity of a spur of the Bradshaws. The peak is granite, and rises abruptly out of the valley on three sides, while the fourth is protected by the mountain spur, which is about one hundred feet higher and hangs an impassable precipice above the smaller. On this shelf or bench the building was constructed of stone and cement in such a position that one on the ruins can get a good view of the entire width of the valley and fully five miles either up or down it. Through a taller mountain a volcanic rift has allowed a perpetual stream of water to flow, though it was fully sixty feet beneath the base of the ruin and back of it, so that the water came out underneath the cliff and flowed across the mesa into the river. In order to protect themselves against a water famine in a time of siege the inhabitants cut a fissure through the solid rock fully sixty feet, and changed the course of the stream so that it flowed out on the opposite side of the rock and directly through the fortification, making it impossible to cut off the water supply. This building was over four hundred feet in length by 250 feet in width. One of the walls yet stands, four stories in height, though some earthquake has changed the surface of the mountain until the outer one has fallen and the one now standing leans considerably toward the north. This structure alone contained over two hundred rooms, and could have easily accommodated a thousand people. Back of this is a cave, partly natural and partly artificial, that extends more than one hundred feet, and through which they descended to the water. This was also cut up into rooms, each one of which was nicely plastered with some kind of cement that is now in a good state of preservation. There are niches in the walls, where they evidently kept their jewels and valuables, and I am informed that two small rush bags were found in one of these, though I did not visit it first and did not see them. A number of jars filled with parched beans were taken out, and one of these jars, or ollas, holding about a bushel, is in the possession of Mr. Drew, who has a ranch near by, and is used all the time for holding drinking water. It is of a very dark colored material, thoroughly glazed, but outside of the heat necessary to do the glazing, it has not been affected by fire. It has been cracked almost entirely around, but has been mended with some kind of gum so

deftly that, though it had been in his possession for years, Mr. Drew had not discovered it until one day recently when we were examining it together.

In this cave about twenty skeletons were found. The skulls of some of them had been crushed, while others appeared to have died natural deaths, though the bones were so badly decayed that had fatal wounds been inflicted upon any part of the body than the head it could not have been discovered when we made our examination. These remains were scattered about the inner rooms in evidently the same position in which they had fallen from starvation or had been laid by the hands of their comrades after being stricken down by their foes. Around the bony necks were found the amulets and on the wrists the shell bracelets that protected them from evil or served them as ornaments during life.

The structure was built altogether different from the fortresses of Zuni and Acoma, neither does it resemble any of the Pueblo buildings in New Mexico. Judging from the mass of cement scattered about on the cliff, these walls must have been once fully six stories in height and the buildings almost as large as the Casa Grande in the Gila River Valley.—*San Francisco Chronicle*.



ROCK SHELTERS IN NEW ENGLAND.

BY CHARLES A. PERKINS.

The rock shelters, two in number, were discovered by the late Mr. A. H. Kingman, of this place. He examined them very thoroughly and took everything of value. Before his death I photographed the shelters and contents, getting some very fine views. Mr. K. also gave me all the information in regard to them that he could. I have since visited them several times. I gave to Prof. F. W. Putnam a set of the views for the P. A. of S. at Cambridge. There is another cave in the next town (Peabody) that Mr. K. found, but which has never been dug over yet, though a slight digging with a stick showed fragments of shells. Twice Mr. K. and I tried to dig, but the ground was frozen too hard. Another large cave in Waltham, Massachusetts, finely located, failed to show anything. Still another, in Melrose, Massachusetts, is unexplored, owing to the hostility of the owners, though Mr. K. got a semi-luna knife. His fine collection was left to his young daughter.

Wakefield, Massachusetts.

THE STUDY OF THE MAPS.

BY STEPHEN D. PEET.

One of the most interesting and instructive exercises for the student of American history is to take the maps which were published during the period of Discovery and exploration, and follow up the growth and development of the knowledge of the geography of the continent. This study, to be sure, brings to view the strange ignorance which prevailed in reference to the continent and shows the false ideas and the tenacity with which they were held, but it also illustrates the progress of discovery and the gradual correction of errors, and the final establishment of the truth as to the physical characteristics of the country, both of its coast lines and its interior. Still further, it brings to mind the acquaintance which was formed with the tribes then occupying the different parts of the country and their locations and conditions.

The names of the continent and its prominent features, rivers, mountains and capes, were those which were given by the discoverers and explorers, and many of them exhibit their nationality or place of nativity. But as time went on the names of the various tribes became known, and these were written down on the maps, showing the various localities where these tribes were living. We must, then, regard the maps as the earliest and best guides to a knowledge of the natives, and may well take them as exhibiting the "Footprints of the Aborigines" which may be recognized. We have taken, then, this as our subject. We shall begin with the maps which bring the continent to view, making a brief summary of these. We shall next take the series which presents the outlines of the continents in their varying and progressive changes. We shall next take the maps which open the interior and give us the names of the tribes which first became known. Lastly, we shall take the maps in which the various rivers are laid down—the Ohio, the Mississippi and the rivers of the west, making this our limit for the present. Our effort will be all the way through to present the aboriginal side of the subject, as the American or European side has been frequently brought out by the geographers and does not need further elucidation.

I. It will be remembered that India was the continent which was sought after when the great navigator and discoverer, Columbus, made his first voyage. It was his idea that he had discovered India that led him to give the name of Indians to the aborigines,

a name which has never been changed. The mistake of Columbus was perhaps a natural one, though it is a mystery why the islands in the Atlantic should be called West Indies when those of the Pacific are East Indies, for certainly they are further west and were really reached last. The name is confusing. The Hindus are Indians and the native Americans are Indians, so we shall need to draw the line by some other means, and therefore may well take the various tokens which are left and show the contrasts between them.

It also reveals the many changes which occurred among the native tribes and the remarkable effects which were produced by the advent of the white man. These changes may not all have been owing to the presence of the whites, but they at least became known and were put on record by the geographers and by the historians, so that we have brought before us a history as well as a geography which is very suggestive.

The most of the maps are, to be sure, very imperfect and the information vague and indefinite, yet they aid us to penetrate the obscurity which seems to have gathered, like a fog-bank, between the historic and the prehistoric periods. The earlier geographers were occupied with the physical peculiarities of the continent and made it their chief aim to describe these, but the later made an effort to give the names and locations of the tribes as they became known. We shall find, then, in the maps, and especially in those of the Interior, a record which may well engage our attention, for in them we may recognize "Foot-prints" which are unmistakable and enduring. We propose, then, to devote this paper to a description of the various maps which are in existence, with the view of ascertaining the locations of the various tribes during this period.

Let us then take the maps which were issued immediately after the discovery, and which gave the outlines of the continent, with the physical features laid down as they were understood at the time. It will be noticed that various names were placed upon these maps, but they were names which were borrowed from the European languages—French, German, Spanish and English—and show the nationality of the discoverers. There are very few Indian names on them, and they are names which can hardly be identified with any of the Indian tribes.

Commencing with the map of the North Atlantic by Antonio Zeno in the year 1400, we trace Iceland, Greenland, Frisland.* Next, taking the globe of Martin Beham, 1492, we find the islands in the ocean between Western Europe and ancient Asia,

* The first map, Justin Winsor says, is the one which brings out the names of Greenland and Iceland. It was found by Baron Nordenskjöld attached to a Ptolemy codex at Nancy. The large map of Iceland as it was A. D. 1000 is given by Raín. Another map, which refers to the Norse discoveries, might be mentioned, but they are not essential. Mr. Justin Winsor has given them in his book. These maps do not show any familiarity with the continent as such, though they may have furnished a basis on which Columbus built up his theory as to the continent.

such as the Canary Islands, the Antilles, Azores and the island of Java, but no continent of America. In the map of the east coast of North America by Juan de la Cosa we find Cuba, La Espanola and the outline of the coasts, but with very few points which can be identified. In a chart of the New World by Johann Ruysch, 1508, America is a large island, with a large body of water to the north of it and the Asiatic coast to the west, and the island of Java, the Cape Verde and the Azores to the north. On the globe of Johann Schoner, 1520, America is still an island, but Cuba, Isabella, Spagnoria are small islands north of it, with Asia farther removed to the west, but North America is not on the map. In the map of Peter Martyr, 1511, the American coast has stretched out to the east and north, and appears to surround the island of Cuba and Espanola, but Asia is dismissed from view. In a Portuguese map, 1520, the coast of America is drawn in a fragmentary manner. A land called Terra Binami lies to the north of Cuba, Labrador to the northeast. In a map of the world in Ptolemy, Basale, 1530, America is an island, but it stretches around Cuba, Jamaica, etc., and contains a gulf (the Gulf of Mexico), Terra Florida, Cape Britonum, with the large letters Nova Francisca across the whole continent, while India and Cathay are west of this island. On two maps in 1543, one a French map of the world and the other by M. Vallard de Dieppe, the coast from Florida to the Gulf of St. Lawrence is laid down with considerable correctness; the large letters La Florida across the Carolinas, Ter des Bretons across New England, Ochelaga and Canada north of the St. Lawrence. In this map appears a river; the river is called the Archipel de Estienne Gomez. In a map by the Italian, Jacomo di Gastildi, 1550, Labrador appears and the whole east coast of North America is laid down, but an island bearing the name Tierra de Norumbega seems to occupy the place of New England, with Cape Breton on the southeast point. The same is repeated by Ruscelli, 1561; the words La Florida appear in large letters in their proper place. In a map by Michael Locke, 1582, Norumbega is an island, with Grand Bay to the north and Hochelaga to the west of it. In this map the ocean flows in to the west of the New England States and to the north of Florida, but the coast from Norumbega to Florida is tolerably correct. The names Jac Cartier, 1555, J. Gabot, 1497, appear on the island Norumbega; Cortereal on the main land north, and Angli, 1576, on an island in Hudson's Bay. From these last three maps we learn that the name Norumbega has become very prominent, but instead of being descriptive of a local fort or river was ascribed to the whole coast; in fact, was the name by which a part of North America was known. From this we conclude that the name Nurumbega was applied to all New England. In the map by Mercator, 1590, Nurumbega is no longer an island, but is the main land and extends to 39° of

latitude. The same is the case in the map by John Bleau, 1642. In a map by Hondius, 1619, the territorial name, in large caps, Nurembega has given place to Nova Francia, and Nurembega is a local name, situated somewhere in the vicinity of Cape Cod. In a map by Mercator, earlier than this, 1569, the east coast of North America appears with La Florida in its proper place, Apalchian covering the region about Virginia, and Nurumbega, in large letters, covers the whole of New England, and Nurumbega, small letters, designates a place on a river, probably Charles River. Nova Francia is a district north of the St. Lawrence River, which is laid down with completeness. The Hudson River does not appear up to this date, but the Charles River flows south and is frequently in such a location as to be regarded as correct. After this date the maps become more specific in detail, but it is doubtful whether anything can be ascertained from those which preceded them which can be relied upon as descriptive of the local geography surrounding any one place. The map of Boston, in a general way, precedes that of New York by many years. The Charles River appears a long time before the Hudson, but the names are too indefinite and uncertain to identify them with definite points.

II. Let us now turn to the maps of the Interior, and study these with the especial view of tracing out the names of the Indian tribes and their locations.*

Mr. C. C. Baldwin, of Cleveland, has been for many years engaged in gathering maps of the West. He has now in possession probably the largest collection of the kind in the world. There are other very extensive collections; those in the library of Harvard College, in the State Library at Albany, and those which have been gathered by the Geographical Society at New York being in other respects much more valuable; but for the one object of illustrating the interior of the continent of North America, this collection is well nigh complete.

The maps are now at the residence of Mr. Baldwin, and in the library of the Northern Ohio Historical Society, of which he was the secretary. They exist in a great variety of shapes and bear many different dates, but comprise nearly all the early maps of the interior ever published. Some of them are found in books, either in large folios or in quartos, in 12 mos., or in small 16 mos., such as books of travels, of voyages, of early discoveries, or in early geographies and histories. Others are found in map form, either as large wall maps or as single sheets.

There are also a few tracings or copies of maps which cannot be secured, and the collector is now negotiating for the purchase

* This subject has been followed by Mr. Justin Winsor and a great deal of valuable information has been furnished, but he seems to write from the white man's standpoint and does not make any especial effort to describe the Footprints of the Aborigines. We would say still further that the greater part of this chapter was written in 1876 and so preceded Mr. Winsor's book by some ten or fifteen years. It is reproduced here with a few changes.

of a number of manuscript maps which have never been published. The writer has had opportunity of examining them, and is happy to bear testimony to the diligence and great skill exercised in making the collection complete, as well as to the great value of the collection.

There is a great amount of history in these old maps. As an illustration of the different periods of the early history of the continent, nothing could be better; in fact, the geography of this country was history.

The maps may be divided into different classes according to the dates of their publication. Classifying them in this manner they represent the different periods of early history, and the study of them is valuable on that account. By grouping them, they give us pictures of the country at the various periods, and in their succession portray the progress of discovery, conquest and settlement. We divide them into five classes:

The first bears date from 1490 to 1620, and may be regarded as descriptive of the period of coast exploration and discovery.

The second bears date from 1620 to 1703, and is descriptive of the early exploration into the interior.

The third bears date from 1703 to 1765, and will give us a view of the contest of claims on the continent among the European nations.

The fourth bears date from 1765 to 1790, and is descriptive of the location of the Indian tribes in the interior.

The fifth bears date from 1790 to 1832, and is descriptive of the first settlement of the same region.

The characteristics and peculiarities of the maps will be described under this classification, but the first two series will be especially dwelt upon in this article.

DESCRIPTION OF THE MAPS.

The first class covers the period of *the Discovery*.* The peculiarity of all these is, that they are very correct in giving the contour of the continent, but they give no description of the Interior. The reason for this is that the first discoverers and conquerors were familiar with the coast, but knew nothing of the vast interior. There are several of this class; one, dated A. D. 1569, describes the continent very correctly in its outlines, and we are surprised at the resemblance to the modern atlases in this respect. The coast lines of the Atlantic and Pacific, and of the Gulf of Mexico, are given quite correctly, and even the Gulf

*See No. twenty-five of the papers of Western Reserve and N. O. Hist. Soc.

† Hakluyt Martyr, 1587. Winsor gives this map, C to F, p. 72. It has the name *Bacallao Anglis*, 1495, placed above the St. Lawrence; *Nova Francia*, *Virginia*, 1587, just south of the St. Lawrence; *Florida* and *Cuba* in their proper places; *Nova Hispania Mexico* (Mexico), *Nuevo Mexico* (New Mexico), *Quivira*, northwest of New Mexico; *Nova Albion A. D. 1580*, *ab Anglis* (Oregon), *Mare Dulce* (Hudson's Bay), *Hesperides Gorgades* (Madeira Islands) in South America; Quito and several names on the coast. This is a very correct map considering the date, but it shows great ignorance of the interior.

of California is portrayed on it; but the interior is laid down as though it were all blank space. There is, however, in it a fortunate guess. Though there was an evident ignorance of the Interior, there is a river traced across the map which might easily be taken for the St. Lawrence. There is this mistake, however: it is the only river on the continent, and it rises in the vicinity of the Rocky Mountains, and runs in a straight line across the continent due northeast, until it empties into the Gulf of St. Lawrence in the proper place. There are no lakes, no mountains and no other rivers.* Another map is very similar to this, but in it the interior is covered with vast ranges of mountains, and contains the names of Accadia, France and Spain scattered indiscriminately over it.

There is another in the collection which resembles the two spoken of, but it has a still more novel description of the Interior. There is a river rising in the center of the continent, and running to the northeast to the Gulf of St. Lawrence; another also starts from the same vicinity and runs south and empties into the Gulf of Mexico near New Orleans, while the Gulf of California is so situated that an inlet seems also to rise in the same central point. A range of mountains in the interior is the source of all these bodies of water.

These three maps are alike in that North America has nearly its true shape, but South America looks more like Australia than it does the southern continent. The Gulf of Mexico, the Isthmus of Yucatan and Honduras are very correct.

Under the second class we have arranged those which bear dates from 1620 to 1700. They are descriptive of the early *explorations*. These are the first maps in existence which give us any proper view of the Interior.

At the head of this class we place Champlain's map, published in 1632. An earlier map was published by Champlain in 1609, and Cartier, the noted French voyager, had described the St. Lawrence, which he entered as early as 1534; but this is really the first which contains any description of the Interior. In it the lakes are for the first time portrayed. They are laid down in such a way as to show that the author was not familiar with them, but had drawn them as they were described to him by the native Indians. The River St. Lawrence and Lake Champlain are quite accurately located, but the Great Lakes are portrayed as if they extended across the whole continent.

* Mercator, 1569. Winsor, C to F, pp. 65-71, has given four others which have the same long river, viz: Ortelius, 1576; Judæus, 1593; Quadus, 1600; John Dee, 1580. The first, Mercator, represents South America, but has no names except Grœnlant. The second, Judæus, has the name *Sinus Laurintic* (St. Lawrence), *Belle Isle* and *Baccalaos* (Newfoundland), Norumbega (New England), *Hochalaga* (Quebec), *Saguenay*, *Apalchin* (Appalachian mountains), Carolinas, Virginia, *R. de Ste Spirito* (Mississippi), *R. de Palmas*, *Golfo Vermejo* (gulf of California), *Septem Citta Cevola* (seven cities of Cibola), *Francia Nova* in large caps. This map shows that Coronado had made his expedition into the interior. Quadus has the same names, with the addition of *Terra Corterelis*, just above the mouth of the St. Lawrence. John Dee's map has the singular addition of the name *S. Brandant* applied to an island off the coast of New England.

Lake Ontario and Lake Erie are drawn as if they were only one, and look scarcely wider than their outlet, the St. Lawrence. Lake Ontario is very small, and is called "Lac St. Louis." The Falls of Niagara are not mentioned, but to the west and north appears a great lake or sea which is called "Mer Douce," or Sweet Sea. This was Lake Huron, but it was fully five times as large as it ought to be. Westward of these is still another lake, probably meant for Lake Superior, but called "Grand Lac." The "Ottawa River" is laid down on the map, but a little north of the river the continent abruptly ends and a wide sea appears, with great whales and ships sailing across from one ocean to the other. In the far northwest is a great sea called the "Mer de Nort Glaciale." According to this map, then, the Northwest Passage was discovered soon after the landing of the Pilgrim Fathers. Champlain's map is found in the Documentary History of New York, and in Champlain's works. It is interesting, for it shows the first attempts to draw the shape and locality of the Great Lakes, or to describe the Interior.

The especial value of the map is that the Indian tribes are located, as well as the Great Lakes.* The Iroquois are assigned to their proper place just west of Lake Champlain. The Hurons are also located north of the "Lac St. Louis," or Huron. The map locates the "Neuter" nation in a locality which was really occupied by the Eries, just south of Lake Erie, in the eastern part of Ohio. Father Lallemant, the Jesuit, has described this tribe. They are supposed to have occupied the north and not the south sides of Lake Erie. This is the first and only map which locates them in this place. The Algonquins are located north of the lakes. The tribe of "Des Puans" is placed east of Lake Huron, and "savages and buffaloes" are mentioned as inhabiting the region about Illinois and Indiana.†

We next come to a very interesting map, and one which was quite the standard for a number of years. It is published for G. Sanson, "Geog'r Ordinaire du Roy," at Paris, in A. D. 1669. It is remarkable in that it gives the whole continent instead of a part, unlike Champlain's, and has a description of the portions

* Three maps by Champlain are given by Winsor, C to F, pp. 105, 107, 143. The last is the one described. The Indian tribes located on this map are as follows: *Petite nation des Algonnequins*, north of the St. Lawrence and Ottawa Rivers; *Hiricois*, southeast of Lake Ontario; *Antonouronons*, southwest of the lake; *Hurons*, north of the lake; *La Nation Neutre*, south of the river, which means Lake Erie; *Le Gens de Fen Assistagueronons*, southwest of Lake Huron or Mer Douce; also *Nation Ois il y a l-quantite de buffles*, apparently on the prairies of Illinois and Indiana; *La Nation des Puans* in Ontario, north of Lake Huron or Mer Douce. This map contains the first mention of two of the tribes, viz.: the Winnebagoes or *des Puans*, the Mascoutens or *Gens de Fen*, but both are located far to the east of their proper place. The name "Puants" or "Stinkards" was applied to the Winnebagoes long afterward, when they were located on Lake Winnebago. The name *de Fen*, or "Fire Nation," was applied to the Mascoutens as late as the times of LaSalle and Marquette. They are located on this map by Champlain from mere hearsay.

† Creuxiu's, 1660, has the following names suggestive of the location of Indian tribes: *Magnus, Lacus, Algonquinorum vel Petetium* for Green Bay. "Fetida," or "Stinkards," was the translation of Puans, a name which continued to be applied to the Winnebagoes. Creuxiu's is the first to make Lake Erie flow into the Niagara River. All the preceding maps make it flow west and north, emptying into Lake Huron or Mer Douce and Ottawa River. Such is the case with Duval's map, 1658.

which were claimed by the different European monarchs by right of discovery. On this map it appears that all the north half of the continent was claimed by the French, and the district of New France covers all the region north and south of the Great Lakes as far south as to Port Royal and Virginia, embracing New England itself. Next south of this were the possessions of the Spanish king; under the name of Florida a great territory is marked out, extending from the vicinity of Kentucky and embracing all the continent south of it as far west as Mexico.

New Spain is marked on this map in the vicinity of Yucatan and Central America, and Mexico and New Mexico are also names applied to the districts which still hold them.

The inaccuracy of the map is the same as that of Champlain's—the size of Lake Huron; otherwise the lakes are quite correctly portrayed, and Niagara Falls are now mentioned.

The Lakes Ontario, Erie or du Chat and Superior are given, but Lake Huron goes by the name of Keregnondi.

Lake Michigan is not yet laid down except as an arm of Lake Huron. Green Bay, however, appears for the first time by the name of "Bay des Puans," but is drawn much larger than it really is. The Upper Mississippi and the Ohio had not been discovered, nor had Lake Michigan been traversed or the Illinois River, but the Jesuits had visited Green Bay, and this is shown, while the larger lake and those rivers do not appear.*

There is one remarkable thing about this map. The Ohio River was not known at the time, but there is a river which by a mistake represents it. This starts in a lake about where Chautauqua is, and runs south, as the Alleghany does, to the vicinity of Pittsburgh, and turns northward and empties into Lake Erie about where Cleveland is. It seems quite novel certainly to see the Ohio River running into Lake Erie.

Another still more remarkable thing about Sanson's map is that the Appalachian Mountains are represented as extending east and west directly across the continent from the vicinity of Virginia, and all the rivers flow either north or south from these mountains. It seems very singular too to see the Mississippi starting near St. Louis at the base of a range of mountains, while all the rivers which now flow into the Ohio are represented as running northward to the Great Lakes.

The value of this map is in this, that for the first time the Erie tribe of Indians is located. They are found in the eastern part of Ohio, just south of Lake Erie, and are called the Erie-chronons.

Sanson's map is a novel one, as it has the general contour of

* Duval's map, as given by Winsor, F to C, p 216. It has the following Indian names: *Nation des Puants*, also *Ndu Feu*, below *Lac des Puants*, with a river flowing between them northward into the lake. *N. Neutre* is located south of *Mer Douce* and west of Lake Duchat; *Algonquins* north of *Lac St. Louis* (Ontario); *Iroquois* east of this lake; *Kiristinous*, also *Neptotintiens*, are between Lake Superior and Hudson Bay; *Tadousac* is east of Quebec. A chain of mountains stretch from Virginia westward across the map. The name Florida on the mountains. Probably the Alleghanies are intended. Bleau map of 1652 is given by Winsor, C to F, on this map Vineland and the Zuyder Zee appear.

the continent very correct, and the lakes are accurately laid down, but there is no Mississippi or Ohio on it. It, however, gives all that was known of the Interior in 1669.

We next come to a series of maps which present new features to the geography of the interior. These are the maps prepared from the accounts given by La Salle, Hennepin and Marquette from their explorations and discoveries.

The first of the series, published in Paris A. D. 1683, is one prepared by Hennepin for his first edition.* This is a valuable map; it gives the whole of North America. The continent is, according to it, divided among the three nations of Europe, but the largest part is claimed by France by right of discovery, under the name of Louisiana. The French possessions under this name stretch across the whole continent, and embrace all the region of the lakes and the vast interior. A small part is marked under the name of Florida in one corner, while Mexico and "Nouvelle Espagne" are still left in the southwest as belonging to Spain. England is mentioned, and its claims upon the New England States recognized under the title of "Angleterre." The Dutch claims are also shown, and the name of "Hollande" is marked on New York and vicinity.

The lakes are portrayed on Hennepin's map, though Lake Erie is large enough to take in nearly all of Ohio, but Lake Huron has dwindled into its true size,† The Upper Mississippi is portrayed quite correctly, as it rises west and north of Lake Superior. The Wisconsin runs into it, and the Outagamie, or Fox, is represented as flowing into Green Bay, with a short portage between it and the Wisconsin. A large river runs into the Mississippi from the east about where the Illinois does, and there is no doubt that the latter was the river intended. Lake Michigan, however, is incorrect, as it spreads into two arms, and a large river flows toward the north into it. The Mississippi does not reach the Gulf, but ends in the middle of the continent.

* Winsor gives both of Hennepin's maps in C to F, p. -. In the first we notice the *Nadouessins* (Sioux) located on *Lac de Buade*, northwest of Lake Superior. The Fox River is called *R. Outagamie*; the Wisconsin, *R. des Ouisconsin*; the Illinois River is called *Seignelay ou Illinois*. Lake Michigan is called *Lac Dauphin ou des Illinois*. There are several missions of the recollects, one among the Sioux and another on the Illinois River, near Fort *Creve Coeur*. Several forts - Fort *Des Miamis*, on Lake Michigan; Fort *Creve Coeur*, on the Illinois; Fort *Frontenac*, north of Lake Frontenac (Ontario). The Niagara Falls are called *Le grand saut de Niagara*; the Mississippi, called *R. Colbert*, ends short of the gulf. The name *Louisiana* fills the place left blank. An old fashioned vessel appears on the coast of Virginia. Hennepin's view of Niagara Falls is given by Winsor on p. 201, with Goat Island and Horseshoe Falls in full view. The Niagara River and a part of Lake Erie are in the background. The Griffin is a mere speck on the lake. Sanson's map of 1659 is given by Winsor, F to C, p. 179. The location of the Indian tribes can be learned from it, though the print is very fine. The Iroquois tribes have their different tribal names spelled in the French style, *Ouncachronons*, *Ponthataranon*, *Eriechronons*; the Neuters spelled *Neutren* or *Attiquandaron*; the Winnebagoes are spelled *Oukuararonons* and located south of Green Bay. A tribe called *Ariaticronons* is located in Michigan; a tribe called *Acistaronons* or *du Foul* is located in northern Illinois; a tribe called *Sjuequiorcon* in Indiana; a tribe called *Niou Petun ou Nanhio* is located near the Georgian Bay; two tribes, *Kicistionons* and the *Nadouessimoronons* (Sioux) are located northeast of Lake Superior; the *Sorouaronons* are located east of the Alleghanies, in Pennsylvania. Marquette's map, "genuine map," is given by Winsor, C to F, p. 249; a mere outline, very rude, no Indian names, no name for Fox, Wisconsin, Illinois, Green Bay, or Lake Winnebago, though they are all located relatively with tolerable accuracy. It contains the following names: *Lac des Illinois* (Michigan); *Lac Huron*, *Lac Superior* or *de Tracy*; *R. la Conception* (Mississippi); *St. Ignace* placed on the Straits of Mackinac.

The names of the lakes and rivers are remarkable. Lake Ontario is called Frontenac, Lake Erie, Lac de Conty, or Erie; Lake Huron, Lac de Orleans, or Huron; Lake Superior, Lac de Conde, or Superieur; Lake Michigan, Lac Dauphin, or Illinois. Green Bay is still called Bay des Puans, and the two rivers are spelled Outougamis and Ouisconsin.† There are mountains on either side of the Mississippi. The river is called Colbert, from the name of the French Minister, and the Illinois is called Souigouillet. There are four forts on the map—Fort Frontenac on Lake Ontario, Fort de Conty at Niagara, Fort Miami on Lake Michigan, and the fort built by La Salle on the Illinois, and called Creve Coeur, or the "Broken Heart."

There is this remarkable thing about Hennepin's first map: Hennepin and Marquette had traversed the upper Mississippi, but it appears that the former wanted to be considered the discoverer of the whole river. Accordingly, after he had published his first map, he made another with the Mississippi portrayed throughout its whole length. He also pretended to have explored the southern part of the river and country, and wrote a description of it.

La Salle's exploration of the river came between the two maps. He, with three others, in 1682, went down the Mississippi, and on the 9th day of April passed through its mouth into the open sea and returned.

The next year he sailed from France, expecting to reach the river by the sea or the gulf, but unfortunately sailed past the mouth, and after suffering shipwreck and great hardships was killed by his men in Texas.

There was however a companion with him named Joutel, who preserved a narrative of La Salle's voyages.

Hennepin learned something of this narrative, and used it in preparing his second map and record. The two maps of Hennepin, one published in 1683, and the other in Utrecht in 1697, are very unlike, but the first is regarded as the most reliable. His last map and account of the country has been severely criticised.‡ Joutel's narrative was published in A. D. 1714.

* Des Puans, or the Puants, was a name applied to the Winnebagoes when they were located on Lake Winnebago. It is the name given to Green Bay on all of the early maps except this one. The probability is that it was placed over Lake Huron from mere hearsay. Prof. A. W. Williamson thinks that the Winnebagoes migrated to Wisconsin by way of the Great Lakes. But Dr. Hale and Rev. J. O. Dorsey maintain that the Dakotas and with them the Mandans migrated from Ohio down the Ohio River, up the Missouri, one branch up the Mississippi. The effigies would indicate that the Winnebagoes followed this track. See Catlin's Indians, Vol. II., p. 258. J. O. Dorsey's Report in the Annual of Ethnological Bureau, p. 212. Dorsey locates the last reservation of the tribe above the Yankton, but places the first habitat in Wisconsin. See also my book on Emblematic Mounds. We give a series of cuts which have been loaned to us by Mr. Winslow, of the Geological Survey of Missouri, which will illustrate the different maps, though we do not vouchsafe for the accuracy of them. One of these rudely represents Joliet's map of 1673. Another one represents the map by Minet in 1685.

† La Hontan's map is given by Winsor, F. to C., p. 353. In this map we find the Fox River called R. des Puantes; the Wisconsin, Ouariconsint; the Illinois, R. des Illinois. The following Indian tribes are located: Kikapous, Malhomini, Outagamis.

‡ Niagara Falls are called on this map *Ongtarasault*. Lake Huron is called *Karegnondi*; Green Bay called *Lac de Puans*; Lake Erie called *Erie ou Du chat*; New England, *Nouvelle Angle terre*.



A map by Marquette is in existence. It was prepared A. D. 1673. It is incomplete, but has this advantage, that Lake Michigan is correctly drawn on it, and is not on Hennepin's.

THE PROGRESS OF DISCOVERY.

III. In reference to the two series of maps it should be said that they very remarkably illustrate the progress of discovery, both in the outlines of the continent and the delineation of the features of the interior. Both series illustrate how crude were the ideas of the discoverers, but at the same time show a rapid progress in geographical knowledge.

At first the continent was depicted as merely an arm or an eastern extension of Asia, afterward it appears as an island in the midst of the ocean. Then it assumed the appearance of a continent, but much broader in proportion to its length, than it really is, with South America, as has been mentioned, having much the same shape as the present Australia. It soon, however, assumed a more correct outline. Various maps of the series picture the Northern and Southern continent with the Gulf between—though it is some time before South America assumes the proper dimensions as compared with North America, or is understood in its real shape.

There was the greatest ignorance of the interior throughout the whole period, and the maps were evidently made from imagination. At first, all that is shown is the general contour—while in the interior an indiscriminate mass of mountains and forests cover the surface. Not a river or a lake relieves the bare waste.

Afterward, the river St. Lawrence and the Lower Mississippi, the Gulf of Mexico, and Gulf of California, appear on the maps. All that seems to have been known, however, of the rivers, was their mouths. It is strange to see two or three long rivers extending across the continent, all rising in one point near the center. According to these maps, the locality of St. Louis was extremely favored. There were mountains in this vicinity and three different rivers ran from this as a centre—one to the Gulf of St. Lawrence, the other to the Gulf of Mexico, and the third to the Gulf of California. See Ortelius' map.

These rivers have no branches and are merely long, straight channels, laid down by guessing at them.

The second class is interesting on account of its information as to the progress of discovery. This time, the discovery is in the Interior. The progress of *exploration* in the interior is portrayed very strikingly. At first, the mouths of the rivers are laid down somewhat correctly, but the lakes and mountains are dropped down accidentally wherever most convenient. The mountains generally cross the continent from east to west. The Mississippi is a short stream flowing south from them, occasionally represented, however, as having two channels instead of

one. The only lake which is laid down at first, is the Lac de Iroquois or Ontario. This was discovered or navigated by Champlain, who became familiar with the St. Lawrence, and wandered into some portions of New York state. Changes soon occur. The Ottawa river is laid down by Champlain; Lake St. Louis appears; then Lake Erie; after that Lake Superior, and last of all, Lake Michigan, or the Lac de Illinois.

It is novel, however, to see Lake Huron surpassing in size all of the rest put together, and Lake Michigan forming an arm to the west of it; while the Bay des Puans or Green Bay is twice too large. Lake Erie goes through a variety of changes; sometimes larger and sometimes smaller. Its shape is extremely irregular and angular. The names of the lakes are also very changeable. At one time they bear the names of the French ministers; again they assume the names of the Indian tribes in the vicinity; and again, they bear two or three names at the same time. See Joliet's map.

Before the end of this period, the lakes have assumed their proper shape, and the *rivers* begin to appear in due form. Here the same progress of discovery is manifest. At first, the Mississippi river ends without a mouth. This was as Marquette left it on his first voyage. Hennepin's second map represents its whole course. The Missouri river has a novel appearance. It is a straight river, with a wide channel flowing directly east. Its head waters are not laid down, but it is called the "Long River."

As to the rivers, the progress of discovery was rapid. During this period, from A. D. 1620 to A. D. 1703, nearly all the rivers of the interior are laid down correctly, and the lakes assume their proper place and shape.

The only exception to this is the Ohio River. This river does not appear in the first two classes of maps at all (1490 to 1703). The coasts have been laid down correctly; the gulfs depicted in their proper place; the St. Lawrence river has been described; the lakes appear one after another; the Upper Mississippi River has also been discovered; the Minnesota River is laid down under the name of the "Long River," flowing east from the Rocky Mountains, but no Ohio. Two hundred years have passed; the explorations of the interior have continued, but no *evidence* is given that this beautiful stream was known.

IGNORANCE OF THE OHIO.

As early as 1652, Mercator's map represents a branch of the Mississippi as flowing from the east, but this river is south of the Appalachian Mountains which on this map run east and west, and are not named.

Joannis Blaeu, of Amsterdam, published a map in 1665, but he does not mention the Ohio. Vanderbeste, in 1656, sketches the lakes, calling Lake Erie by the new name, "Lake Felis," but

represents the Appalachian Mountains as running around its west end, and up into the peninsula of Michigan; he also represents a river, east of the lake, as taking a southerly and westerly course, and emptying its waters into the lake near Cleveland.* An English geography also, in 1680, represents a river with two branches as rising west of Lake Erie, and flowing into the Mississippi; according to it the mountains extend north and south across the continent from Michigan to Florida, or from Saginaw Bay to the Gulf of Mexico, while the river to the west of them is very short and has no name.

John Baptist Hondius, of Amsterdam, in A. D. 1687, represents a chain of mountains in the place of the river; and La Hontan, in A. D. 1703, portrays a lake east of Lake Erie, with a river running south, which may have been intended to represent the Susquehanna.

La Hontan's map does not extend far enough south to include the course of the Ohio, but in one corner of it, west of Lake Erie, there appears a stream which bears the name "Ou-bache," and it now becomes evident that at least a branch of the Ohio is known. Up to this date then we have only fragments of the Ohio, but no delineation of its whole course.

It is very remarkable that no map appeared before this late date which contained either the river or its name, except those which were prepared by the companions of La Salle, such as Minet and Hennepin, or by some one connected with the French government. Hennepin, in the edition of 1697, published after La Salle's death, portrayed the river and the name Ho-hio on it. Previous to that time Joliet's four maps had appeared, in two of which there is a long river without a name, but with this inscription: *Reviere par ou descendit la sieur de la Salle, au sortie du Lac Erie pou allex dans le Mexique*, but this inscription is supposed to have been added by a later hand. Franquelin's map of 1684 contains the great lakes with their names, also the Upper and Lower Mississippi River, with branches resembling the Illinois, Missouri, Ohio and Wabash, but with no names affixed to the rivers. Minet, who was La Salle's engineer, represented the Ohio and its branches correctly, with the names of several

* A letter from Pierre Margry to the Wisconsin Historical Society was published in the *American Antiquarian*, Vol. II, No. 3, 1880, p. 207, in which he says: The map inserted in the French edition of my volume confirms what I have advanced respecting the discovery of Ohio. I still very firmly believe La Salle discovered the Mississippi by way of the lakes and the Illinois River as far south as the thirty-sixth parallel and all this before 1686, the date of Marquette's discovery. This opinion of mine I base first on the narrative made by La Salle to the Abbe Renaudot. This narrative describes an expedition in which La Salle was engaged southwest of Ontario for a distance of 400 leagues, and down a river that must have been the Ohio. This was in 1669. In fine, I found my opinion on the total antagonism between the Jesuits and the merchants, as well as those who represented interest or only a legitimate ambition. In opposition to the Jesuits, the Cavalier de La Salle always associated with the Sulpitians or Recollects, whom Colbert had raised up against the Jesuits, in order to lessen the influence of those who would fain undermine him. See *American Antiquarian*, Vol. II, No. 3. Mr. Parkman, in a letter to Col. Whittlesey, intimates that La Salle may possibly have passed by portage from the Maumee to the Wabash and so reached the Lower Ohio, as the earlier maps give the Wabash before they do the Upper Ohio. Mr. Winsor reflects on this theory as if unreliable, but gives no facts to prove his assertions.

of them added, but the Ohio has two names.* The lower part is called R. le Choucagoua and the upper part R. Ouabache. The Mississippi bears the name of Fl. Colbert. Parkman, however, has given a sketch of a map taken from the archives of the Marine at Paris (1683), in which the form of the lakes and their names appear as they are at present. There is also a river which bears the name River Ohio flowing close to the south shores of the two lakes, Lake Erie and Lake Michigan. The question is as to who was the discoverer of the Ohio River. On this point there has been, and still is, a great difference of opinion. Some maintain, with Parkman and Margry, that LaSalle discovered the Ohio before he did the Illinois. Others, such as Shea and Winsor, maintain that La Salle never reached the Ohio, holding that the maps which represent his route along that river are fraudulent, or at least the inscriptions were fraudulent. Still the maps of Minet and Franquelin, 1684 and 1688, are in evidence, and their testimony is strongly in favor of La Salle as the discoverer.

IGNORANCE AS TO THE BRANCHES OF THE OHIO.

Many maps published after this time were very incorrect. They represent the Ohio very erroneously, showing, as yet, a strange ignorance of the river and its tributaries. A few of these errors are here referred to. John Senex, A. D. 1710, Lond, represented the "Ou bache" or "Belle" River rising east of Lake Erie; and a branch of it in a lake called "Onasont." The river runs parallel with Lake Erie and quite near it.

The Illinois flows parallel with the Ohio on the north side, and another long river called "Acansea" runs parallel with it on the south side, and south of this are the Alleghany mountains, which still run east and west near the place of the Appalachians, and extend as far as to the Mississippi. Among these mountains are the "Tionontatecagas, who inhabit caves to defend themselves from the great cat." A river runs from the southeast through these mountains, emptying into the Ohio or "Acansea," which is said to be "the road which the French take to go to Carolana."

In the year A. D. 1720, H. Moll prepared a map in which the Ohio is called the Sault River, and the Mississippi the St. Louis. Daniel Coxe, in 1726, prepared a map of "Carolana," in which

*This map by Minet, 1685, is given by Winsor, C to F, p. 316. It has the Ohio River laid down, the upper part of it named R. Ouabache, the lower part named R. le Choucagoua. It starts in New York State, near Lac Frontenac, flows parallel with Lac Herrie. It has a branch which is nameless, corresponding to the Wabash. A nameless river (the Illinois) flows parallel with this, between it and Lac des Illinois. The Le Mississippi and R. des Missouriis and R. Miscunsing are properly located, but the lower Mississippi, called the Colbert, flows far to the west, and is joined by Fl. Seignelay (Red River) near the Gulf of Mexico. This map is given in the cut just south of the river: Hurons, Outawaks, north of Lake Michigan, near Missil Makinak; Errieonos south of Lake Erie; Kikapous west of Lake Michigan; Oumamis southeast of Lake Michigan; the portage de Chegakou (Chicago) V. des Illinois. The Forts Crevecoeur and Fort De Mr. de la Salle are also located correctly. Fort St. Joseph is located on Lake Huron, where Detroit is. The following new features are on this map: Hunting grounds, called Chasse de Castor amis des Francois are west of Detroit, in Michigan and Indiana; Chasse de Castor des Yroquis is located north of Lake Erie, in Ontario, repeated three times.

he represents four rivers running parallel with one another from the vicinity of the Alleghany Mountains and coming together at a small lake which is situated near the "Misachebi" (Mississippi). The Ohio on this map rises in New York, and the "Oubache" near Cleveland, just south of Lake Erie.

M. Bellin, in 1744, prepared a map of Louisiana and the course of the Mississippi, which appeared in "Charlevoix History." He gives the river, with its branches, with considerable correctness. The river is now called "L'ouio, a La Belle River." The "Oubache," or "St. Jerome," empties into it, and is now a branch rising near the head of Lake Erie. The "Cheraquis" (Cumberland) and the "Reviere des Anciens Chouanous" (Tennessee) are branches on the south.

In 1755, Le Sr. d'Anville prepared for Louis Phillippe a series of maps. These are embodied in an atlas containing forty-three maps, bearing dates from A. D. 1755 to A. D. 1762. The valley of the Ohio is by this geographer depicted, and nearly all its branches are mentioned. The river is too near the lake and runs with more of an angle and less of a bend, in the vicinity of Pittsburgh, than is correct. The Alleghany is named, and rises east of Lake Erie, near the Cayuga Lake. Chatauqua Lake is called "Tjadakoin," and its outlet is called "Canouagan." But the river "Aux Beufs" (Beaver), "Cheninque" (Chenango), are about south of the Cuyahoga and the "Muskegan" is south of the Sandusky, while the Miami is still farther west.

This De Anville's map became the standard, as Sanson's and De L. Isle's had been before it. It was manifestly imperfect, but was regarded with favor, as it was produced with royal sanction and was the most correct map published thus far.

It remained, however, for two Americans to prepare the first correct maps of the Ohio Valley. These were Thomas Evans and John Fitch, the latter of whom is celebrated for his efforts at early steamboat navigation. The map prepared by Mr. Evans is worthy of description. According to it the Ohio rises in the State of New York, the Alleghany, or "Yoxiogany," and the Monongehela join it at Fort Duquesne.

Jadaxque Lake (Chatauqua), French Creek and the Venango River, the Beaver and Muskingum are the head waters; while the Scioto, Little Miniami, Great Miniami and the "Quoaxtana" or Wabash are branches of the Ohio. On this map there are several portages from Lake Erie to the Ohio. They are viz.:
 1. Lake Erie and Canonagy Creek (Chatauqua), twenty miles.
 2. Presque Isle (Erie) and French Creek. 3. "Cuyahage" River (Cuyahoga) and Muskingum, at "French House," one mile.
 4. Scioto River and Sandusky River, four miles. 5. Sandusky River and Miniami River, ten miles. 6. South branch of the Miniami (Maumee) and west branch of the Miniami. 7. Maumee

and Wabash Rivers. 8. Wabash and St. Joseph Rivers. 9. Desplaines and Lake Michigan.

Thus, after two hundred and fifty years, the Ohio and its branches are for the first time correctly portrayed. It is singular that this river should so long remain unknown. It took but about fifty years to discover the Great Lakes and accurately delineate them, and to portray the Mississippi throughout its whole length; but it took more than two hundred years to correctly portray the Ohio, with its course and its tributaries, and then only an American was able to properly do it.

This delay in portraying the Ohio River is very significant. There are good reasons for it. The river was remote from the ordinary line of the "fur trade," and could not be visited by those who were seeking for peltries. It was also remote from the scenes of the missionary labor of the Jesuits, who were located mainly north of the lakes, but had missions at Green Bay and on Lake Superior. The French explorers, such as Marquette, Hennepin and LaSalle, as well as the Intendant Talon and the French minister Colbert, imagined that a passage to the South Sea could be found by travelling westward; but they naturally went in the direction of the Great Lakes, as these, with the Ottawa River, were the main thoroughfares of the Indian tribes with whom they were familiar. There was a safer passage for them in that direction, as the Iroquois, who claimed the region south of Lake Erie and had control also of the tribes bordering on the Ohio, were hostile to the French.

English exploration did not extend into the interior during this period. Though colonies were settling along the sea coast throughout the seventeenth century, yet there is no record that any one belonging to them ventured beyond the Alleghanies. The "Popham" colony was located on the coast of Maine as early as 1608, and Sir Walter Raleigh's colony was established at Jamestown; but neither Ferdinand De Gorges, the founder of the first, nor Captain John Smith, the leader of the other, ever became explorers much beyond the bounds of their own colony.

It is due to the French that the discovery of nearly all the rivers and lakes of the interior was made. It was, however, not until the French began to claim, by virtue of these discoveries, that vast domain which lay beyond the Alleghanies, that maps containing the Ohio River were published. If there were those in manuscript prepared by the explorers, there were but few of them, and next to none given to the public, before 1703.

IV. We now come to the chief point, namely, the study of the maps with a view of ascertaining the location of the Indian tribes, especially those of the deep Interior. It is to be noticed that the ignorance about the Ohio and its tributaries extended also to the tribes situated along their banks, and yet there are tribes which became known and the maps designate their location.

The first one which portrays these at all correctly is De L. Isles, in a map published at Amsterdam in A. D. 1708. De L. Isle's map seems to have served as a standard, as Sanson's had done before it. A large number of maps are copied from it, and it is very reliable.

In 1721 there appeared the great work called the "English Geography." This contains three maps of North America, one of them being a general map of the entire continent, another representing the English possessions, and a third the Mississippi Valley. In the first, a river is placed about half way between the mountains and the Gulf of Mexico; in the second, it does not appear at all, but a range of mountains takes its place, and the nations of the Filians are occupying the land; but in the third, which is a copy of De L. Isle's map, the Ohio is in its proper place, having this difference however, that it is called "Ohio" about as far down as the Wabash, and thence is called "Ou-bache."

There are besides two large rivers running parallel to the "Ou-bache," or "St. Jerome," draining a very wide valley between the Cumberland Mountains and the Lakes.

The Ohio rises in New York, but it shares the great valley with two other streams. The names of the latter are the river of "Chouanons" and the "Cosquinambeau." They were evidently designed for the Cumberland and Tennessee. The mountains are south of all the rivers, and extend as far west as the Mississippi.

This map, taken from De L. Isles A. D. 1708, is so remarkable that it deserves description, aside from the question of the course and name of the Ohio. The first thing noticeable in it is that it contains the track of Ferdinand de Soto, made in A. D. 1540. This runs parallel with the mountains and twists south and north, and extends far out into the prairies beyond the Mississippi, but turns back and ends at the river.

To the west of the Mississippi River are seen the River Del Norte, the Red River, the Arkansas and Missouri. The Illinois is in its proper place, but the Chicagun is a branch of it rising near Lake Michigan. The Rock River takes a straight course west, about where the line of the State of Wisconsin now is, and empties into the Mississippi near Galena. It is called "River a la Roche," or "Crystal River." The Fox River is called "Renards," and the Wisconsin the "Ou-isconsin."

The location of the tribes is as follows: The Iroquois first; next the "Nation du Chat," near Lake Erie; near Detroit, the "Mississaugues;" the "Poutouatamies," in the vicinity of St. Josephs, or Lake Michigan; the Miamis, south of them; the "Fire" nation, near Chicago; and west of Lake Michigan, a tribe called the "Mascoutens." The Illinois are near the Mississippi, and the "Renards" in the vicinity of Green Bay; while in the Far West is the country of the Apaches, Paducahs and Osages.

The Indian villages are located as follows: Chicagou is on

Lake Michigan, near its head, and has two houses in it; "Mileki" River is the first one north of Chicagou, and a village on it is called "Miskouakimina;" "Peoria" is on the Illinois River; "Caouquias" on the Mississippi; "Caskaquias," further south on the same river. An "Ancient Fort" is located near the mouth of the Wabash; while opposite the Missouri are "Flower Pots and Castles Ruined." "Quicapou" is on the Rock River, near where Rockford is now; and an ancient village of the Illinois is on the Illinois River somewhere south of Joliet.* Between the Ohio and the Cumberland,† in the wide valley represented north of the Cumberland Mountains, was a "desert one hundred and twenty leagues in compass, where the Illinois hunt cows" (buffaloes). Lake Sandouskie is situated just south of Lake Erie, where Sandusky is now. The "Andastes" are located east of the Alleghany Mountains; and "Canage," a "large Indian Fort," is on the Susquehanna. "The Falls of Niagara, two hundred feet high," are mentioned. The "Sonontouan" tribe is located just east of the Falls. "Onontaque" is situated among a series of small lakes, and "Goyogouen" in the midst of the Iroquois land.

De L. Isle's map also gives the various Indian villages situated in the Gulf States, with their names. His map is very valuable on this account, as it is about the only one in which we may learn the location of these southern villages.‡

* Winsor gives a map from Heylin's *Cosmographic*, 1656-62, which represents the St. Lawrence as rising in a lake said to be 300 miles long. In the vicinity of the same lake two rivers take their rise and flow toward the south into the Mexican Gulf. On the headwaters of these rivers are several Indian towns, named as follows: *Cossa*, *Chiaga*, *Cararguy* and *Ulibabali*. These towns and the rivers are situated to the south of the mountains. They may be intended for the towns which DeSota visited in his expedition to the Mississippi.

† Walter B. Scaife gives a map from Mercator, 1669, which has a series of rivers flowing into the Gulf of Mexico from the south side of a range of mountains. But the north side of these mountains is drained by two long rivers, which flow northward and empty into the St. Lawrence. Hennepin's map of 1690 shows the Ohio River flowing westward through a range of mountains, emptying into the Mississippi River below the mouth of the Illinois, but represents the Chicago River, or possibly the St. Joseph, as a branch of the Illinois and rising in the same mountains. On this map great villages of the Iroquois are south of Lake Ontario; small villages of the Iroquois north of this lake. The Mascoutens are on the east side of the Illinois, the Kikapau west of the lake, while the Illinois are above the Bay des Puans, just below the "Upper Lake" or Lake Superior, Cape St. Anthony at the mouth of the Illinois River.

‡ This lower portion of De L. Isle's map is given by Winsor in the "Mississippi Basin," p. 75, but the upper portion is lacking.

EGYPTOLOGICAL NOTES.

BY REV. WILLIAM C. WINSLOW, LL.D.

DR. PETRIE has been throwing further light on his astonishing revelation of the existence of a hitherto unknown race of mortals in a region some thirty miles north of Thebes. He dates the invasion of Egypt by this race at 3000 B. C. About 1600 tombs were personally inspected by him. Not a single pure Egyptian object was found in one of them. The method of burial was quite unique. In Egypt the body was always laid out full length and embalmed, and the place of interment was a cave, so that the earth might not touch the body. In the case of this race the bodies were buried in a crouching position, with the head to the south and the face to the west. There were no traces that the bodies were embalmed. The tomb was an open trench with wooden beams, with the earth thrown in over the body, and corresponded in many respects with the graves found by Schliemann in Mycenæ. The skulls were those of a race of people with well-developed heads, capable of great things, with thin hooked nose, high forehead, great strength of eye-brows, straight teeth, and without any trace of negro about it. The women had long wavy hair of a brown color, and of it some specimens in a fine state of preservation had been found. From a carved ivory found in one of the tombs they were able to tell that the men wore long pointed beards. The whole appearance corresponded to what Prof. Sayce and others recognize as a Libyan-Amorite type. In the graves were found large numbers of red vases full of the ashes of wood, which had evidently been burned at the funerals. There was no trace, however, that the bodies themselves had been cremated. These ashes, Prof. Petrie thinks, were the remains of burnings, and he recalled how in the Old Testament it was mentioned that there were "great burnings" at the funerals of some of the Jewish kings—a custom which had evidently been borrowed from their Amorite neighbors. There were scratchings on these vases, but no hieroglyphics. Prof. Petrie shows how they must be subsequent to the fourth dynasty. In the sloping passages to the Egyptian tombs of that period, they found that graves of the new race had been dug. They must, therefore, come after that first great period of Egyptian civilization. Above the graves of the new race, again, were found remains of the twelfth dynasty, so that they must place the date of the new race between the fourth and sixth and the eleventh and twelfth dynasties. It was likely that they were contemporaneous with the seventh, eighth and ninth dynasties, and were in all probability invaders—in some ways as civilized

as the Egyptians themselves—who had swept into the country, had expelled the Egyptians from these parts, and with them had held no relations or commercial intercourse.

Whence came these strange people? Not from the far south, as they had no affinity with the negro, and there is a strong presumption that they did not come from the north into Egypt; for from the fourth dynasty there had been continuous civilization at Memphis, the capital of the country. They must therefore have come from the east or west. The probability is that they came from the west, as the district they occupied was opposite the western oasis, from which any invading race would naturally march eastward. Seeing that the remains have much in common with that of the Amorites in Syria, the hypothesis is that both were of the Libyan race inhabiting the north of Africa, who, about the period of the close of the sixth dynasty, threw off two great branches, one of which found its way into Syria, and the other marching westward subdued this portion of Egypt and destroyed the inhabitants, but had been unable to make their way further north on account of the determined front presented to them from Memphis.

THE JEW still remembers "the good things" left behind in Egypt as well as "the house of bondage." A banker of that persuasion, Suares by name, gives £40,000 to the French archaeological school in Cairo. When will the English, especially the Americans, realize, as do the French, how universally interesting and valuable is the field of discovery in the Nile valley?

MONSIEUR JACQUES DE MORGAN, director-general of antiquities in Egypt, seems to possess every requisite for that position of magnificent opportunities. As a member of the committee of our Fund, he affords Dr. Naville and our other explorers every reasonable facility for furthering our work. No man appreciates more than he the inestimable service rendered his department in Egypt by our Society in its thorough excavation of the temple of Queen Hatusu. And he appreciates America's part and place in our Fund.

DR. NAVILLE received D.C.L. at Oxford, on June 26, for his scholarly achievements as an Egyptologist, and Dr. Thompson was knighted early in that month for his labors in the British Museum. He is active as vice president of the Fund for England.

It may interest our ANTIQUARIAN readers to know that American subscriptions for the Fund, sent to London, up to July 9, amount to £1,120, or \$5,485.18. The financial year at the head office closes on July 31. If some of the subscribers to this magazine will simply take the pains to place our circulars in the hands of those who may care for the progress of discovery in Egypt, they will aid this office in its arduous and increasing effort to keep the Society at work.

DR. D. G. HOGARTH, of the Egypt Exploration Fund staff, has made a careful examination of the strata underlying Alexandria, with a view to solve the question whether any notable remains of the ancient city still exist. As a result of two months' persistent and thorough investigation, the "borings" demonstrate:

1. That over all the central part of the Roman town there lies a deposit from fifteen to twenty feet thick, mostly composed of Arab living-refuse, and singularly deficient in objects of interest.

2. That such remains as exist of the Roman town are in very bad condition; everywhere they present the appearance of having been ruined and rifled systematically. Walls are destroyed to pavement level and pavements ripped away.

3. That immediately below (sometimes at or even above) the Roman level water is tapped. Even tombs are found now to be below the inundated line. The soil must have subsided, and the stratum, earlier than Roman, be submerged for the most part. Neither in this stratum, therefore, nor in that immediately above, which is still very damp, can papyri be expected for one moment. The fact of such substance is proved amply by the aspect of the foreshore of the Great Harbor. The foundation-courses of large buildings, not earlier than Roman, gleam in the sea, and the low cliff, composed entirely of *debris*, shows sections of Roman walls and pavements right down to water-level.

The state in which we find the central quarter accords exactly with the known fact of the destruction of the *Brachium* in the time of Aurelian. In St. Jerome's day the once rich quarter was no more than a refuge for hermits; and St. John Chrysostom, when he said that the Tomb of Alexander was as though it had never been, seems to have spoken sober truth. The local collections of antiquities, and reports obtained from local *savants*, builders, contractors for drainage works, and the like, all demonstrate that up to now nothing first-rate of the Greek or Græco-Roman period has been unearthed in Alexandria, and very little that is even second-rate. The reward of tomb-riflers in recent times has been the leavings of earlier riflers; and ruined walls at pavement level, and the most broken of *debris*, have constituted the only return for the money and time spent in excavation in the town itself.

Dr. Hogarth is convinced that no great mine of museum-treasures remains to be explored under Alexandria; that its libraries have perished utterly; that all that exists of its Mausolea is plundered ruin; that the glories of the former foreshore are now represented by shoals in the port; and that its great temples, passing into churches and mosques, have been robbed of all they once possessed of value or beauty.

SCENERY ON THE COLORADO.

BY J. W. POWELL.

Reprinted from the *Canyons of the Colorado*; published by Ford & Vincent, Meadville, Pa.

There are two distinct portions of the basin of the Colorado, a desert portion below and a plateau above. The lower third, or desert portion of the basin, is but little above the level of the sea, though here and there, ranges of mountains rise to an altitude of from 3,000 to 6,000 feet. This part of the valley is bounded on the northeast by a line of cliffs which present a bold, often vertical step, hundreds or thousands of feet, to the table lands above. On the California side a vast desert stretches westward, past the head of the Gulf of California, nearly to the shore of the Pacific. Between the desert and the sea a narrow belt of valley, hill, and mountain of wonderful beauty is found. Over this coastal zone there falls a balm distilled from the great ocean, as gentle showers and refreshing dews bathe the land. When rains come the emerald hills laugh with delight as burgeoning bloom is spread in the sunlight. When the rains have ceased all the verdure turns to gold. Then slowly the hills are brinded until the rains come again, when verdure and bloom again peer through the tawny wreck of last years's greenery. North of the Gulf of California the desert is known as "Coahuila Valley," the most desolate region on the continent.

On the Arizona side of the river, desert plains are interrupted by desert mountains. Far to the eastward the country rises until the Sierra Madre are reached in New Mexico, where these mountains divide the waters of the Colorado from the Rio Grande del Norte. Here in New Mexico the Gila River has its source. Some of its tributaries rise in the mountains to the south, in the territory belonging to the Republic of Mexico; but the Gila gathers the greater part of its waters from a great plateau on the northeast. Its sources are everywhere in pine-clad mountains and plateaus, but all of the affluents quickly descend into the desert valley below, through which the Gila winds its way westward to the Colorado. In times of continued drought the bed of the Gila is dry, but the region is subject to great and violent storms, and floods roll down from the heights with marvelous precipitation, carrying devastation on their way.

Where the Colorado River forms the boundary between California and Arizona it cuts through a number of volcanic rocks by black, yawning cañons. Between these cañons the river has a low but rather narrow flood plain, with cottonwood groves scattered here and there, and a chaparral of mesquite, bearing beans and thorns.

The region of country lying on either side of the Colorado for 600 miles of its course above the gulf, stretching to Coahuila Valley below on the west, and to the highlands, where the Gila heads, on the east, is one of singular characteristics. The plains and valleys are low, arid, hot, and naked, and the volcanic mountains scattered here and there are lone and desolate. During the long months the sun pours its heat upon the rocks and sands, untempered by clouds above or forest shades beneath. The springs are so few in number that their names are household words in every Indian rancheria, and every settler's home; as there are no brooks, no creeks, and no rivers but the trunk of the Colorado and the trunk of the Gila.

The desert valley of the Colorado, which has been described as distinct from the plateau region above, is the home of many Indian tribes. Away up at the sources of the Gila, where the pines and cedars stand, and where creeks and valleys are found, is a part of the Apache land. These tribes extend far south into the Republic of Mexico. The Apaches are intruders in this country, having at some time, perhaps many centuries ago, migrated from British America. They speak the Athapascan language. The Apaches and Navajos are the American Bedouins. On their way from the far north they left several colonies in Washington, Oregon, and California. They came to the country on foot, but since the Spanish invasion they have become skilled horsemen. They are wily warriors and implacable enemies, feared by all other tribes. They are hunters, warriors, and priests, these professions not yet being differentiated. The cliffs of the region have many caves, in which these people perform their religious rites. The Sierra Madre formerly supported abundant game, and the little Sonora deer was common. Bears and mountain lions were once found in great numbers, and they put the courage and prowess of the Apaches to a severe test. Huge rattlesnakes are common, and the rattlesnake god is one of the deities of the tribes.

The low desert, with its desolate mountains, which has thus been described, is plainly separated from the upper region of plateau by the Mogollon Escarpment, which, beginning in the Sierra Madre of New Mexico, extend northwestward across the Colorado far into Utah, where it ends on the margin of the great basin. See Plate.

The rise by this escarpment varies from 3,000 to more than 4,000 feet. The step from the lowlands to the highlands, which is here called the Mogollon Escarpment, is not a simple line of cliffs, but is a complicated and irregular façade presented to the southwest. Its different portions have been named by the people living below, as distinct mountains, as Shiwits Mountains, Mogollon Mountains, Pinal Mountains, Sierra Calitro, etc., but they all rise to the summit of the same great plateau region.

This high region on the east, north and west, is set with ranges of snow-clad mountains attaining an altitude above the sea varying from 8,000 to 14,000 feet. All winter long snow falls on its mountain-crested rim, filling the gorges, half burying the forests, and covering the crags and peaks with a mantle woven by the winds from the waves of the sea. When the summer sun comes this snow melts and tumbles down the mountain sides in millions of cascades. A million cascade brooks unite to form a thousand torrent creeks; a thousand torrent creeks unite to form half a hundred rivers beset with cataracts; half a hundred roaring rivers unite to form the Colorado, which rolls, a mad, turbid stream, into the Gulf of California. Consider the action of one of these streams. Its source is in the mountains, where the snow falls; its course through the arid plains. Now, if at the river's flood, storms were falling on the plains, its channel would be cut but little faster than the adjacent country would be washed, and the general level would thus be preserved; but under the conditions here mentioned the river continually deepens its beds; so all the streams cut deeper and still deeper, until their banks are towering cliffs of solid rock. These deep, narrow gorges are called cañons. For more than a thousand miles along its course the Colorado has cut for itself such a cañon; but at some few points, where lateral streams join it, the cañon is broken and these narrow, transverse valleys divide into a series of cañons. The Virgen, Kanab, Paria, Escalante, Fremont, San Rafael, Price and Uinta on the west, the Grand, White, Yampa, San Juan and Colorado Chiquito on the east, have also cut for themselves such narrow, winding gorges, or deep cañons. Every river entering these has cut another canyon; every lateral creek has cut a cañon; every brook runs in a cañon; every rill born of shower and born again of a shower and living only during these showers, has cut for itself a cañon; so that the whole upper portion of the basin of the Colorado is traversed by a labyrinth of these deep gorges.

After the cañons, the most remarkable features of the country are the long lines of cliffs. These are bold escarpments scores or hundreds of miles in length,—great geographic steps, often hundreds or thousands of feet in altitude, presenting steep faces of rock, often vertical. Having climbed one of these steps, you may descend by a gentle, sometimes imperceptible, slope to the foot of another. They thus present a series of terraces, the steps of which are well defined escarpments of rock. The lateral extension of such a line of cliffs is usually very irregular; sharp salients are projected on the plains below, and deep recesses are cut into the terraces above. Intermittent streams coming down the cliffs have cut many cañons or cañon villages, by which the traveler may pass from the plain below to the terrace above. By these gigantic stairways he may ascend to high plateaus, covered with forests of pine and fir.

From the Grand Cañon of the Colorado a great plateau extends southeastward through Arizona nearly to the line of New Mexico, where this elevated land merges into the Sierra Madre. The general surface of this plateau is from 6,000 to 8,000 feet above the level of the sea. Various tributaries of the Gila have their sources in this escarpment, and before entering the desolate valley below they run in beautiful cañons which they have carved for themselves in the margin of the plateau. Sometimes these cañons are in the sandstones and limestones, which constitute the platform of the great elevated region called the San Francisco Plateau. The escarpment is caused by a fault, the great block of the upper side being lifted several thousand feet



above the valley region. Through the fissure lavas poured out, and in many places the escarpment is concealed by sheets of lava. The cañons in these lava beds are often of great interest. On the plateau a number of volcanic mountains are found, and black cinder cones are scattered in profusion.

Through the forest lands are many beautiful prairies and glades that in midsummer are decked with gorgeous wild flowers. The rains of the region give source to few perennial streams, but intermittent streams have carved deep gorges in the plateau, so that it is divided into many blocks. The upper surface, although forest clad and covered with beautiful grasses, is almost destitute of water. A few springs are found; but they are far apart, and some of the volcanic craters hold lakelets. The limestone and basaltic rocks sometimes hold pools of water; and where the basins are deep the waters are perennial. Such pools are known as "water pockets."

This is the great timber region of Arizona. Not many years ago it was a vast park for elk, deer, antelope and bears, and mountain lions were abundant. This is the last home of the wild turkey in the United States, for they are still found here in great numbers. San Francisco Peak is the highest of these volcanic mountains, and about it are grouped in an irregular way many volcanic cones, one of which presents some remarkable characteristics. A portion of the cone is of bright reddish cinders, while the adjacent rocks are of black basalt. The contrast in the colors is so great that on viewing the mountain from a distance the red cinders seem to be on fire. From this circumstance the cone has been named Sunset Peak. When distant from it ten or twenty miles it is hard to believe that the effect is produced by contrasting colors, for the peak seems to glow with a light of its own. A few miles south of San Francisco Peak there is an intermittent stream known as Walnut Creek. This stream runs in a deep gorge, 600 to 800 feet below the general surface. The stream has cut its way through the limestone and through a series of sandstones, and bold walls of rock are presented on either side. East of San Francisco Peak there is another low volcanic cone, composed of ashes which have been slightly cemented by the processes of time, but which can be worked with great ease. On this cone another tribe of Indians made its village. For the purpose they sunk shafts into the easily worked, but partially consolidated ashes, and after penetrating from the surface three or four feet they enlarged the chambers so as to make them ten or twelve feet in diameter. In such a chamber they made a little fire-place, its chimney running up on one side of the well-hole by which the chamber was entered. Often they excavated smaller chambers connected with the larger, so that sometimes two, three, four or even five smaller connecting chambers are grouped about a large central room. The arts of these people resembled those of the people who dwelt in Walnut cañon. One thing more is worthy of special notice. On the very top of the cone they cleared off a space for a court-yard, or assembly square, and about it they erected booths, and within the square a space of ground was prepared with a smooth floor, on which they performed the ceremonies of their religion and danced to the gods in prayer and praise.

The Little Colorado is a marvelous river. In seasons of great rains it is a broad but shallow torrent of mud; in seasons of drought it dwindles, and sometimes entirely disappears along portions of its course. The upper tributaries usually run in beautiful box cañons. Then the river flows through a low, desolate, bad-land valley, and the river of mud is broad but shallow, except in seasons of great floods. But fifty miles or more above the junction of this stream with the Colorado River proper, it plunges into a cañon with limestone walls, and steadily this

cañon increases in depth, until, at the mouth of the stream, it has walls more than 4,000 feet in height. This valley of the Little Colorado is also the site of many ruins, and the villages or towns found in such profusion were of much larger size than those on the San Francisco Plateau. Some of the pueblo-building peoples still remain. The Zuni Indians still occupy their homes, and they prove to be a most interesting people. They have cultivated the soil from time immemorial. They build their houses of stone, and line them with plaster; and they have many interesting arts, being skilled potters and deft weavers. The seasons are about equally divided between labor, worship, and play.

A hundred miles to the northwest of the Zuni pueblo are the seven pueblos of Tusayan: Oraibi, Shumopavi, Shupaulovi, Mashongnavi, Sichumovi, Walpi, and Hano. These towns are built on high cliffs. The people speak a language radically different from that of the Zuni, but, with the exception of that of the inhabitants of Hano, closely allied to that of the Utes. The people of Hano are Tewans, whose ancestors moved from the Rio Grande to Tusayan during the great Pueblo revolt against Spanish authority in 1680-96. In these mountains, plateaux, mesas, and cañons, the Navajo Indians have their home. The Navajos are intruders in this country. They belong to the Athapascan stock of British America and speak an Athapascan language, like the Apaches of the Sierra Madre country. They are a stately, athletic, and bold people. While yet this country was a part of Mexico they acquired great herds of horses and flocks of sheep, and lived in opulence compared with many of the other tribes of North America.

Perhaps the most interesting ruins of America are found in this region. The ancient pueblos found here are of superior structure, but they were all built by a people whom the Navajos displaced when they migrated from the far north. Wherever there is water, near by an ancient ruin may be found, and these ruins are gathered about centers, the centers being larger pueblos and the scattered ruins representing single houses. The ancient people lived in villages, or pueblos, but during the growing season they scattered about by the springs and streams to cultivate the soil by irrigation, and wherever there was a little farm or garden patch, there was built a summer house of stone. When times of war came, especially when they were invaded by the Navajos, these ancient people left their homes in the pueblos and by the streams, and constructed temporary homes in the cliffs and cañon walls. Such cliff ruins are abundant throughout the region. Ultimately the ancient pueblo peoples succumbed to the prowess of the Navajos and were driven out. A part joined related tribes in the valley of the Rio Grande; others joined the Zuni and the people of Tusayan; and still others

pushed on beyond the Little Colorado to the San Francisco Plateau and far down into the valley of the Gila.

Farther to the east, on the border of the region which we have described, beyond the drainage of the Little Colorado and San Juan and within the drainage of the Rio Grande, there lies an interesting plateau region, which forms a part of the Plateau Province and which is worthy of description. This is the great Tewan Plateau, which carries several groups of mountains. The plateau itself is intersected with many deep, narrow cañons, having walls of lava, volcanic dust, or tufa, and red sandstone. It is a beautiful region. The low mesas on every side are almost treeless and are everywhere deserts, but the great Tewan Plateau is booned with abundant rains, and it is thus a region of forests and meadows, divided into blocks by deep and precipitous canyons and crowned with cones that rise to an altitude of from 10,000 to 12,000 feet. For many centuries the Tewan Plateau, with its cañons below and its meadows and forests above, has been the home of tribes of Tewan Indians, who built pueblos, sometimes of red sandstones, in the cañons, but often of blocks of tufa, or volcanic dust. This light material can be worked with great ease, and with crude tools of the harder lavas they cut out blocks of the tufa and with them built pueblos two or three stories high. The blocks are usually about twenty inches in length, eight inches in width and six inches in thickness, though they vary somewhat in size. On the volcanic cones which dominate the country these people built shrines and worshiped their gods with offerings of meal and water and with prayer and symbols made of the plumage of the birds of the air.

When the Navajo invasion was long past, civilized men, as Spanish invaders, entered this country from Mexico, and again the Tewan people left their homes on the mesas and by the cañons to find safety in the cavate dwellings of the cliffs; and now the archæologist in the study of this country discovers these two periods of construction and occupation of the cave dwellings of the Tewan Indians.

To the east of this plateau region, with its mesas and buttes and its volcanic mountains, stand the southern Rocky Mountains, or Park Mountains, a system of north and south ranges. These ranges are huge billows in the crust of the earth, out of which mountains have been carved. The parks of Colorado are great valley basins enclosed by these ranges and over their surfaces moss agates are scattered. The mountains are covered with dense forests and are rugged and wild. The higher peaks rise above the timber line and are naked gorges of rocks. In them the Platte and Arkansas rivers head and flow eastward to join the Missouri river. Here also heads the Rio Grande del Norte, which flows southward into the Gulf of Mexico, and still to the west head many streams which pour into the Colorado waters,

destined to the Gulf of California. Throughout all this region drained by the Grand, White, and Yampa rivers, there are many beautiful parks. The great mountain slopes are still covered with primeval forests. Springs, brooks, rivers, and lakes abound, and the waters are filled with trout. Not many years ago the hills were covered with game—elks on the mountains, deer on the plateaus, antelope in the valleys, and beavers building their cities on the streams. The plateaus are covered with low, dwarf oaks and many shrubs bearing berries, and in the chaparral of this region cinnamon bears are still abundant. From time immemorial the region drained by the Grand, White and Yampa rivers has been the home of Ute tribes of the Shoshonean family of Indians. These Indians built their shelters of boughs and bark, and to some extent lived in tents made of the skins of animals. They never cultivated the soil, but gathered wild seeds and roots and were famous hunters and fishermen. As the region abounds in game, these tribes have always been well clad in skins and furs. The men wore blouses, loincloth, leggings and moccasins, and the women dressed in short kilts. It is curious to notice the effect which the contact of civilization has had upon these women's dress. Even twenty years ago they had lengthened their skirts, and dresses made of buckskin, fringed with furs and beaded with elk teeth were worn so long that they trailed on the ground. Neither men nor women wore any head dress except on festival occasions for decorations, then the women wore little basket bonnets decorated with feathers, and the men wore headdresses made of the skins of ducks, geese, eagles, and other large birds. Sometimes they would prepare the skin of the head of the elk or deer, or of a bear or mountain lion or wolf, for a head dress. For very cold weather both men and women were provided with togas for their protection. Sometimes the men would have a bearskin or elk-skin for a toga; more often they made their togas by piecing together the skins of wolves, mountain lions, wolverines, wild cats, beavers and otters. The women sometimes made theirs of fawnskins, but rabbitskin robes were far more common. These rabbitskins were tanned with the fur on and cut into strips, then cords were made of the fiber of wild flax or yucca plants and round these cords the strips of rabbitskin were rolled so that they made long ropes of rabbitskin coils with a central cord of vegetal fiber.

Correspondence.

LETTER FROM POLYNESIA.

Editor American Antiquarian:

In a recent number of the *Polynesian Journal* it was announced that you desired correspondence with those pursuing ethnological studies in New Zealand. Upon this, I have the pleasure to write a few lines on two subjects which may be of interest to you, as they are to me.

I was recently at Gesborne, a small township on the east coast of the North Island of New Zealand, and while there saw in the house of a friend of mine a terra cotta group of figures, probably representing an Aztec sacrifice. I took some photographs of it, copies of which I enclose. It is about fifteen inches high. My friend bought it in England, from a man who brought it from somewhere in America in his portmanteau, and it was then in fragments. Little, however, seems to have been lost save the hands. I was at once interested in seeing the incision at the *back*, below the shoulder-blade. I believe that I have carefully read Bancroft, but I can not recollect any instance of this form of sacrifice. There are several other points of interest in the group—the sacrificial robe and the two objects on the altar. I shall feel much obliged if you can give me some information on the subject or if you would hand the photographs to some one who would.

The next matter on which I am particularly in search of information is, three fingers. As you will probably be aware the majority of old Maori carvings represent the male and female figure with three fingers or three toes on each hand or foot. The explanations hitherto given for this are quite insufficient, and I am collecting facts for a fresh investigation into the matter. I have already examples from a number of widely separated places, the Fly River, New Guinea, New Hebrides and other parts of Melanesia and Polynesia, but recently I have seen some of the textiles from Peru (some fragments in our colonial museums) and the human figure in these has invariably three fingers. I believe the three-fingered hand occurs in some of the Indian deities, but this is probably another matter altogether. May I ask if you can refer me to any one who is an authority on the Ancon work and similar art. Unfortunately, Ruess & Steubel is not accessible here. I have no doubt I could get something bearing on the subject from that work.

I should much like to know if the human figure was always

or usually represented with three fingers or toes on the Pacific coast If so, is it known why? A. HAMILTON.

Dunedin, April 16, 1895.

ABOUT THE BOGUS STATUETTE.

Editor American Antiquarian:

I herewith return the photograph which you sent to me. There is not the slightest evidence about the statue that it is of American origin. In fact, all the details are against it. It seems to me a very doubtful affair, although it may be some ideal of a European sculptor. None of our American tribes would have represented the body of the dead individual as shown in this sculpture. In fact, the sacrifices were made, so far as I know, by throwing the victim on the back and cutting the heart out from the chest. It looks more like a dead woman who has been thrown over the altar. Then the faces, both of the woman and of the man, are decidedly of the white race. I should not regard the specimens, judging from the photograph, as of any ethnological importance.

F. W. PUTNAM, Secretary A. A. A. S.

Cambridge, Mass., July 1, 1895.

Editor American Antiquarian:

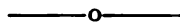
Yours of the 17th at hand, with photos (which I enclose). They are clearly not Aztec, and not native American, whatever else they may be. The hair of the victim is wavy, and the priest has a full chin beard and mustache, not to mention his wholly un-American features and costume. These exclude all possibility of genuine native American origin. Nor does it seem to me at all like Polynesian, resp. Maori, work. My conviction is that it is modern European in conception and execution. There is entirely too much sentiment in it to be of any other origin.

D. G. BRINTON.

Editor American Antiquarian:

I have to acknowledge your favor of the 24th, with two photographs. I have no hesitancy in pronouncing the figures represented ordinary frauds of a kind now made in Mexico for the benefit of tourists.

W. H. HOLMES.



ANOTHER HUGE DEPOSIT OF STONE RELICS.

Editor American Antiquarian:

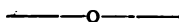
A remarkable store of prehistoric stone implements was discovered last fall in Cooperstown, McDonough County, Illinois. Several colossal mounds in that township, near the Illinois River, had been long been noticed. Three of them were near

together, and each was more than two hundred feet long, with a breadth of more than half as many, and a height of well nigh thirty feet. The last dimension was the most surprising, and yet it led to no excavation till the last halt of 1894.

The main discoveries were not made till the explorers, often ready to quit work in despair, had dug down nearly or quite to the surface of the prairie around. The tools were very largely of a single type—shaped like a leaf or a flattened egg—each about five inches by three. The material was a black, flinty stone, chipped to an edge, each side, or all around. The number taken out of one mound was counted, and found to be 5,200. But the yield from the other piles was too multitudinous for counting. The total harvest amounted to all that could be loaded on two wagons, and there was a surplus of two barrels more. In no ancient earth-works known to me has the deposit been so vast.

Among other relics which were brought to light was a multitude of bear's teeth, every one bored through with a hole, so as to be strung on a cord for forming an ornamental and rattling girdle or necklace. Nothing, however, in the curiosities that came to light was viewed with so much surprise as two axes of copper—a find almost if not altogether unique in Illinois. The larger of these unique specimens measures as follows: width of cutting edge, $4\frac{1}{2}$ inches; of the tip, $2\frac{3}{4}$ inches; thickness, about $\frac{3}{8}$ inch; weight, 2 lb, $13\frac{3}{4}$ oz. This implement was not buried more than two feet beneath the surface of the ground. The other ax lay near the lowest point of the diggings. Its weight was half an ounce over one pound, with a cutting edge of three inches and a tip of two inches, wanting a quarter. This ax appeared to be wrapped in a cloth, which through oxidation had become copperized, like a similar tool in the Davenport museum. A pipe of a nondescript pattern is the last article I will mention in a windfall which ought to draw attention, both to the mines which have so overpaid the pains of searching, and to others which remain still unexplored.

PROF. JAMES D. BUTLER.



THE MOUND-BUILDER AND THE BUFFALO.

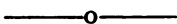
Editor American Antiquarian:

I have been very much interested in a statement made by no less an authority than Professor N. S. Shaler, professor of geology in Harvard University, that "the Mound-builders apparently did not know the buffalo. We determine this point by the fact that we do not find the bison bones about the old kitchen fires and we fail to find any pictures of the beast in the abundant delineations of the animals made by these ancient people." Then he begins to construct a very interesting theory

to account for this ignorance of each other between the Mound-builder and the buffalo. Now, to begin with, is this true? Are bones of the buffalo ever found associated with the mounds? Are there any effigies or pipes or other objects of these people which resemble the buffalo? In the second place, if Professor Shaler is right, did the buffalo cross the continent after the Mound-builders ceased work? or was the appearance of the buffalo east of the Mississippi the cause or the occasion of their change of life? Perhaps you will enlighten me on this point.

O. T. MASON.

Washington, May 10, 1891.



Editorial.

RANGE OF THE BUFFALO.

The evidence as to the range of the buffalo is about as follows: There was a map, published in 1539, which represents the moose and the buffalo as prevalent in New England. Champlain's map of 1613 represents buffalo hunting-grounds in Indiana and on the Ohio line. Winsor speaks of well-defined traces of buffalo paths from gap to gap of the Alleghany Mountains. He also speaks of the range extending from the mouth of the Mississippi to the Athapaskan. Parkman also speaks of the buffalo as in Ontario and as far east as Quebec.

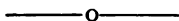
In a work published in Amsterdam in 1637, called "New English Canaan," by Thomas Morton, one of the first settlers of New England, he says: "The Indians have also made description of great *heards* of well growne beasts about the parts of this lake (Erocoise), now Lake Champlain, such as the Christian world hath not *bin* made acquainted with. Their backs are of the bigness of a *cowe*, their flesh being very good *foode*, their hide good leather, their fleeces very useful, being a kind of *woole*, as fine almost as the woole of the beaver, and the *sawages* do make garments thereof."*

*See Marcy's Ex. of Red River.

NOTES.

SUN WORSHIP.—The Indians of Arkansas had a custom of cutting a gash in the feet of their dead and placing in the wound the leaves of a plant called "Hound's Tongue." This plant has the peculiarity of following the course of the sun through the day. The custom signified that the feet of the ghost might be able to follow the sun, the great divinity, during its journey after death.

ANIMAL WORSHIP.—The Sacs and Foxes had a peculiar custom. The males of the nation are separated into two great phratries, called *Kiscoquah* and Oskosh. To each of these there was a head called the war chief. When they go to war one band is painted white with clay, the other band is painted black. Each nation is divided into no less than fourteen clans, distinguished by the names of animals—Bear, Wolf, Dog, Elk, Eagle, Partridge.



BOOK REVIEWS.

The Mississippi Basin. The struggle in America between England and France, 1697-1763, with full cartographical illustrations from contemporary sources. By Justin Winsor. Boston and New York: Houghton, Mifflin & Co., The Riverside Press, Cambridge. 1895.

The progress of history, as portrayed by the map, is the real subject of this book. The volume which preceded it, entitled *From Cartier to Frontenac*, treated of the progress of discovery. The two books should be read together. Mr. Winsor, the author, has succeeded in doing the very work which some have been anxious to accomplish for a number of years, but could not do so because of the expense of reproducing the maps and publishing them with the history. The writer has waited for fifteen years and more hoping that some one would do this. He repeatedly urged the Historical Society of Northern Ohio, or at least Judge C. C. Baldwin, its president, to reproduce the maps which were in their hands. It is better, however, that the librarian of Harvard College should undertake the task, for his facilities are much greater than any western man could have. The publishers, Houghton & Mifflin, are well known and have every convenience at their hands and have done most excellent service in printing and illustrating Mr. Winsor's books. The only fault we find is that by a strange incongruity the author or the publishers have contrived to cut so many blocks into two pieces and to divide so many of the maps between two pages. This is altogether unnecessary and subjects the reader to a great deal of inconvenience. Folded maps certainly would have been more satisfactory, for they would then give the names as they were printed and might have embraced a larger portion of the original maps. The reproduction of the maps in this form may illustrate the points made by the author, but it fails to represent the ideas of the geographers.

There was a geographical instinct, as Winsor says, as well as an historical sense. This becomes apparent as one studies the originals, but

to view in the reproduction. The maps were all published with a design. Those of the French differed from those of the English as much as their national ideas and plans differed. But those of the Spanish fell behind as rapidly as the nation itself did. Still both these books are charming to the student of history, and the more so because of the readiness on the part of the publishers to spare no expense in illustrating them. The article contained in this number on the study of the maps will illustrate their value and yet the charm cannot be expressed by words. We would say that a vast storehouse of information is contained in Mr. Winsor's books, and readers of history can hardly do without them, for they illustrate the subject as no ordinary books have or can.

Prince Roland Bonaparte, Democratic Suisse. Article parn dans "E'vene-
anent," Du 5 Juin, 1890. Imprimé Paris ponn l'Anteum.

Prince Roland Bonaparte, Assembles Democratiques en Suisse. Article
paru dans le "Figaro" le 28 Mai, 1890. Paris. Imprimé ponn l'Anteum.
1890.

Prince Roland Bonaparte, les Variations Periodiques. Des Glaciers Fran-
cais. Extrait de l'annuaire de Club Alpin Francis; 17c Volume—1890.
Paris. Typographie Chamerot et Renouard. 19 Rue Des saints-peres
19, 1891.

Prince Roland Bonaparte is a great traveler and is especially interested in glaciers. His pamphlet, which was published in 1891, treats of Periodical Variations of the Glaciers of France. The book on the excursion in corse is finely illustrated; some of the gorges which are described remind us of the cañons of America, but on a small scale. The prince is well known among scieatific men in many parts of the world and furnishes many interesting and elegant books on scientific subjects.

*Observations on the Inhabitants, Climate, Soil, Rivers, Productions, Ani-
mals and other Matters Worthy of Notice.* Made by Mr. John Bartram
in his travels from Pennsylvania to Onondago, Oswego, and the Lake
Ontario, in Canada, to which is annexed a curious account of the cataracts
of Niagara, by Mr. Peter Kalm, a Swedish gentleman, who traveled there.
London. Printed for J. Whiston and B. White, in Fleet street, 1751. A
reprint by G. M. Humphrey, of Rochester, N. Y.

This book carries us back to the times of Washington and his journey in the wilderness of Ohio and Pennsylvania when Indians were as common in New York as they are now in Alaska. It contains the map of Virginia, Pennsylvania, and New York, with the location of several of the tribes of Iroquois as follows: *Onondages* and *Onoydaes*, the *Tuscaroraes*, *Mohocks*, a reprint of Lewis Evans' map, 1694. The country is called Aquanushionig. Mr. Humphrey has done good service in reprinting this book.

Some Vestigial Structures in Man. By W. E. Rotzell, M. D. Narbote, Pa.
The vermi form bone is the chief vestigial structure dwelt upon.

The Story of Primitive Man. By Edward Clodd. New York: D. Apple-
ton & Co. 1895.

The author of this book carries the age of man back to the Miocene con-
temporaneous with the extinct animals, and seems to be a Darwinian of an
extreme type. He reviews the remains found in the drift and in caverns,
describes the Man of Spy and the Mentone cave, but seems to bring the

range of the paleolithic cave-dwellers beyond the neolithic mound-builders and Indians of America. The newer stone age is distinguished from the older mainly by having structures which are enduring. The relics are apparently as rude as those in the old age.

A Chapter in the History of Cleveland. By C. M. Burton. Detroit: 1893.

This is a description of the finding of a mass of papers, including an Indian deed at a certain house in Canada, opposite Detroit. The papers go back to the time of the deeds when Detroit was the capital of Wayne County, and Wayne County included all of the Northwest Territory. The deeds of Machinac, Kaskaskia, Vincennes, Sandusky and Cleveland were kept here. The claims of the Moravian and Chippewa Indians were bought by Mr. George Asken, amounting to five or six millions. It is an interesting little episode in the early history which joins on to the aboriginal history.

The Proto-Historic Ethnography of Western Asia. By Daniel Brinton M. D., read before the American Phil. Society April 19, 1894.

This pamphlet is designed to show that no Paleolithic race has been found among the inhabitants of the Tigris. Also that the different races gathered there were of one stock, probably whites which differed from the Turanians. It controverts the opinion that the original civilization of India and China started from this center.



PAMPHLETS ON THE CODICES AND SACRED DRAMAS.

A Study of Certain Figures in a Maya Codex. J. Walter Fewkes.

The Walpi Flute Observance. A study of primitive dramatization.

A Central American Ceremony, which Suggests the Snake Dance of the Tusayan Villagers.

The Kinship of the Tusayan Indians.

Are the Maya Hieroglyphs Phonetic? By Cyrus Thomas.

Note of the Ancient Mexican Calendar System. By Zelia Nuttall.

A Comparative Study of the Graven Glyphs of Copan and Quirigua. By Marshall H. Saville.

The Maya Year. By Cyrus Thomas.

The Maya Primer. By Dr. D. G. Brinton.

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No. 5.

THE SACRED POLE OF THE OMAHA TRIBE.

BY ALICE C. FLETCHER.

In the Peabody Museum of Harvard University have been placed, for safe-keeping, the contents of two of the sacred tents of the Omaha tribe of Indians. The sacred pole and its pack were deposited in 1888, while the articles pertaining to the sacred tent of war were transmitted four years earlier, in 1884. These relics are unique and of rare ethnological value, and the relinquishing of them by their keepers is, I think, without historic parallel. It came about in this wise: When the changes incident to the impinging of civilization upon the Omahas made it evident to their leading men that ancient tribal observances were no longer possible, the question arose as to what should be done with the sacred objects that for generations had been essential in their ceremonies, and expressive of the authority of those charged with the administration of tribal affairs. To destroy these sacred articles was not to be thought of, and it was suggested that they should be buried with the chiefs of the gens charged with their keeping; which manner of disposal was finally determined upon.

At that time, I was engaged in a serious study of the tribe, and to me it seemed a grave misfortune that these venerable objects should be suffered to decay, and the full story of the tribe be forever lost; for that story was as yet but imperfectly known, and until these sacred articles, so carefully hidden, could be examined, it was impossible to gain an inside point of view, whence one could study as from the center, ceremonies connected with these articles and their relation to the autonomy of the tribe. The importance of securing these objects became more and more apparent, and influences were brought to bear upon the chiefs who were their keepers to prevent the carrying out of the plan for burial.

After years of labor, wherein large credit must be given to

The sacred pole is of cottonwood and bears marks of great age. It has been subjected to manipulation; the bark has been removed and the pole shaped and shaved at both ends, the top or "head" rounded into a cone shaped knob and the lower end trimmed to a dull point. Its circumference near the head is 15 cm. 2 mm.; the middle part increases to 19 cm. and is diminished toward the foot to 14 cm. 6 mm. To the lower end is fastened by strips of tanned hide, a piece of harder wood, probably ash, 55 cm. 2½ mm. in length, rounded at top with a groove cut to prevent the straps slipping, and with the lower end sharpened so as to be easily driven into the ground. There is a crack in the sacred pole extending several cm. above this foot piece, which has probably given rise to a modern idea that this foot piece was added to strengthen or mend the pole when it had become worn with long usage. But the pole itself shows no indication of ever having been in the ground; there is no decay apparent, as is shown on the foot piece whose flattened top proves that it was driven into the ground. Moreover, the name of this piece of wood is zhi-be, leg, and as the pole itself represents a man, and as this name zhi-be is not applied to a piece of wood spliced on to lengthen a pole, it is probable that a foot piece was originally attached to the pole.

Upon this zhi-be, or leg, the pole rested; it was never placed upright, but inclined forward at an angle of about forty-five degrees, and was held firmly in place by a stick tied to it about 1 m. and 46 cm. from its "head." The native name of this support is i-mon-gdhe, a staff, such as old men lean upon.

Upon the top or "head" of the pole was tied a large scalp, ni-ka mon-ghi-ha. About one end, 14 cm. 5 mm. from the "head" of the pole, is a piece of hide bound to the pole by bands of tanned skin. This wrapping covers a basket work of twigs and feathers lightly filled with down of the crane. The length of this bundle of hide is 44 cm. 5 mm., and its circumference about 50 cm. But this does not give an exact idea of the size of this basket work when it was opened for the ceremony, as the covering has shrivelled with age, it being twenty years this summer since the last ceremony was performed and the wrapping put on as it remains to-day.

This bundle is said to represent the body of a man. The name by which it is known, a-kon-da-bpa, is the word used to designate the leather shield worn upon the wrist of an Indian to protect it from the bow string. This name affords unmis-takable evidence that the pole was intended to symbolize a man, as no other creature could wear the bow-string shield. It also indicated that the man thus symbolized was one who was both a provider and protector of his people.

The accompanying pack contained a number of articles which were used in the ceremonies of the sacred pole. The pack itself is an oblong piece of buffalo hide, which, when wrapped around its contents, makes a round bundle about 80 cm. long and 60 cm. in circumference. It was bound together by bands

of rawhide and was called wa-dhi-gha-be, meaning literally, things flayed, referring to the scalps stored within the pack. Nine were found in it when I opened the pack at the museum, and some of them show signs of considerable wear. They are all very large and on one is the remains of a feather, all of which has been worn away but the quill.

The pipe belonging to the pole and used in its rites was kept in this pack. The stem is round and 89 cm. in length. It is probably of ash, and shows marks of long usage. The bowl is of red catlinite 12 cm. 5 mm. at its greatest length, and 7 cm. 2 mm. in height. The bowl proper rises 4 cm. 5 mm. from the base. Upon the sides and bottom of the stone certain figures are incised which are difficult to determine; they may be a conventionalized bird grasping the pipe. The lines of the figures are filled with a semi-lustrous black substance, composed of vegetable matter, which brings the design into full relief; this black substance is also painted upon the front and back of the bowl, leaving a band of red showing at the sides. The effect is of a black and red inlaid pipe. When this pipe was smoked, the stone end rested on the ground; it was not lifted, but dragged by the stem as it passed from man to man while they sat in the sacred tent or enclosure. To prevent the bowl falling off, which would be a disaster, a hole was drilled through a little flange at the end of the stone pipe where it is fitted to the wooden stem, and through this hole one end of a cord made of sinew was passed and fastened, and the other end of the cord securely tied about the pipestem 13 cm. above its entrance into the stone pipe bowl.

The stick used to clean this pipe, ni-niu-dhu-ba-thk, was kept in a case or sheath of reed wound round with a fine rope of human hair, which was fastened with bits of fine sinew; a feather, said to be that of the crane, was bound to the lower end of this sheath. Only a part of the quill remains. Sweet grass, pe-zthe-zthon-thta, and cedar, na-zthi, broken up and tied in bundles, were in the pack. Bits of the grass and cedar were spread upon the top of the tobacco when the pipe was filled, so that when it was lit these were first consumed, making an offering of savory smoke.

Seven arrows, mon-pe-dhun-ba, were in the pack. The arrow shafts are much broken; they were originally 45 cm. 6 mm. in length, feathered from the crane, and had stone heads. Part of the quills of the feathers remain, but the arrow-heads are lost. A bundle of sinew cord, red paint, wa-the-zhi-de, used in painting the pole, and a curious brush, complete the contents of the pack. The brush is made of a piece of hide, one edge cut into a coarse fringe and the hide then rolled together and bound with bands, making a rude utensil with which the paint, mixed with buffalo fat, was put upon the pole. Those who may visit the Peabody Museum at Harvard University will notice upon the upper portion of the sacred pole something that looks like pieces of thick bark; it is the dried paint

that remains from the numerous anointings of the pole, which ceremony was a thank offering for successful hunts and a prayer for future prosperity. The anointing or painting of the pole took place in July, toward the close of the annual buffalo hunt, after the tribe had reached that portion of their hunting grounds where they felt themselves reasonably secure from their enemies. The custom long ago, beyond the memory of the oldest men, so I was told by the chief of the Honga in 1888, was to perform this ceremony twice a year, after the summer and winter hunt, but, within his memory and that of his father, it had been held only in the summer.

The rapid destruction of the herds of buffalo in the decade following 1870 caused the Indian not only sore physical discomfort, but also great mental distress. His religious ceremonies needed the buffalo for their observance, and its disappearance, which in its suddenness seemed to him supernatural, has done much to demoralize the Indian, morally as well as socially. No one can have his sacred rites overturned in a day and preserve his mental equipoise.

After several unsuccessful hunts of the tribe, poverty succeeded to their former plenty, and, in distress of mind and body, seeing no other way of relief, the people were urged to the performance of their ceremony of anointing the pole, although misfortune in hunting had made this in its integrity impossible. A new plan was suggested by which the ceremony could be accomplished and, as they fondly hoped, the blessing of plenty be restored to the people. The tribe had certain moneys due from the United States in payment for ceded lands, and through their agent they asked that such a sum as was needful to purchase thirty head of cattle should be paid them. The agent, little understanding the trouble of mind of the Indians under his charge or the motive of their request, wrote to the Interior Department at Washington, that "the Omahas have a tradition that when they do not go on the buffalo hunt, they should at least once a year take the lives of some cattle and make a feast." This interpretation of the Indian's desire to spend his own money for the purchase of the means by which he hoped to perform rites that might bring back the buffalo and save him from an unknown and terrifying future, is a significant comment upon how little the Indian's real life has been comprehended by those appointed to lead him along new lines of living and thinking. The cattle were bought at a cost to the tribe of about \$1,000. The ceremony took place; but, alas! the conditions did not alter. A second time the tribe spent its money, but to no avail. New interests and influences grew stronger every month. The old customs could not be made to bend to the new ways forced upon the people. Opposition to further outlay arose from the government and among some of the Indians themselves; and one year, two years, three years passed and the pole stood silent in its tent, dreaded, as a thing that was powerful for harm, but

seemingly powerless to bring back the old time prosperity to the people.

When, in 1888, the pole was finally placed for safe keeping in the museum at Harvard University, it seemed very important to secure its legend, known to the chief of the Honga. The fear inspired by the pole was such that it seemed as though it would be impossible to gain this desired information, but it was finally brought about; and one summer day in September, the chief, Shu-de-non-zhe, came to the house of Joseph La Flesche, to tell the tradition of his people, as given in the legend of the pole.

It was a memorable day; the harvest was ended and tall stacks of wheat cast their shadows over the stubble fields that were once covered with buffalo grass. The past was irrevocably gone. The old man had consented to speak, but not without misgivings, until his former head chief cheerfully accepted for himself any penalty that might follow the revealing of these sacred traditions, which was held to be a profanation punishable by supernatural death.

While the old chief talked he continually tapped the floor with a little stick he held in his hand, marking with it the rhythm peculiar to the drumming of a man who is invoking the unseen powers during the performance of certain rites. His eyes were cast down, his speech was deliberate, and his voice low, as if speaking to himself alone. The scene in that little room where we four sat was solemn, as at the obsequies of a past once so full of human activity and hope. The fear inspired by the pole was strengthened in its very passing away. By a singular coincidence the touch of fatal disease fell upon Joseph La Flesche almost at the close of this interview, which lasted three days, and in a fortnight he lay dead in the very room where had been revealed the legend of the pole.

According to the legend, the appointed time for the ceremony of anointing the pole was in the moon, or month, when the buffalo bellow, the latter part of July. It was to follow the fourth tribal chase after the ceremony of the taking of the twenty buffalo tongues and one heart had been performed four times. Then the Wa-ghdhe-ghe-ton subdivision of the Honga gens, which had charge of the pole, called the seven principal chiefs, who formed the oligarchy, to the sacred tent to transact the preliminary business. They sat there with the tent closed tight, clad in their buffalo robes, worn ceremonially, the hair outside and the head falling on the left arm; they smoked the pipe belonging to the pole, and ate the food provided, in a crouching attitude and without knife or spoon, in imitation of the buffalo's feeding, and taking care not to drop any of the food. Should, however, a morsel fall upon the ground, it was carefully pushed toward the fire; such a morsel was believed to be desired by the pole, and, as the legend says, "no one must take anything claimed by the pole."

When the council had agreed upon a day for the ceremony.

runners were sent out to search for a herd of buffalo, and, if one was found within four days, it was accounted a sacred herd, and the chase that took place provided fresh meat for the coming ceremony. If, however, within four days, the runners failed to discover a herd, dried meat preserved from their previous hunt was used.

In this preliminary council, each chief, as he took a reed from a bundle kept in the sacred tent, mentioned the name of a man of valorous exploits. When the number of brave men agreed upon had been mentioned, the Honga gave the reeds to the tribal herald to distribute to the designated men, who, on receiving them, proceeded to the sacred tent, and by giving back to the Honga their reeds, accepted the distinction conferred upon them. It was now their duty to visit the lodges of the tribe and select from each tent a pole to be used in the construction of a lodge for the ceremonies. This they did by entering the tent and striking the chosen pole, while they recounted the valiant deeds of their past life. These men were followed by designated men from the Honga gens, with their wives, who withdrew the selected poles and carried them to the vicinity of the sacred tent, where they were set up and covered so as to form a semi-circular lodge, open toward the center of the tribal circle. It was erected upon the site of the sacred tent, which was incorporated in it; and, as the poles taken from all the tents in the tribe were used in its construction, this communal lodge represented the homes of the people.

Up to this time the tribe may have been moving and camping every day, but now a halt is called until the close of the ceremony. To the communal tent the seven chiefs and headmen are summoned by the Honga and take their seats, all wearing the buffalo robe in the ceremonial manner. The herald, on this occasion, wears a band of matted buffalo wool about his head, with a downy eagle feather standing in it.

The sacred pole is brought forward to the edge of the communal lodge, so as to lean out toward the center of the hu-dhu-ga. In front of it a circle is cut in the ground, the enclosed sod removed, and the earth made loose and fine.

From this time to the close of the rites, all the horses must be kept outside the hu-dhu-ga, and the people must not loiter in or pass across the enclosure. To enforce this regulation, two men were stationed as guards at the entrance of the tribal circle.

The pipe belonging to the sacred pole is smoked by the occupants of the communal tent, and the bundle of reeds brought out. Each chief, as he draws the reed, mentions the name of a man, who must be one who lives in his own lodge as the head of a family, and not a dependent upon relatives. (What we would term a householder.) As the chief speaks the name, the herald advances to the pole and shouts it aloud, so as to be heard by the whole tribe. Should the name given be that of a chief, the herald will substitute that of one of his young sons. The man so called is expected to send by the hand

of his children the finest and fattest piece of the buffalo meat, of a peculiar cut, known as ta-ghu. If the meat is too heavy for the children, the parents help carry it to the communal tent. The little ones are full of dread, and particularly fear the fat, which is to be used upon the pole. So, as they trudge along, every now and then they stop to wipe their wee fingers on the grass so as to escape any blame or possible guilt of sacrilege.

Should any one refuse to make this offering to the pole he would be struck by lightning, be wounded in battle, or lose a limb by a splinter running into his foot.

The gathering of the meat occupies three days, during which the Honga are singing at intervals, by day and night, the sacred songs, which echo through the camp and enter into the dreams of the children. The songs belonging to the ritual of the corn are first sung, followed by those relating to the hunt, all in their proper sequence. If a mistake in the order is made, the Honga lift up their hands and weep aloud, until the herald, advancing from the sacred pole, wipes away the tears with his hands, and the wail ceases, and the songs go on.

On the morning of the fourth day the meat is spread upon the ground before the pole in parallel rows, the full length of the communal lodge. The keeper of the pole and his wife then advance to perform their part in the ceremony. He is clothed in the usual shirt and leggings, and his cheeks are painted in red bands. The woman wears over her gala dress a buffalo robe, with the skin outside, which is painted red, so are her cheeks, and bands of the same color are on her glossy, black hair, and to the heel of each of her moccasins is attached a strip of buffalo hair, like a tail.

Songs precede and describe every act of the keeper. When he is about to cut the fat from the meat offered to the pole, the Honga sings the Song of the Knife, and, at the fourth repeat, the keeper grasps the knife. So, on the fourth repeat of another song, he cuts off the fat and lays it in a large wooden bowl, which is carried by his wife. In this vessel the soft fat, and a peculiar clay made red by baking, are kneaded into a paint, with which the keeper smears the pole.

In the circle excavated in front of the pole a buffalo chip is kindled and sweet-grass and cedar leaves laid upon it, through the smoke of which the seven arrows are now passed for purification and consecration. The leather covering is removed from the body of the pole, and the woman comes forward and thrusts the seven arrows, one by one, through the basket-work thus exposed. Each arrow has its special song. If an arrow passes clear through and falls so as to stand in the ground, all the people shout for joy, as this indicates special victory in war and success in hunting.

Now the buffalo meat is gathered up and laid away and four images are made of grass and hair and set up before the pole. These are to represent enemies of the tribe. Then the herald

goes forth shouting, "Pity me, my young men, and let me once more complete my ceremonies." Meaning by this that the men of the tribe should lay aside all other affairs and considerations and devote themselves to the part they are to play in the final act of the ceremony.

While the warriors are putting on their ornaments and their eagle feather war-bonnets and getting their weapons in order for a simulated battle before the pole, where they should act out in detail their past brave deeds of war, the people crowd together at either end of the communal tent as to a vantage point whence to view the dramatic spectacle.

Some of the warriors appear on horse-back outside the camp and charge upon it, crying out, "They have come! They have come!" (This was once done in so realistic a manner as to deceive the people into the belief of an actual onslaught of an enemy, to the temporary confusion of the whole tribe.) The warriors fire upon the images before the pole, and the chiefs within the communal tent shout back in defiance of them; this charge is made four times and then the images are captured and treated as conquered. With this stirring drama, which is called shooting the wa-ghdhe-she, or pole, the ceremonies come to an end, which ceremonies, according to the legend, were instituted "to hold the people together."

On the following day the he-di-wa-chi, under the leadership of the In-ke-tha-be gens, takes place. This is participated in by all the tribe, men, women and children. The he-di-wa-chi is a dance about a pole, which has been cut and painted for the occasion with peculiar ceremonies. After this dance the camp breaks up, each family following its own pleasure, and all rules and regular times as to hunting are at an end for the season.

The legend states that the finding of the pole occurred while the council was in progress among the Cheyennes, Arickerees, Pawnees, and the Omahas, which latter tribe then included what are now the Ponka and Iowa tribes. The object of the council was to agree upon terms of peace and decide upon rules of war and hunting.

The legend runs as follows: "During this time a young man who had been wandering came back and said: 'Father, I have seen a wonderful tree,'" and he described it. The old man kept silent, for all was not yet settled between the tribes. The young man went again to visit the tree, and on his return repeated to his father his former tale of what he had seen. The old man kept silent, for the chiefs were still conferring. At last when everything was agreed upon between the tribes the old man sent for the chiefs and said: "My son has seen a wonderful tree. The thunder birds come and go upon this tree, making a trail of fire that leaves four paths of burnt grass toward the four winds. As the thunder birds light upon the tree it bursts into flame and the fire mounts to the top; still the tree stands burning, but no one can see the fire except at night.

When the chiefs heard this tale they sent runners to see what it might be, and the runners came back and told the same story,—how the tree stood burning in the night. Then all the people had a council and they agreed to run a race for the tree and attack it as if it were an enemy. The chiefs said: "We shall run for it; put on your ornaments and prepare as for battle."

So the young men stripped and painted themselves and put on their ornaments and set out for the tree, which stood near a lake. The men ran and a Ponka reached it first and struck it, as he would an enemy. Then they cut the tree down and four men, walking in line, carried it on their shoulders to the village. And the people sang four nights, the songs which had been composed for the tree while they held their council. The tree was taken inside the circle of lodges and a tent was made for it. The chiefs worked upon the tree and shaped it and called it a human being. They made a basket-work of twigs and feathers and tied it on the middle of the pole for a body. Then they said: "It has no hair!" So they went out to get a large scalp, and they put it on the top of the pole for hair. They sent out a herald to tell the people that when all was completed they should see the pole.

Then they painted the pole and set it up before the tent, leaning on a staff, and called all the people; and all the people came—men, women and children. When all the people had gathered, the chief stood up and said:

"You now see before you a mystery. When we are in trouble we shall bring our trouble to him. To him you shall make your offerings and requests; all your prayers must be accompanied by gifts. This (pole) belongs to all the people, but it shall be in the keeping of one family, and the leadership be with them, and, if any one desires to lead, (*i. e.* become a chief and take responsibility in the governing of the people) he shall make presents to the keepers, and they shall give him authority."

When all was finished, the people said: "Let us appoint a time when we shall again paint him, and act before him the battles which we have fought." So the time was fixed in the moon when the buffalos bellow.

Then followed the details of the ceremony already outlined, ending with the words: "This was the beginning of the ceremony, and it was agreed that it should be kept up."

The legend goes on: "The people began to pray to the pole for courage and for trophies in war, and their prayers were answered. The pole is connected with thunder and war, the authority of the chiefs and of the hunt."

At the time when the pole was discovered, both the tradition of the Omahas and the Ponkas concur in stating that the people were living in a village near a lake, and that the tree, which was evidently some distance from the camp, grew near a lake. The exact position of this village is not yet identified,

but it was in all probability at no great distance from the red pipe stone quarry on the southwestern part of South Dakota.

Time forbids an enumeration of my historical research in this connection, but the oldest records and authentic maps indicate that the pole could not have been cut at any time since 1673.

The establishment of the order of chieftainship and the government of the tribe as it has been known during the present century, antedated the institution of the pole. Several political changes had already taken place before that event.

I can not, at this time, recount and analyze the legend of the seven old men, who are said to have instituted the government by seven chiefs, and to have established the ni-ni-ba-ton or pipe subgens in certain of the ten gentes of the tribe. This legend deals with a political change and a religious innovation that long antedated the advent of the sacred pole. When the seven old men introduced the sacred tribunal pipes there were already in the tribe three distinct groups of insignia of as many forms of worship, namely: The Four Sacred Stones, in the custody of the Ma-then-ga-ge-he gens, having their peculiar ritual; the Honor Pack, the Sacred Shell and the Pole of Red Cedar, of the Thunder Rites, in charge of the We-jin-shte gens; and the song and ritual of the Hede-wache, committed to the Inkethabe gens.

The entrance of the Omahas into the group of tribes that agreed to respect and to observe the ceremony of the Wa-wan, Pipes or Calumets of Fellowship, not only tempered their sun-worship through the teachings of the ritual of this ceremony, but opened a new path to tribal honor by which a man of valor and industry could reach equality with the hereditary chiefs in the government of the tribe. The sacred ritual pipes had the same function within the tribe as the Wa-wan or Calumets of Fellowship had between distant tribes, and they also were ornamented with the peculiar woodpecker heads, the upper mandril turned back and painted in the same manner as upon the Fellowship Calumets. Upon one of these tribal pipes seven of these heads were placed in a row, referring to the seven chiefs; on the other pipe there was but one head, symbolizing the unit of authority which must be reached by unanimity of the seven chiefs in all decisions.

Poles had long been used in the tribe as symbols of religious beliefs and of authority.

The he-di-wa-chi and its pole bear evidence of great age, and it seems not improbable that it sprang from the same root as the sun-dance of the Dakotas that has developed so differently.

The pole of the thunder rites, belonging to the sacred tent of war, in the care of the We-jin-shte gens, was of red color, 1 m. 25 cm. in length, to which was corded a zhe-be or leg 61 cm. long. A rounded stick, like a club, 43 cm. long, also of red color, was bound about the middle of the pole. The thunder gods used clubs as weapons; one of the ritual songs of the

tent of war says: "Your grandfather, fearful to behold is he! When your grandfather lifts his long club, he is fearful to behold!" In olden time, when the rites were performed in the spring, when the first thunder peal was heard, a part of the ceremony was the painting of this pole.

It is probable that this pole was the prototype of the sacred pole; the two have features in common. The zhi-be, or leg; the body on the one being the thunder club, and on the other bearing the name of the bow-shield, used by warriors to protect the wrist from the bow-string; both poles were painted with due ceremony at appointed times; both referred more or less directly to thunder, and any profanation of either was avenged by that power, the guilty being struck by lightning. It will be recalled that attention was first drawn to the tree, from which the sacred pole was shaped, by the thunder birds coming to it from the four quarters and the mysterious burning that followed; so that the pole became, in the minds of the people, endowed with supernatural power by the ancient thunder gods.

The government by the seven chiefs was at first confined to hereditary rulers, drawn from certain sub-divisions of certain gentes. By a slow process in the course of time men of ability rose into power and honors were won and worn by those whom the people recognized as leaders, until, at last, the oligarchy of seven became representative of individual attainment, and of gentes and sub-gentes hitherto debarred from participation in the governmental affairs of the tribe.

The name given to the sacred pole was wa-ghdhe-ghe, bears testimony to this political change in the chieftainship. Wa-ghdhe-ghe is made up of the prefix wa-, indicating the power to do, and ghdhe-ghe, the name of the ceremony of placing the mark of honor upon a daughter of a chief. (This consisted in tatooing a small round spot, about half an inch in diameter, upon the forehead and upon the chest and back just below the neck; a circle of four equidistant points projecting from it. These symbols refer to the sun and the four quarters.) The right to put the mark of honor upon a daughter was not hereditary, but could be gained through the performance of one hundred certain deeds, called wa-dhe-en-dhe. The name of the pole, wa-ghdhe-ghe, signifies the power to do, or perform, this ceremony; ghdhe-ghe, the mark of honor.

The sacred pole of the Omahas was, as we have seen, scarcely an innovation as a symbol, although it stood for the authority of new ideas that had been slowly developing within the tribe. In it and its ceremonies nothing that had been gained in the past was lost, the supernatural control of man was recognized, together with his ability to achieve for himself honor and rank. It stands as a witness that society, even in its primitive, tribal conditions, is not an inert mass of people, but an organization operated upon by laws kindred to those which we have learned to recognize as instrumental in the unfolding of the mind of men.

EGYPTOLOGICAL NOTES.

BY WILLIAM C. WINSLOW, LL. D.

TWO EXHIBITIONS.—In summer while the spades rest, their fruit appears—just now in two interesting exhibitions in London. Let us first enter Burlington House and inspect the objects sent to England from the site of the temple of Queen Hatsu, at Deir-el-Bahari, by Dr. Naville.

General interest is awakened by the large case on the left of the room, in which are set out a unique series of tools, models, vases, and the like, which were marked with Queen Hatshepsu's name ("Good god Ramaka, beloved of Amen in Serui"), and deposited below the foundation of her temple. The mats, which cover them, lie on the center table hard by. The metal blades of the tools are of bronze, the handles and wooden objects of sycamore, the latter especially seeming miraculously new, considering that they have been buried about 3,500 years. This large deposit, the earliest known, was found last February on the extreme south of the temple in a pit with a small recess scooped out on one side. There are fourteen jars of unglazed red ware; ten pots of alabaster, with original covers; fifty wooden models, probably of threshing-sledges; fifty wooden hoes without the usual cross binding, the leathers for which were found in bundles close by; eight large adzes, with bronze blades and red leather binding, wonderfully preserved; eight small adze-handles without blades; eleven stands of basket-work for jars; four bronze blades; a sacrificial knife and an ax. Five fine blue scarabaei of the queen were found near. This collection, singular in date, size and character, is perhaps the most remarkable that has ever found its way to London.

The large painted coffins, which show conspicuously at the sides of the room, are notable chiefly for their preservation and the completeness of all the accessories of burial—the bead-nets, with genii in blue bead-work on the breasts of the dead; the wooden hawks and jackals, symbols of Horus and Anubis, on guard over the coffins; and the wooden boxes filled with blue *ushabti* figurines at the feet. The mummies in them are those of a priest of Khonsu, his mother and her sister; and all were found together in a pit excavated at a later period than the queen's in a corner of her temple, and preserved inviolate to this day by the collapse of the roof above.

In the show-cases are displayed a great variety of smaller objects. In that in the farthest window on the left are scarabs, amulets, etc., of the famous Deir-el-Bahari blue glaze. The inscribed scarabs of the XVIIIth Dynasty, shown here, amount to over 400. The rarest objects in this case are probably an exquisite green frog with red eyes, and the complete blue vase

of Princess Nesikhonsu at the back of the case. In the center of the room, beside Ptolemaic "Canopic" jars and remains of broken up burials of the Saite period, are displayed more specimens of the local blue ware, beads of all kinds, uninscribed scarabs, chessmen, necklaces, and fragments of large vases showing great variety of geometric and floral design. On the left side, as one proceeds towards the back of the room, the late Coptic breast-cloths should be noted, one with name-label attached. These are especially interesting as affording clear evidence of a survival of the practice of mummification, with all the ideas it implied, far into Christian times. The bronze objects are not very remarkable; but a few specimens of Coptic *ostraka*, selected from over 1000, are of great interest to students of early ritual and church history. One, it may be noted, contains matter bearing with singular appositeness on the controversy as to the remarriage of divorced persons. Much is expected from this enormous find of documents dating from a very early and interesting period of the Coptic Church. A fine coffin-mask in sycamore wood and rare specimens of wooden dove-tails for bonding blocks together on the left side, and an artist's trial piece on the right side, ought to be looked at; and on a small table near the door lies a child's coffin with a pair of baby shoes buried with it. The shoes are cut in two to render them useless to a spoiler, while they would remain as good as ever for the child's use in a spirit world; the parents believed that the child would carry and wear its shoes alternately on its ghostly journey, as they carried and wore theirs (and the *fellahin* does still) on earth. Near the coffin lies another small one, containing a rudely cut witch-doll.

The wall opposite to the door is covered with a large collection of drawings for publication; and it should be observed that these represent the main reason for the excavation of Deir-el-Bahari. The fine reliefs, with which the temple walls are covered, have been revealed, many of them for the first time now, and will be reproduced in annual instalments. The sculptures, constituting by far the largest class of the finds, can only be represented very imperfectly in such an exhibition as this at Burlington House. In former days they would have been ripped off ruthlessly and brought away; now they are left in position, secured and guarded; and visitors to the exhibition will bear in mind that on that account they do not see the tenth part of what the Deir-el-Bahari excavation has brought to light.

NON-EGYPTIAN OBJECTS.—The other exhibition is in the Amelia B. Edwards Library and Museum of University College, and consists of antiquities from the western side of the Nile, opposite Coptos, where Dr. Petrie discovered remains of a race thought to be entirely un-Egyptian, and to have existed between the VIth and XIIth Dynasties.

This people excelled in the art and craft of pottery; and by their pottery we may henceforth follow their traces in Egypt,

even where all evidence of their distinctive funeral ceremonial has now disappeared. The finish is in many cases exquisite; the forms are beautiful, but entirely un-Egyptian, and the makers of the pottery do not seem to have learned from the Egyptians the secret of the potter's wheel. All their pottery is hand-made. The key to the comparative chronology of this pottery and the funeral objects with which it is associated was found in the unpolished, wavy-handled jars, of which specimens are arranged in order of development—or degeneration—on Stand 9. The earlier forms of these jars closely resemble the Amorite pots with wave handles found at Lachish, in Palestine, and in these instances the handles are distinctly structural. In the later examples the form has changed to a cylindrical shape, and the wavy handles in relief to a slight and continuous incised pattern carried round the vessel. The pottery with polished red haematite facing, examples of which occupy Stands 2, 3, and 5, and which recalls in texture the modern ware of Asyut, is also distinctly characteristic of this people who made it, more especially that which is partially blackened in the firing. To quote the catalogue as to its manufacture:

"The black portion is due to the de-oxidizing action of the wood-ashes in the kiln, reducing the red peroxide to the black magnetic oxide of iron. The brilliant lustre of the black is probably due to the solvent action of carbonyl, due to imperfect combustion, which enables the magnetic oxide to re-arrange in a continuous surface. The coloring material is exactly the same as in Greek black and red paintings on pottery."

Some of the larger pieces of this pottery (Stand 5) were incised after firing with cursive linear drawings of natural forms, such as a tree, a bird, a scorpion, a gazelle, and even a rude human figure, or with conventional signs; but no traces of writing have been found in connection with the remains of the men who thus marked their property in pots. On Stand 4 is pottery made and colored in imitation of the stone jars for suspension, which may be seen hanging along the middle of the room. It is possible to imagine, from the careful juxtaposition of the pottery vases, how the realistic marbling may have suggested the patterns which succeeded it. Another decoration suggests as its origin the network and cordage used to sustain the stone jars. Stand 7 is filled with pottery of curious and distinctive forms: pottery decorated in relief, jars in the forms of animals, clay boats, etc., modelled in the round. Here, also, are specimens of the only type of pottery belonging to this people which was adopted by the Egyptians on their return to power after the submergence of the Old Kingdom. This form, which somewhat suggests bottles in modern use for holding salad-dressing, is found, albeit in different material, in Egyptian pottery, of the XIIth Dynasty.

That the strange race also imported pottery is to be concluded from the fact that certain highly decorated types were found only in conjunction with examples of a certain stage in

the evolution of the wavy handles, and that no evidence of the gradual evolution of the characteristic decorations was forthcoming on the spot. The commonest design (Stand 6) is a large boat with three paddles for steering, and with cabins on deck. At the prow are palm fronds, and aft is a tall pole bearing an ensign, which is in one case an elephant. There is also a further decoration of rows of birds—ostriches or cranes. With regard to a second style of imported pottery, we again quote the catalogue:

"The black bowls with incised patterns in white are also foreign. No such pottery is known of Egyptian make; but it resembles a finer pottery which has been found in several places with remains of the XIIth Dynasty. The whole of this black incised ware is imported, and bears most resemblance to the earliest Italic black ware found with neolithic and copper tools. Similar fragments have been found in the lowest level of Hissarlik."

The assumption at present is that our non-Egyptian dwellers on the west bank of the Nile, who were apparently akin to the allied races of the Libyans and Amorites, imported this pottery from the home of their parent race on the shores of the Mediterranean. From time to time some few examples of the native and imported pottery and of the characteristic stone vessels of this people have found their unrecorded way into the general antiquity market. It is a suggestive fact that the main centers of this distribution have been Abydos and Gebelen—that is to say, the termini of the two main roads by which the Libyans would enter Egypt from the oases. The race which we will therefore provisionally call the western race, as distinct from the dynastic race which entered Egypt by the Hammamat Valley, were even more exquisitely skilled in flint workmanship than in the manufacture of hand-made pottery. At Stands 1 and 17 some of their stone implements may be examined, and also closely compared with a series of palæolithic flints found on the top of a limestone plateau 1400 feet above the Nile, and with flints of intermediate period. The people also wrought for themselves flint bracelets (Stand 15) and glazed with color the quartz beads of their necklaces. And, lastly, the curious rude slate figures which have hitherto reached museums and collections only through the hands of plunderers and traders, are now traced to this same distinct people of the Nile Valley, to the same fine workmen who made the Abydos flints and the Gebelen pottery. Nothing is known as to the sources of the slate. The geology of the Nile Valley has never been adequately studied, still less that of the Libyan desert; but no slate is known in the former.

The Egypt Exploration Fund's primary aim or object is discovery; nevertheless, as is seen, very interesting and valuable objects for study and for the museum are from time to time a part of the results from exploration.

THE BEGINNINGS OF HISTORY.

BY STEPHEN D. PEET.

It is one of the strongest evidences of the progress of archæology that in nearly all lands the beginnings of history have been carried back so remarkably; and that races which have hitherto been unknown have been added to the historic list. This has been accomplished partly by the study of the monuments, that study having served to clear up many records which were before obscure, as well as to bring out many new facts. It is by this means that history has become almost a new science, the old methods having been abandoned and new methods adopted. Strange revelations have been given and much information secured. In fact, history has been almost everywhere lengthened. This is the case in Asia and in the lands of the east, but it is also true in Europe and so-called modern lands. England, which a few years ago dated the beginning of its history with the Norman conquest, now carries it back so as to include the Saxon, the Celt, the Briton, and the Basque among the historic nations, and even makes frequent mention of the prehistoric races whose monuments are extant. France and Germany, instead of making the reign of Charlemagne the beginning of their history, carry back their dates to the times of Julius Cæsar and even to the invasion of the Gauls, and make the Basques their earliest race. Rome also, which formerly began its history with the Tarquinian kings, now goes back of the Albanian fathers and the Latin race, and looks to the Etruscan monuments for its first records. Greece does not stop with the Dorian migration, or even with the Hellenic race, but must include the Pelasgians and other obscure people in its history. Assyria and Babylon formerly commenced their history with the names of well-known kings, but now use names which have been furnished by the monuments, and make mention of races which were a few years ago totally unknown. Even Egypt, with its very ancient dynasties which were buried in the pyramids, must add a new race which has been found on the edge of the desert, and so this land of the Nile goes back to the prehistoric age for the beginnings of history. But the strange thing about American history is that it dates its beginning with a very modern event—the Discovery by Columbus—and confines its history mainly to the white race. The question is whether this shall continue to be so. If the archæologists have brought about such results elsewhere, may they not break through

barriers which surround them here and carry back our history, so that it may compare with that of other nations? There may be indeed difficulties, for the events which occurred in the pre-Columbian period are uncertain, and much obscurity covers the aboriginal races; but these are not insurmountable obstacles. In fact, there are many things which favor the lengthening of our history, making it include events which occurred before the advent of the white man. Of these there may be no records except those contained in the traditions of the different races, and yet they may be regarded as the "beginnings of history," and be treated as such.

1. Let us consider the various theories which have been held as to the first inhabitants and the peopling of the continent. These theories have each had their day and have been frequently rejected, and yet they continue to have an influence. First is the theory in reference to the "lost tribes." This was very popular at one time and was accepted as true, but the only truth in it is the fact that there are certain analogies between the Indians and the Jews. The analogies are as follows:

1. The American tribes were organized into clans, which had emblems resembling those described by Jacob to his children, and which were the coats-of-arms of the various tribes. These emblems or totems bear the names of animals and show that animal tribes have existed in all lands.

2. There were sacred boxes or bundles among the southern tribes which resembled the ark of the Jews, and shells and other ornaments which resemble the sacred stones of the priests.

3. The medicine men had secret rites and sacred mysteries which were not unlike those among the Jews.

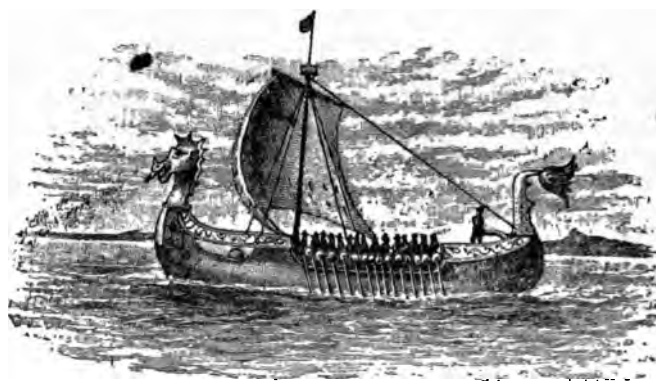
4. There were cities of refuge which resembled those established by Joshua.

5. The sacred songs which were sung during the feasts and dances were said to contain words which resemble the halleluiah of the Jews.

The theory gave rise to a vast amount of literature and some of the best books on archaeology were filled with the essays upon the analogies between the natives of America and the tribes of Israel. The writings of Adair, the Indian agent, the voluminous works of Lord Kingsborough and many of the works of Brasseur de Burroughs, as well as the essays of Rev. John Eliot, Catlin, Mather, Roger Williams, Rev. Peter Jones and others, are well known specimens. This theory, however, has been exploded and is no longer held by any one who has any claims to scientific reputation, though the analogies are still dwelt upon as very suggestive.

The second theory relates to the lost Atlantis. This is based on a legend which dates back to the days of Plato, but which was revived at the time of the discovery and made applicable

to the continent. The story was that somewhere beyond the pillars of Hercules there was an island which was as large as the continents of Africa and Asia combined. Beyond it was a great ocean, to which the sea was a mere harbor.* Seneca foretold that the mysterious ocean would yet disclose an unknown world it then kept concealed. To the ancient Greek the west was a region of vague mystery; it was the abode of departed heroes, the place where the Elysian plain shown under a serene sky; a domain in which the fondest imaginings were localized. According to the legend the island sank out of sight and never appeared again; yet the influence of the theory was so strong that every new island which was discovered was regarded as Atlantis, and even the name often appears upon the early



War Vessel of the Norsemen.

maps. In in one map the name is even given to the entire continent of America. Many books have been written upon this fascinating subject. Among them the most notable and popular is the one prepared by Ignatius Donnelly, who holds that both the continents of Europe and America were first peopled from this sunken island.

The third theory is that the continent was visited by various European adventurers who were either priests or princes, and who introduced certain European customs. To illustrate, Madoc the Welsh prince, is said to have established a colony on the Atlantic coast. It is related that the son of the King of Wales had many contentions respecting the heirship, that he left the coast of Ireland and came to an unknown land. On a second voyage he filled ten ships with emigrants. This story is the

*The legend was embodied in the dialogue of Plato and the world unhesitatingly accepted the tale and built many fancies upon it.

†It is singular how much credence has been given to this book by men of very general intelligence when there is so little that is substantial or has any foundation or fact in the book or in the theory.

foundation for the belief that the Welsh language is spoken by the various tribes of the interior. There are those who hold that the appearance of Indians who have blue eyes and light hair is evidence that the Welsh or Scandinavian blood was mingled with the aborigines.

St. Brandon is also another adventurer who is supposed to have visited this continent. He was an Irish saint who lived before the times of St. Patrick. The story is often repeated and his travels are extended across the entire continent, even as far as Central America. He is identified in the "Fair God," about whom General Lew Wallace wrote. The long garment and beard, and the crosses on the robe of this divinity are regarded as proof that some priest must have reached this distant region. This belief was so strong that the name St. Brandon applied to an island in the Atlantic ocean, may be seen on some of the early maps.

A fourth theory is the one which has relation to the visit of the Chinese to this country. There are many European writers who hold that the Chinese Fusang was located in America. "Before the voyage of Columbus, before the visits of the Basques to Newfoundland, before the Norwegians undertook their bold excursions to America, before even the visit of St. Brandon, in the fifth century, a Buddhist mission was established on the continent." From this have sprung the many resemblances between the customs, monuments, and symbols of Central America and those of Japan, China and Eastern India.*

Another theory is that the voyage of the Zeni brothers, which took place before the times of Columbus, in 1380, brought the continent of America to light.† The voyage reached as far as Frisland or Iceland. Here they learned about a country called Estotiland. The inhabitants are very intelligent, used Latin books, have all kinds of metals. They sow corn and make beer. They have many towns and villages, make small boats and sail them. These various stories are supposed by some to prove that the continent of America was reached by the fishermen, and that the Zeni brothers, in this way, learned of the existence of the continent, and they reported it to Columbus, so they led to the discovery.‡

Now, such are the theories in reference to the peopling of America. We have dwelt upon them for the reason that they have been held so tenaciously and are still defended by certain

*These resemblances have given rise to the theory that there was a contact between the two continents in prehistoric times, but there is no evidence of a colony having settled here.

†*Magellanic Columbus*, by Edward P. Vining, D. Appleton & Co., 1882. The *Estadado* was *Estadado*. According to this story, the inhabitants of this kingdom were white; they had hairy bodies and long locks that fell down to the ground. They used wooden planks for the construction of their houses. They had horses, and cattle with long horns, upon which burdens were loaded which weighed sometimes as much as 120 pounds. They made use of carts, harnessed to cattle, horses and deer. Many other fabulous things are told about the people.

‡See *Discoveries of America*, by Arthur James Wayne, p. 56.

visionary writers, and especially because they have wrought so much confusion into the archæology of this country as to what constitutes the real tokens of the aborigines, and what belonged to the white man. It may be said that the theories have had the effect to lead people astray in reference to nearly everything that is aboriginal, and have brought in the greatest errors in reference to the various relics which have been discovered. Dighton rock, which is a genuine aboriginal pictograph, has been made to contain the record of the Norseman, the pictures of boats containing Norsemen and Runic lines having been recognized in it. At one time an attempt was made to move the rock to Boston as a monument of the Norsemen. The skeleton of the Indian chief which was discovered in New England covered with copper beads and relics is represented as some great knight errant or some great Norse sea king whose skeleton was in armor. Still further the old mill which stands near Providence, and represents the style of building mills which prevailed in England quite late in history, has been regarded as a tower erected by Norsemen and much sentiment has been expended upon it. Some hold that silver sword scabbards have been found in mounds, and take these as proof of the presence of the white man. The many fraudulent relics which have appeared at different times and in many parts of the country, have under the influence of this theory been accepted as genuine, especially those which have inscriptions upon them or letters which can be in any way made to resemble the Hebrew alphabet, the Newark stone, the stone from Grave Creek mound, the Davenport tablet being the most notable*.

II. Still there are actual records of discovery given by the Norsemen which we may regard as formations of history†. These descriptions are contained in the Sagas, which have come down from the time of 1000 A. D. and are very important, for they are the first which were ever given. They also bring out the picture of the aborigines as they were 500 years before the time of Columbus. It matters not where the scene is to be located, whether upon the coast of Labrador or the coast of New England, Narragansett Bay, or Massachusetts Bay, the view of the aborigines will be the same.‡

The Spanish claim St. Augustine and Sante Fe as the earliest cities built upon the continent, the French claim Montreal, Detroit, Mackinac, Green Bay, LaPointe, as the places where their first missions were established; but the Scandinavians have as good reason for looking to the coast of New England as the place

*The Davenport tablet is interpreted as containing a story of the flood and even the figures of Noah and his family are pointed out.

†Here we would acknowledge our indebtedness to Prof. R. N. Horsford.

‡Winsor gives a section of a map from Rafn's *Antiquitates Americanae*, giving his identification of the Norse localities. This and the other map by Rafn is produced in his *Cabinet of Antiquities Americanae*.

where the Norsemen first landed. We should be therefore grateful to those gentlemen who have given so much time and attention to the examination of the various localities and have made geography and history to come together. We can pardon a few mistakes in the carrying out of the details. It is fortunate that men of wealth are willing to lay out their money in commemorating the events of the past. The efforts of Mr. Horsford are worthy of commendation, for he has not only erected a monument but has furnished a book. In the book there are a great many facts which are worthy of study.

The monument which stands in the village of Watertown, near Boston, commemorates the exploits of the early Norsemen very much as the monument which is to be erected at St. Ignace in Michigan commemorates the voyages of the early missionary, Marquette, and the monument near Pullman commemorates the massacre at Chicago in 1812. There is an object lesson in each monument and an inspiration which comes from commemorating the events of the past. The local pride which may be aroused both at the west and the east is after all very helpful, for it brings us together as a nation, while it carries us back to the foundations which were laid by the different European nationalities.

Quotations from the Sagas are before us. These are a small but important body of Icelandic literature which has come down to us from the period of the events narrated. They are in fact traditions, which were held for a long time in memory, as it was the habit of the people to perpetuate them by frequent recitations and make them a system of education and sometimes of professional service. They were by this system transmitted from sire and matron to son and daughter, as they were the fireside entertainment for a series of generations. After the introduction of the art of writing these traditions were transferred to parchment, but when transferred they preserved their peculiar oral character.* The trustworthiness of the Sagas, though relating to events said to have occurred 900 years ago should not be called in question, for they form a collection of recorded realities in the history of an ancient people, which corresponds in its style with the character of the times. They have been accepted as in a sense historical by scholarly men.† Of course the Sagas were not scientific productions, and are defective in their geographical character, as there is no latitude and longitude and distance mentioned. Still they furnish material which may be regarded as valuable in making up the geography of the coast of America.‡

* Respecting the Sagas, Laing says it does not appear that any Saga manuscript has been written before the fourteenth century. Dr. Rink says that they exist only in a fragmentary condition, and they stand in need of being corroborated by collateral proofs, if we have to rely upon them in such a question as an ancient colonization of America.

† The geographers Kohl, Rahn, Magnussen, Konrad, Maurer, Worsaae, J. Elliot Cabot, B. F. DeCosta, Nordenskiöld.

‡ Winsor has given in his *Narrative and Critical History* many pages to a review of the pre-Columbian explorations, especially those conducted by Norsemen. His notes and references are especially valuable.

The existence of a Vineland of spontaneous corn and of vines in the distant western ocean seems to have been known in Denmark long before the celebrated expeditions of the Norsemen, soon after the settlement in Iceland, about the year 1070. The Prelate Adam of Bremen gave to the world his conversation with the king of Denmark a few years before. Referring to the region beyond Greenland, the king said: "An island lying in that ocean had been visited by many. It was called Vineland because grapes making excellent wine grow there spontaneously, and cereals without planting." It was at the least some three hundred years later that the Vineland sagas were written down. In these there are substantially only four Vineland stories—Bjarni's, Leif's, Thorwald's and Thorfinn's—and they all revolve about the landfall of Leif and the site of his houses in Vineland.

THE STORY OF BJARNI.

Bjarni, a Norwegian supercargo, who, on a voyage in 985 from Iceland to Greenland, had been driven he knew not whither in a violent northeast storm, accompanied by fog and rain, for many days, found himself as the sky cleared, off a wooded projection of a coast, without mountains, but having here and there little hillocks in the interior. He did not land, as the country did not look like Greenland. They left the country on the larboard and let the stern of the ship look landward, and they sailed two days, when they saw another country; but this was not Greenland, for it was level and wooded, for great glaciers are said to be in Greenland. He again turned the prow from land and sailed three days and saw the third country, which was high and mountainous. Once more they put the ship about and sailed four days, and then saw the fourth country. This was Greenland.

THE STORY OF LEIF ERIKSON.

Leif Erikson, who was a relative, having heard Bjarni's story, sailed to Greenland and bought his ship and engaged a crew, thirty-five in all, and set out to discover the land which had been described. He takes the points in their reverse order. At the first point he stepped ashore and gave a name, calling it Helluland—flat-rock land. At the second point, they cast anchor, put out a boat and walked ashore. The country was level and wooded, with white sand in many places. Then Leif said: "This country shall be named according to its qualities, Markland. They sailed seaward for two days with a northeasterly wind. They came to an island lying north of the mainland and looked about in fine weather. They sailed into the sound between the island and the ness or cape which jutted out north of the mainland, and steered westward past the ness. There great shallows extended at ebb-tide, and their ship stood aground, and it appeared far from the vessel to the sea, but so eager were they to go ashore that they could not wait until the sea should return to their ship. But when the tide returned to their ship, then they took the boat and rowed to the ship, but it moved (floated) up into the river and then into the lake. There they cast anchor and carried their leathern hammocks ashore, and made booths there. They then decided to dwell there during the winter, and erected there a large building. But the quality of the country was so good according to what it seemed to them that livestock would not need provender in winter. No frosts came there during the winter, and herbage withered there but little. Day and night were there more even than in Greenland or Iceland. The discovery of grapes and wine-wood took place about this time. It is said that after the ship's boat had been loaded with grapes, a cargo (of wood) was cut for the ship. There were also fields of wheat growing wild.

and certain trees called Mesur." Some of the trees were used for building timber. "Leif named this country after its good qualities, Vineland."

THE STORY OF THORWALD.

The next summer Thorwald, with a portion of his company, in the great ship, coasted along the eastern shore. They were driven against a neck of land and the keel was broken off. Then said Thorwald to his companions: "Let us fix up the old keel on this neck of land, and call this place Kjar-ness" (Cape of the Keel). Having done as he desired, they sailed along the coast, leaving that neck to the eastward. Thorwald and his companions went on shore, and then said Thorwald: "This is a pleasant place. I should like to fix my habitation here." They then walked to the ship, and saw on the sands three hillocks, and going thither they saw three skin-boats and under each three men. They then divided their forces and seized them all except one, who escaped with his boat. They killed eight, and then walked back to the cape and saw towards the inner part of the bay several hillocks which they supposed to be dwellings. Here they all fell asleep, but a cry broke upon their ears and they all awoke. Then from the inner part of the bay countless skin-boats appeared and bore down upon them. Then said Thorwald: "Let us advance the battle-covers to the gunwale and defend ourselves as best we may, but not attack them." But the Skrælings shot upon them awhile, and then fled each as best he could. An arrow flew between the gunwale and the shield and lodged in Thorwald's armpit and caused his death. He commanded that he should be buried upon the head-land, a cross placed at his head and another at his feet, and the place he called Krossness, or Cape of Crosses. Here, then, we have the first record of the meeting with the natives.

THORFINN KARLSEFNI'S EXPEDITION TO VINELAND.

Thorfinn Karlsefni was a very wealthy man. He came from Norway to Greenland, and paid attention to Gudrid, the sister of Leif Erikson. The people urged him to go to Vineland. He, with a crew of sixty men and five women, embarked and took with them all kinds of livestock, for they intended to settle the country. They arrived safe and sound at Leif's booths and carried their leathern hammocks ashore there. They remained here for awhile, but afterwards Thorfinn made an expedition southeastward with two vessels. He went out to Cape Kjarness and went southward. At length they came to where the shore was indented with coves. They sent two Scotch servants to run three days to the southwest. On their return one brought a bunch of grapes and the other a white ear of corn. They sailed along until they came to a river flowing out from the land through a lake into the sea. Here there were sandy shoals, which it was impossible to pass up except with the tide. Karlsefni sailed up to the mouth of the river with his folk, and called the place Hop. Having come to the land, they saw that where the ground was low corn grew, and where it was higher, vines were found. Every river was full of fish. There were great numbers of all kinds of wild beasts in the woods, and early one morning, when they looked around, they saw a great many skin-boats (birch-bark canoes), and poles were swung upon them, and it sounded like reeds shaken by the wind, and they pointed to the sun. They stayed there for a time and gazed upon those they met, and afterwards rowed away southward around the ness. Afterward, under Thorfinn's direction, the men felled timber. The vines, which ran to high trees, were cut down in order to gather the grapes. After the first winter, one morning they saw from Leif's houses nine canoes coming down the river. "The men in the canoes were small of stature, fierce of expression, swarthy, with ugly hair, great eyes and broad cheeks." They remained some time wondering at the newcomers. In the spring Thorwald ordered the vessel to be rigged, and that some men should proceed in the long-boat westward along the coast and explore it during the summer. They thought the country beautiful and well wooded, the distance small between the forest and the strand full of white sand. There also many islands and very shallow water. They found

THE DIGHTON ROCK.





Louis Hennepin.

ALLEGORICAL PICTURE FROM HENNEPIN'S EDITION- 1702.

no abode for man or beast; but upon an island far toward the west they found a *corn-barn constructed of wood*. They found no other trace of human work, and came back in autumn to Leif's houses.

Such are the stories which were told by the Scandinavians in their northern homes, and which formed an important part of their traditionary lore. They were afterwards preserved in the archives and embodied in the early literature of the people. They open to us a view of the American continent which is five hundred years earlier than that furnished to us by the discoveries of Columbus, and actually make the beginnings of our history to date about the year about the year A. D. 1000 instead of 1492. They furnish to us a fragment of aboriginal history, or at least present a glimpse of the aborigines, which has every evidence of being correct. It is not essential that we decide as to the locality which was reached, for the result would be the same. A door has opened between the historic and the prehistoric, which has disclosed to our vision a picture of a portion of the continent, with its capes and bays, and various products which grew upon the shore. There is here brought before us a picture of the aborigines, with their physical appearance, their dress and manners of life clearly drawn. We see that they were a very rude people, dwelling in huts and using boats of a peculiar shape. We learn something about the habits of the people and are able to compare them with the people which dwelt upon the coast after the advent of the white man. We have also a history of the early discoverers which is very interesting, for it reveals to us the hardy character of the first navigators and their singular habits and ways. By comparing the stories with others which are furnished by the literature of the times, we find that everything about them is truthful, and there is nothing which we need to reject as drawn from imagination or creations of fancy. We regard these stories of the Norsemen as fragments of American history, and as furnishing substantial foundation for all the future history to rest. The special feature to which we would call attention is the fact that the aborigines form so important a part in the picture. Who these so-called Skraelings were, to what tribe they belonged, will be one point which we shall endeavor to clear up. The colonization of New England or any other part of the American coast was not permanent, yet we see no reason why the events which are put on record should not be regarded as a part of American history.

It will be very profitable if we examine these stories a little more closely, analyze them and consider their different parts. As the descriptions are in accord with the times and correspond with those which come to us from other sources, we must regard them as correct, and do not need any other evidence to substantiate or confirm. It matters not whether there are any remains of the settlement, nor even any survivors of the people which

were seen; for in the course of five hundred years all of these may have disappeared. Other tribes may have come in and occupied the places which were filled by the Skraelings. The changes of population and the migrations of unknown tribes would account for the differences between this record and that which was made by the discoverers five hundred years later. We shall place the stories contained in the Sagas between the fanciful traditions and theories which have occupied our attention, and those substantial records which are taken as the foundations of our history and claim an important part of the proto-historic records, but shall compare them with the times to show their entire correctness.

III. Let us take up the study of geography and see what evidence is furnished by the maps. We shall find much information from these, and will be surprised at the general resemblance between the description of the coast contained in the Sagas and that which is given by the early explorers.

It appears that in the early Icelandic school geography there was a Vineland as distinctly marked as either Greenland or Iceland, and that the position of this Vineland was plainly marked on the map. Greenland and Iceland were settled about 1000 A. D., though the natives, at the time, were rapidly christianized. Schools and even universities were established among them. There were two institutions of learning in Iceland, one at Skalholt, the other at Holum. One of the most learned and renowned officers of instruction at Skalholt was Stephanus, who, to assist him in teaching his classes the history of Icelandic discoveries, prepared a map which has been preserved. This map gives us three points on the continent, and their succession and general direction from Greenland with their names which were taken from the Sagas placed upon the points. These points may have been on the coast of Labrador, but by studying the modern maps and comparing this one taken from the Sagas, Professor Horsford thinks he can identify in them Newfoundland, Nova Scotia, and Cape Cod, and make them correspond with Helluland, Markland, and Vineland. We may say of this map, that though it was drawn from the examination of these Sagas without any lines of latitude or longitude, yet it is far more correct than many of those which were based on the explorations of the early discoverers. We have only to compare it with the unique and peculiarly shaped map made by the German cartographer, Johann Ruysch, contained in the edition of Claudius Ptolemy's geography, printed at Rome in 1508. This is the earliest engraved chart on which appears the field of discovery, in the western hemisphere, entered by Columbus, Cabot, Cortereal, Verrazano, Vespucci, and other early explorers of the coast of the new continent. The theory which ruled the early discoverers was that the continent of America was an eastern

extremity of the Asiatic continent, that the West Indies were a part of the East Indies, and that the natives were Indians.

Let us consider the nationality of the people which were seen by the Norsemen. Were they Eskimos, or Algonkins, or an unknown race? This is an important point, for there are back of it certain problems concerning the ethnic changes on the continent and other subjects. We are aware that in the neighborhood of the St. Lawrence River there was the meeting place of three different tribes or races. The Eskimos, even in late times, have covered the coast of Labrador. The Algonkins from the earliest times of history occupied the coasts of New England, and the supposition is that an unknown race, probably a member of the Tinneh or Athapascan stock, reached as far south as Montreal. It appears from the account that they dwelt in houses which appeared like hillocks, that they had skin-boats and used arrows for their weapons. Judging from the description, we conclude that they were Eskimos, for no other tribe lived in such houses or used such boats in the same manner as the Eskimos, and had the same general appearance, for they had coarse hair and broad faces. Their habits of sleeping stupidly under the boat is similar to the Eskimo. The boats themselves were made of skin and were such as are still common in the north. The boats held several persons, and were furnished with masts and poles. They were not the Kaiaks, but were the large, skin-covered, open boats, which were the chief means of conveyance by water for traveling, hunting, and fishing. Such boats are still used at Point Barrow. There is no essential difference between them and the Greenland boats called umiaks. Some of these are twenty yards long. These are generally made with a frame and cross pieces, with highly ornamented ivory crotches at the bow. In this the heavy harpoon rests, especially when they are approaching a whale. They are fastened together with lashing, without any nails. They were furnished with paddles, short and broad, like a shovel, fastened to the side with a strap of seal leather, so as to act as oars. Sails and oars made of entrail were quite ancient inventions, for Frobisher speaks of skin-boats with sails of entrail as early as 1589. The head of the sail is laced to a light yard, hoisted to a mast by a halyard. The mast is a stout, square pole, ten or twelve feet long, and is set well forward. The Greenlanders set up the mast in the bow of the umiak, as a sailor would say, "in the very eyes of her." The gunwales are fastened to the stern post in the same way as to the stem, from a low rail which projects five or six inches. Walrus hide is used, and sometimes the skin of the polar bear, which makes a beautifully white cover. Six of these skins were required to cover one umiak or boat. They are sharp at each end and low at the bow and stern. These boats differ entirely from those which were used by the

natives of New England at the time of the discovery. Those described by the Sagas, and which were used by the Skraelings, were then evidently the same kind as are still in use by the Eskimos. They differ also from those which were in use by the natives of New England in the time of the discovery, for we have pictures of these, as well as descriptions, which show to us exactly their forms.

Let us now turn to the condition of the aborigines who were dwelling on the same coast after the time of Columbus. In reference to this point, we shall find much that is suggestive if we take up the study of the maps which were furnished at a later period, namely, at the time of the discovery, and especially the descriptions given by the early navigators. The following is the account of Verrazano's voyage: He passed along the Atlantic coast, landing in various places—first in North Carolina, second in Narragansett Bay, and third on the coast of Labrador, but came upon a different class of Indians at each point. His description of the appearance, dress, weapons, and physical traits of these various tribes is the first one which was given. It is very suggestive, for it reveals the changes which had occurred in the location of the natives.

They go nearly naked, wearing only about the loins some skins of small animals similar to the martens. A girdle of woven grass encircles the body, to which they fasten the tails of animals, which hang down as far as the knees. All the rest of the body is nude, as is also the head. Some of them wear drapery in like manner, made of the feathers of birds. The color of these people is black (neri), not very different from that of the Ethiopians. Their hair is black and thick, but not very long, it is worn tied back upon the head in the form of a little tail. In person they are of good proportion, of middle stature, a little above our own, broad across the breast, strong in the arms, and well formed in the legs and other parts of the body. The only exception to their good looks is that they have broad faces, but not all of them, for we saw many who had sharp ones, with large black eyes and a fierce expression.

At the end of one hundred leagues we discovered a very delightful place among some small hills (eminences), between which ran a very great river (*una grandissima riviera*), to the ocean, which was deep within the month, and from the sea to the enlargement of the bay the rise of the tide was eight feet, and through it any heavy ship can pass.*

Sailing northeasterly from Block Island the Italian explorer beheld the coast of the mainland and anchored the Dauphine in Narragansett Bay, Rhode Island.

"We proceeded to another place, fifteen leagues distant from the island, where we found a very excellent harbor. Before entering it we saw about twenty small boats filled with people, who came in the ship with various cries and wonderment. The elder king had the skin of a deer wrapped around his nude body, artificially made, with various embroideries to decorate it. His hair was bound behind with various bands, and around his neck he wore a large chain, ornamented with many stones of different colors. The younger king was like him in appearance. This was the finest looking people and the handsomest in their costumes that we found in our voyage.

*This is supposed to be the harbor of New York.

They exceed us in size and are of a very fair complexion (*sono di colore bianchis simo*). Some of them incline more to a white and others to a tawny color. Their faces are sharp; their hair is long and black, on the adornment of which they bestow great care. Their eyes are black and keen; their demeanor is gentle and attractive, very much like that of the ancients. I say nothing to your majesty of the body that are all in good proportion as belong to well-formed men. The women resemble them in size and are very graceful and handsome and quite attractive in dress and manners. They had no other clothing except a deer skin, ornamented, as were the skins worn by the men. Some had very rich lynx skins upon their arms, and wore various ornaments upon their heads, braided in their hair, which hung down upon their breasts. Others wore different ornaments, such as those of the women of Egypt and Syria. The older and the married people, both men and women, wore many ornaments in their ears, hanging down in Oriental fashion. We saw on them pieces of wrought copper, which is more esteemed by them than gold, the latter being deemed the most ordinary of metals, yellow being a color much disliked by them. Blue and red are the colors which they value most highly."

As to the weapons it will be noticed that they differed from those used by the people which Verrazano discovered in Narragansett Bay. They differ from those of the people described in the Sagas as seen by the Norsemen in Massachusetts Bay as much as did the dress and boats. Their arrows are beautifully made. For points they use emery, jasper, hard marble and other hard stones, instead of iron. They also use the same kind of sharp stones in cutting down trees, and with them construct their boats of single logs, hollowed out with admirable skill, and sufficiently commodious to seat ten or twelve persons. Their oars are short with broad blades, and are rowed by the force of the arms with the greatest care and as rapidly as they wish.

"We saw their dwellings, which are circular in form, about ten or twelve paces in circumference, made of logs split in half, without any regularity of architecture, and covered with roofs of straw, nicely put on, which protect them from wind and rain. The father and the whole family dwell together in one house. In some of their houses we saw twenty-five or thirty persons. Their food is pulse, as that of the other people, which is here better than elsewhere, and more carefully cultivated. In the time of sowing they are governed by the moon, which they think effects the sprouting of the grain. They have many other ancient customs. They live by hunting and fishing and they are long lived.

Passing still further north to the coast of Labrador, Verrazano came upon the Eskimos.

The people were entirely different from the others we had seen, whom we had found kind and gentle; but these were so rude and barbarous that we were unable, by any signs we could make, to hold any communication with them. They clothe themselves with the skins of bears, wolves, lynx, marine and other animals. Their food, which we inferred from several visits to their dwellings, is obtained by hunting and fishing. They have certain vegetables which are roots of spontaneous growth. They have no pulse, and we saw no signs of its cultivation. The land appears sterile and unfit for the growth of fruits or grain of any kind.

The conclusion is that the people which were discovered by the Norsemen were either farther north than New England or that the population of New England underwent a remarkable change between the times of the Norsemen and the times of Columbus.

This conclusion is confirmed by the maps, especially the one accompanying Ramusio's *Collection of Voyages*, published in 1554.* In this map we find the natives tall and well-formed, carrying bows and arrows in their hands. Others are in boats, drawing fish by lines or poles, into the boat. We find them occupying the houses and booths, but receiving the white man cordially. The map corresponds remarkably well with the descriptions given by Verazano, but differs entirely from that which was contained in the Sagas. The boats are short, sharply-curved coracles, resembling in shape the crescent of the new moon. They have no masts, and were probably made of bark. The dress of the natives seems to be of buckskin and differs entirely from the fur dress of the Eskimos. The weapons corresponded to those described by Verrazano, but are entirely different from those seen by the Norsemen.

Of course we could draw the line between Narragansett Bay and Massachusetts Bay, and say that the Eskimos dwelt on one side of the line and the Algonkins on the other, but the fact that on the maps which were made after the time of Columbus the natives of New England are always represented as tall and well formed and carrying bows and arrows in their hands, and are surrounded by wild animals—deer and elk—shows that the hunters had taken the place of fishermen, and so confirms the evidence furnished from other sources.

*This map is called Gastaldi's. It represents the coast of New England, under the title of *La Nova Francia*, sub-title, *Terra Nuova, Norumbega*.

THE MYSTERY OF THE NAME PAMUNKEY.

BY WILLIAM WALLACE TOOKER.*

A mystery unrevealed—that intangible and illusive element which environs the nomenclature, myths, customs and traditions of the American Indian will always remain a fount of the deepest interest and closest study to the cultured mind of the critical student of the science of man. The secret societies and sacred rites or mysteries of the priesthood of the red men has been the theme of many explorers into the wilderness of anthropological investigation for the past two decades or more. It is not my purpose at this time to single out, to compare, or to elaborate upon the symbolic customs or shamanistic ceremonies of the various stocks, tribes or clans, which have been the basis for these essays. They can be found in the works of many noted specialists, where they may be read and studied in their entirety far better than in any brief abstract which I might quote. Many points of similarity can be traced, especially among the tribes of Algonquian stock, revealing identity of thought, occurring through hereditary transmissions and tribal borrowings in symbolizing animate and inanimate objects, also natural phenomena, in order to enable the priests to retain their supremacy over the superstitious minds of both the initiated and uninitiated members of the tribe. Every tribal family or clan undoubtedly had its society and priesthood, and it is my intention to demonstrate by historic and linguistic facts that in the name *Pamunkey*, now designating a small tribe of Indians and a river of Virginia, we have a survival to our times of one of the reminders of an esoteric system which existed among the Powhatan tribes of Virginia at the commencement of the seventeenth century. Not only does it hide a mystery, but the true interpretation or signification of the name itself has been and still remains a thing unknown—a mystery, which I shall endeavor to dispel, I trust satisfactorily, so that it shall no longer exist as a problematical quantity in the synonymy of the tribes of the American race.

It has long been desired, for the purposes of anthropological and historical research, that the long-forgotten meaning or true application of the term Pamunkey should be recovered from the obliterating depths of the centuries, which have concealed it; but hitherto it has seemed too deeply buried to be capable of being brought into the light of the present.

Many philologists have attempted to solve the riddle embodied in the name, without arriving at a conclusion satisfac-

* Read before the A. A. A. S., Section H, at Springfield, Mass., August 30, 1895.

tory to themselves and to others. Consequently their labors, in this particular instance, have been in vain. This is not at all strange, provided they neglected or were unable to go back to the time of bestowal for their material, and study the early notations, and glean facts from the lines of contemporary history, in order to weld the missing links into a perfect chain; which now the occurrence of Prof. Edward Arber's English scholar's edition of Smith's works will enable them to do most thoroughly.

An interpretation and suggested origin of the term, which has been frequently quoted, is that of Heckewelder's, given in his "Names which the Lenni Lennape or Delaware Indians gave to Rivers, Streams and Localities within the States of Pennsylvania, New Jersey, Maryland and Virginia, with their Significations," viz.: Pamunky, corrupted from *Pihmunga*, signifying "where we sweat." This is a derivation that would naturally disgust any one who might desire to retain the name; and in fact would lead them to abandon it. But, like many or in truth the greater number of Heckewelder's other conjectural etymologies—for that is all they seem to be—it is far fetched in its comparative phonology and decidedly a most grievous error in its application, as revealed in the historic facts we find accompanying its early forms; and, being such, it deserves no further consideration.

Captain John Smith, the preserver of the Jamestown colony—whose works are a perfect mine of aboriginal history—is the one to whom we must apply for all our data relating to the locality where the name was first applied. On his well-known map of Virginia, and as handed down from the same source, the name designates a river. But he says in contradiction to this incorrect bestowal (p. 347), "Fourteene myles Northward from the river Powhatan (James) is the river *Pamaunkee*, which is navigable 60 or 70 myles, but with catches and small Barkes 30 or 40 myles farther; at the ordinary flowing of salt water, it divideth itselfe into two gallant branches. On the sooth side inhabit *Youghtanund*, who have about 60 men for warres, on the North branch *Mattapament*, who have thirty men, where this river is divided the country is called *Pamaunkee* and nourisheth neare 300 able men." Therefore, as will be noticed, the term, in its aboriginal sense, did not designate a stream; and on referring to Smith's map, Pamaunkee is found to be the triangular peninsula formed by the two main branches of the river, one being called the *Youghtanund*, now known as the Pamunkey, and the other the *Mattapament*, now retained as the *Mataponi*, while Smith's *Pamaunkee* is called the York river. We also note that one of the principal Indian villages within this triangle, with the mark of a king's residence, is called *Uttamusiak*.

Smith (Arber's Smith, p. 371) gives us some minute information in regard to this village—a description that is also quoted by William Strachey in his "Historie of Travaille into Virginia" (p. 90), as follows: "In every Territory of a *Werowance* is a

Temple and a Priest, two or three or more. Their principal Temple or place of Superstition is at *Uttamussak in Pamaunkee*, neare unto which is a house, Temple or place of Powhatans. Upon the top of certain red sandy hills in the woods, there are three great houses filled with images of their kings and Devels and Tombes of their Predecessors. Those houses are neare sixtie foot in length, built arbour-wise, after their building. This place they count so holy as that [none] but the Priests and kings dare come into them, nor the Salvages dare not goe up the river in boats by it, but they solemnly cast some peece of copper, white beads, or *Pocones* into the river, for feare their Okce should be offended and revenged of them.

Thus, Feare was the first their Gods begot;
Till feare began, their Gods were not.

In this place commonly are resident seaven Priests. The chiefe differed from the rest in his ornaments, but inferior Priests could hardly be knowne from the common people, but that they had not so many holes in their eares to hang their jewels at."

Smith further describes some of the events of his capture at the swampy wilderness among the headwaters of the river Chickahominy by Opechankanough (p. 398): "Then they led him * * * over all those rivers, and backe againe by divers other several Nations, to the king's habitation at Pamaunkee; where they entertained him with most strange and fearefull conjurations,

As if neare led to hell,
Amongst the Devils to dwell.

Not long after, early in a morning, a great fire was made in a long house, and a mat spread on one side, as on the other; on the one they caused him to sit, and all the guard went out of the house, and presently came skipping in a great grim fellow, all painted over with coale, mingled with oyle; and many snakes and wesels skins stuffed with mosse, and all their tayles tyed together, so as they met on the crowne of his head in a tassell; and round about the tassell was as a coronet of feathers, the skins hanging round about his head, backe and shoulders, and in a manner covered his face; with a hellish voyce, and a rattle in his hand, with most strange gestures and passions he began his invocation, and environed the fire with a circle of meale; which done three more such like devels came rushing in with like antique tricks, painted halfe blacke, halfe red; but all their eyes were painted white, and some red stroakes like Mutchato's along their cheeks; round about him those fiends daunced a pretty while, and then came in three more as ugly as the rest, with red eyes and white stroakes over their blacke faces; at last they all sat downe right against him; three of them on the one hand of the Chiefe Priest and three on the other. Then all with their rattles began a song; which ended

the Chiefe Priest layd downe five wheat cornes; then straying his arms and hands with such violence that he sweat, and his veynes swelled, he began a short Oration; at the conclusion they all gave a short groane; and then layd downe three graines more. After that they began their song againe, and then another Oration, ever laying downe so many cornes as before, till they had twice incircled the fire; that done, they tooke a bunch of little stickes prepared for that purpose, continuing still their devotion, and at the end of every song and Oration they layd downe a stick between the divisions of corne. Till night, neither he nor they did either eat or drinke, and then they feasted merrily, with the best provisions they could make. Three dayes they used this ceremony, the meaning whereof they told him was to know if he intended them well or no. The circle of meale signified their country, the circles of corne the bounds of the sea, and the stickes his country. They imagined the world to be flat and round like a trencher, and they in the midst."

In this extract we have, from English sources, what is probably the earliest account of the secret customs or shamanistic rites of the Indian medicine men of the Algonkin tribes. I have given Smith's story at length because in it I find the clue to the meaning and the reasons for the origin of the term Pamaunkee. As Smith remarks, and as I have before quoted: "*Their principal Temple or place of Superstition is at Uttamassack at Pamaunkee, neare unto which is a house, Temple or place of Powhatans.*"

The constant and invariable habit of the English explorers and settlers, who, when having but a very imperfect knowledge of the language, was to soften or to abbreviate all descriptive terms to their use and speech, without any regard whatever as to the sense or meaning in which it was uttered by the Indians themselves. Therefore I believe "Pamaunkee" to be a contraction of the descriptive appellation as bestowed by the Indians living on the James and as heard spoken by Smith and his associates, and that the whole original name is contained in the quotation from Smith and Strachey of "Uttamassack at Pamaunkee." Taking this as our guide, in order to arrive at a correct conclusion, and leaving out the English preposition *at*, which I believe was undoubtedly erroneously inserted by Smith's amanuensis and copied *verbatim et literatim* by Strachey, we then have the compound term or cluster word of "Uttamassack-pamaunkee, or to give the form of the first part as sometimes occurring, "Uttamussah-pamaunkee," which I analyse and interpret as follows: *Utt*, is a locative preposition of frequent use in Algonquian dialects, especially in those of New England, to which the Powhatan bears a very close relationship, signifying "at or in the." The second component *mussa* or *muses*, is given by Smith as denoting "woods," that is, a "covert, or place of secrecy," when the suffix *ack*, "place," is added. The terminal "pamaunkee" is a form of the verb

"to hide," used by Eliot as an adjectival in the form "pamukque"

hence we have *ut-amussuck-pamaunkce*, "a place of secrecy in the woods;" or, to be in accord with Smith, "a place of superstition in the woods."

Spelman, who was a prisoner among the Virginia tribes for some years, and became an expert in their language, in his "Relation" (Arber's Smith, p. civ) varies the name as "Powmunkey;" Wingfield in his "Discourse," (Ibid., p. lxxvi.) as "Pamaonche" or "Pamaonke;" Tindall on his chart (Brown's Genesis of the United States, p. 150) "Pameuke;" while even Smith himself is not always constant in his spelling of the same. The word is probably related to the Delaware *Kimochcen*, "to steal away;" Ojchipwe, *Gimodak*, mysteries, "it is a secret;" Cree, *Kimotch*, "a secret." The strongest corroboration of this study, however, is found abundantly displayed in that store-house of Algonquian knowledge, Eliot's Indian Bible, where it is given in various grammatical forms, and in its phonetic elements is almost identical with the whole Powhatan cluster word. For instance, Eliot uses it in Isaiah 32: 2, in the adjectival form of "asompamukque ayeuonganit," a hiding place; the second word, *ayeuonganit*, being of frequent use by Eliot, and denotes "a dwelling-place," from *ayeu*, "to dwell," with the locative *onganit*. In Job 40: 21, he makes use of *assampamukquitit*, as an equivalent for "in the covert." In Job 20: 26, it appears with the prefix of the third person singular and the terminal of the verb of motion in its simple form also in the third person singular, *cut-assampamukquodt amut*, "where or when he is going in his secret places." Psalms 27: 5, with the locative prefix or preposition before referred to, *ut-assampamukquodtut*, "in the secret of;" while lastly I find it used as a verbal noun in I. Cor. 15: 51, in the form of *asampamukquok*, as the equivalent for "a mystery, a secret thing." Thus, with this linguistic evidence before us, the Powhatan term may be freely translated "at his place of mystery," as such describes Powhatan's "place of superstition in the woods," as ruled over by the priests of the mystic number seven.

Correspondence.

MT. TAYLOR.

Editor American Antiquarian:

In the frontispiece (View from Mount Taylor) of THE AMERICAN ANTIQUARIAN for July, 1895, you have, unknowingly I suppose, published a suitable illustration for an article of mine, which appeared over twelve years ago (April, 1883) in your periodical. The article is entitled "A Part of the Navajo's Mythology." After describing the destruction of the giant, *Yeitso*, by the war-gods, it says: "His head was chopped off and thrown to a distance, where it was transformed into a hill which stands to-day among the foot-hills of San Mateo." And later it says: "The only instruments of the first woman's vengeance now left were the followers of *Yeitso*, the giant of San Mateo. They were numerous, and to effect their destruction was no easy task. After a long consultation the twins decided to try to raise a great storm. They took the wind-charm they had received in the house of the sun. This they put in a particular place, designated by the sun, and performed over it dances and incantations. As a result of their devotions, a great tempest arose which uprooted the highest trees and tossed, as if they were pebbles, the greatest rocks of San Mateo. In this tornado all the followers of *Yeitso* perished."

San Mateo, as it is called by the Mexicans, Mount Taylor, as it has been named by our people. Tsotsil, (Great Peak) as it is known to the Navajos, is one of the sacred mountains of the Navajo country. It is 11,389 feet high. The map of the U. S. Geological Survey limits the name Mount Taylor to the highest peak and preserves the name "San Mateo mountains" for the whole mountain mass; but other authorities do not do this.

In your picture to which I refer, may be seen represented in the middle distance three hills, two conical and one a truncated one. They are of black lava rock, very distinct in appearance from the bluffs and mesas of stratified rock which surround them. There are many more such pinnacles around the base of Mount Taylor.

These lava hills are believed by the Navajos to be the heads of *Yeitso* and his followers, who were destroyed by the war-gods. The largest of all is called *El Cabezon* (the Great Head) by the Mexicans, and this is the one which the Navajos think is the head of *Yeitso* himself.

Respectfully yours,
WASHINGTON MATTHEWS.

Editorial.

MUSEUMS AND COLLECTIONS.

The editor of *THE AMERICAN ANTIQUARIAN* had the opportunity of visiting several museums and libraries during the month of September, and noticing the progress which has been made. The following notes are the results of this visit: Cleveland was the first place which was reached. Here is the Historical Society of the Western Reserve, which has long been known for its activity in the archæological field, the veteran archæologist, Col. C. Whittlesey, having been for a long time the president, and Judge C. C. Baldwin, the ethnologist, the secretary, both of them now deceased. One of the problems which has been before this society and before the archæologists was in reference to the Eries, and the sites which they occupied.

The society has recently received a large number of relics which were exhumed near the mouth of the Chagrin River, at Willoughby, Ohio. They were taken from beneath the surface by Mr. Joseph Worden, and consisted of hammers, chisels, rude axes, tablets, tubes, thumb and finger stones, arrow-sharpeners, bone fish-hooks, beads, pottery, rude pipes with faces engraved upon them, bone awls, and perforated shells. Most of these are very similar to those which were taken from the shelter caves at Elyria a few years ago by Mr. Baldwin, but the engravings on the pipes and pottery are similar to those which are common in New York state. The faces are like Iroquois faces. The Eries were known to be a branch of the Iroquois stock. This shows that the relics were left here by the Eries, and so helps us to identify two of the localities where they had their villages. Prof. Warren Upham, who is at present the custodian, is very much interested in the find and in the fact that the Eries can be identified.

At Buffalo a discussion has been going on as to the location of the ship-yard where the Griffin was built. Mr. Remington and others have been studying the subject and have published pamphlets. There was a design on foot to erect a monument on the spot. Certainty has not been reached and the monument is delayed, but the literature is accumulating. The rooms of the Academy of Science and of the Historical Society were unfortunately closed. Grosvenor Library was just moving into a beautiful and roomy building and was already assuming a very elegant appearance. There is in this library a

fine collection of early maps, which, through the courtesy of the librarian, was laid open for inspection, notwithstanding the unsettled condition of the books.

At Albany there is a fine collection of relics in the Geological and Agricultural buildings. Some of the relics are from the Iroquois country, but the largest part are from the Pacific Islands, and from China and Alaska, and called the Wilfer collection. There is need of an ethnologist here, for a Fiji war club with its round head, sharp point, and curved handle, ought not to be classed with the Iroquois weapons of war; nor should the image of the Egyptian god Bes be placed among the Chinese idols. The Iroquois mask in the cabinet is a duplicate of the one which has often been portrayed, but has some new symbols. The nucleus of a fine collection of Iroquois stone relics and of the ancient costumes of the Indians may be seen here. What is needed is an appropriation from the state and the appointment of a first-class custodian. The library in the capitol building, however, atones for all neglect in the museum. The arrangement of the books in this library speaks well for Mr. Melville Dewey's system, and the large collection of books on Americana speaks well also for the liberality of the state. Mr. Bisco, the assistant librarian, was very polite and opened up the treasures in a wonderful manner.

The University of Vermont, situated at Burlington, has a fine local collection of stone relics, which has been gathered by the industry of Prof. W. S. Perkins. Descriptions of these relics have been published through the *American Naturalist*. Along with this should be mentioned the smaller collection at Plattsburgh, N. Y., which Dr. H. S. Kellogg has been gathering.

At Springfield, Mass., there is a fine library of 95,000 volumes, and a beautiful art building, both under the charge of Dr. Rice, the city librarian. At Worcester there are two buildings devoted to antiquities. The oldest one is full of a fine collection of books, maps, and manuscripts owned by the American Antiquarian Society, which is the oldest society of the kind in America. In this collection may be found a copy of the very valuable reprint by Dr. Forstermann, of the Dresden Codex. This is the most interesting object, for there were only about fifty copies published—and there are but a few copies in this country. Stephen Salisbury is a liberal patron, and has done much toward building up this unique collection of books. Mr. E. M. Barton, a very courteous gentleman, is the librarian. The Museum of Local Antiquities is in a building by itself. There is not much ethnology and scarcely any pre-historic archæology in this collection; but for the relics of early historical days it is very valuable. Mr. Salisbury is also a patron of this institution. The Free Public Library, of which Mr. S. S. Green is the librarian, and the library of the Clark University should be mentioned in



this connection. At Boston the Public Library, with its mass of books hidden from sight, and its large reading rooms and stately halls, is the first place generally visited. The art building, with its fine collection of paintings and statuary and *bric-a-brac*, will be the next. The Athenaeum, with its cosy reading-room, surrounded by books and maps on all sides, and polite attendants everywhere present, will be the place where one will want to stay. It is both restfull and full of work. The Genealogical Society and the Congregational Library rooms should be visited by the antiquarian, for there are treasures here which can be found nowhere else. At Harvard there is the finest collection of old maps in America. The one who gains access to the room in which they are kept will want weeks and months—even years instead of hours—to learn what depths of information can be found. Fortunately Dr. Justin Winsor has been engaged in “deep sea sounding” here, and has given us the result in his various books.

The crowning place of all is, however, in the Peabody Museum. Archæology reigns supreme. The words of the Queen of Sheba to King Solomon after she had visited his palace are appropriate here—“The half has not been told me.” There are, in this museum, splendid collections of statues and fragments of sculptured blocks from Honduras, casts of altars, gateways and façades from the ancient cities, specimens of art, grotesque, *ghoulish* faces, but finely wrought and genuine surprises. The collection from the Northwest Coast is also very fine. Such spears made from obsidian as one rarely sees—a splendid and typical collection of carved specimens. The relics from the stone graves and from the mounds are very numerous and very systematically arranged. The costumes and ethnological tokens which have been gathered from the living tribes are very numerous. The sacred pole of the Omahas described by Miss Fletcher in this number is here for safe keeping. Everywhere in these rooms one is reminded of the wonderful diversity which existed among the Indian tribes. We speak of the Indians as if they were all alike. There is indeed a unity amid diversity, but the diversity is very impressive. Prof. F. W. Putnam is the soul of this institution. He has done a splendid work during the last twenty-five years—a work which has been felt throughout the entire country. The nucleus of the Field Museum was gathered by him. He is doing much toward the building up of the ethnological department of the Museum of Natural History in New York, but his best work is in the Peabody Museum.

THE MEETING OF THE AMERICAN ASSOCIATION AT SPRINGFIELD.

The last session of the American Association was held at Springfield, Mass., from August 28th to September 4th. It proved to be very interesting, but was not very largely attended, as many of the prominent geologists and archaeologists were conspicuous by their absence. The president's address was prepared by Dr. Brinton, who was in Europe, being unfortunately detained by the illness of his wife, but it was read in a masterly way by the secretary, Henry Howe, and made a marked impression on the large and intelligent audience. The general sessions were held in the hall of the Y. M. C. A. building, which is a fine structure and conveniently located. The sessions of Section H (Anthropology) were held in this hall, while the other sections had their meetings in the Art building, the State St. Baptist Church, the High School building, the Parish House of Christ Church and the Evangelist Hall, all of which were convenient of access. It was manifest at the outset that anthropology would be in the ascendancy, as it was at the last meeting at Madison. Mr. F. H. Cushing was the presiding officer, and Mr. Stewart Culin, of Philadelphia, the secretary of Section H. The program was very full and the papers read were very interesting, not only to the members of the Section, but to the large audience which continued to fill the hall through the entire week. The first paper read was by Mr. F. H. Cushing on the Dynasty of the Arrow, which was followed by three papers read by Stewart Culin; one on the Origin of Playing Cards, another on the Origin of Money in China, and another on the Mustach Sticks of the Ainu. These papers seemed to dovetail together, and drew out the comment that they proved a pre-historic contact between the inhabitants of the interior and the early people of Northeastern Asia and China, as the symbolism was very similar on both continents. The arrow was treated first in its mechanical development, second in its social influence, and third in its symbolic significance. Under the last head there was considerable discussion, but a very important point was crowded out intrusively. The arrow, the lightning, and the serpent are identical in their symbolism, and so the Arrow Dynasty introduces three cults—the serpent being the most significant and most beset with ethnological problems. The paper by Mr. John G. Bourke on some Arabic Survivals in the Language and Folk-usage of the Rio Grande Valley brought out the thought of "contact." There are some strange mysteries about this question of contact which are constantly coming forward to the

notice of the archæologists, but they are as constantly explained away to make room for the theory of parallel development.

The papers on the Sacred Pole of the Omaha Tribe, by Miss C. Fletcher, and on the Mystery of the Name Pamunkey, by William Wallace Tooker, were read on Monday and gave very excellent satisfaction. These two papers are published in the present number. Our readers will enjoy the opportunity of studying them at their leisure. A very curious and interesting paper was also read on Monday. In it the engravings contained in the bone implements which were exhumed from the Hopewell Mounds, but which have never been analyzed, were explained. This paper was by Prof. Putnam. He exhibited a number of diagrams which, presented the minute, finely wrought figures on a very large scale. By this means the striking resemblances were easily recognized between those figures and symbols, which are common, both on the northwest coast and among the mounds of the Gulf states. His theory is that the same race had spread through the west and south, carrying their symbols with them. This race differed from the aborigines of the north and east. On Tuesday morning a very learned paper on the Sociological Statistics of Europe as a branch of anthropomorphism of geography, was read by Wm. C. Ripley, of the School of Technology of Boston. The paper by Miss Alice C. Fletcher on Indian Songs and Music, and the one by F. H. Cushing on Spider Goddess and the Demon Snare were in the direct line of American mythology and anthropology. The one by Mr. R. G. Haliburton on the Influence of Pre-historic Pigmy Races on Earth Calendars and Cults carried the audience afield. The account of the Discovery of a Chipped Chert Implement in Undisturbed Glacial Gravel near Steubenville, Ohio, by F. G. Wright, drew in a large audience Tuesday afternoon, as it was expected that there would be considerable discussion, Section E. having adjourned and many of the geologists being present. The specimen was brought in, the location of the find was shown by Prof. Wright. Prof. Putnam examined the relic and pronounced it palaeolithic, as it was covered with the patina, and had the form characteristic of palaeolithic relics. The members of the Section did not see the specimen and consequently no discussion was held. Prof. Spencer stated that in his opinion the gravel in which it was found was older than that of the Trenton in which so many relics have been found. According to the program this paper should have been followed by another upon a kindred topic, viz: The Paleolithic Cult, its Characteristic Variations and Tokens. This would have brought in the whole subject of paleolithics, which should have been discussed, the two sides being presented; but the order was changed and two long papers intervened which occupied the remainder of the day. These papers were interesting in themselves, but as they treated of subjects

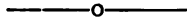
which were not consecutive they failed to carry the thought as far along as was designated or expected. This is the fault with the Section on Anthropology—the subjects are not arranged and discussed on days accorded to different departments. On Wednesday morning the paper on the Characteristic of the Palæolithic Age was read and discussed at considerable length. The papers following this were as follows: A Study in Child Life, by L. O. Talbot. The Indians of Southern California, by Franz Boas. The Cosmogonic Gods of the Iroquois, by J. W. B. Hewitt. Word Formation in the Kootenay Language, by Alex. F. Chamberlain. Kootenay Indian Personal Names, by Alex. F. Chamberlain.

The Section was fortunate in having so able and courteous a presiding officer as Mr. Cushing was. His resources of thought and facts are very great, but it is not often that they are drawn out so fully for the benefit of the specialists. We shall hope to give our readers the article on the Spider Goddess and the Demon Snare in a future number. We have the promise also of articles from Mr. Stewart Culin. The chief advantage of the session at Springfield was that so many from the other sections came in and took part in the discussion on anthropology—all of them in a very friendly spirit. Prof. E. D. Cope, who was elected president for next year, honored the Section by coming frequently into the room and giving the result of his knowledge as to the extinct animals in America. In fact Section H could boast the honor of having the president of the association and the permanent secretary among its members, and having the the president-elect present in special discussions.

The discussions took a wide range and it was sometimes interesting to see how many points would come in from the different specialists; Mythology, sociology, biology or natural history, philology, ethnology, all having a share in the department of anthropology, but all blended together beautifully as one took in the whole program and got a perspective at a distance. It is a grand science and is growing apace. The city of Springfield is elegant and beautiful. The entertainment was princely. The excursions to Northampton, Amherst, and Mt. Holyoke, were very delightful. The opportunity of meeting the citizens in their homes, and in their churches and public places, and enjoying the hospitality of the people was very gratifying.

The only sad feature was that so many of our noble workers in various departments have dropped away, one after another, within a few years. The vice-president of the Madison meeting, Rev. J. O. Dorsey, has gone during the year. Col. Garrick Mallery, who has always been so courteous and so instructive, was greatly missed. We have been saddened since the meeting by the tidings of the accident which occurred to Professor Riley, the entomologist, who was one of the first to arrive, the last to leave,

and seemed unusually kindly in his bearing. This has happened several times, for it was after the Boston meeting that Hon. L. H. Morgan and Prof. S. S. Haldeman suddenly ceased their work. And so after the Madison and Springfield meetings beloved co-workers have taken their departure.



ETHNOGRAPHIC NOTES.

BY ALBERT S. GATSCHET, WASHINGTON, D. C.

JOSEPH NICOLAR was an Indian of the Penobscot tribe settled on islands in the Penobscot River, Maine, and counting about 400 people. These Indians are quite industrious and inventive; they construct birch bark canoes and manufacture basketry of very neat patterns, which they sell either at the neighboring town of Old Town, or at the watering places of the seaside of the New England coast. The Penobscot Indians adhere to the Roman Catholic faith, which was planted among them in the beginning of the eighteenth century. Mr. Nicolar had made it a life-task to study, publish and propagate the folklore of his own people and in 1893 published to this effect "*The Life and Traditions of the Red Man.*" It is an interesting collection of 147 pages, which for graphic qualities and fluency of style rivals any similar production of the white man. It describes the ancient customs and beliefs, not of the Indian in general, as the title would make us believe, but only of the Abnákis or New England Indians of Algonkin race and language, who are subdivided into Penobscots, Passamaquoddies, Micmacs and St. Francis Indians. The main figure in these stories is *Gluskap*, their chief deity and law-giver, who unites with his divine power and oratory the qualities of a clown, liar and deceiver. Several aboriginal religions have their main deities clothed in this same ragamuffin or Falstaff garb, and instances of these are Manabozho or Ninebush—the great rabbit—of the Ojibwē, Sinti among the Kiowas, and Kmukámitch among the Klamaths of Oregon. There is no doubt but that they are deifications of the sun and sky, of the winds and storms, and of the seasons of the year. The name of Gluskap is the usual Abnákí term for *liar* and *deceiver*, but it is rather difficult to discover his real appellation when Nicolar writes him 'Klos-kur-beh.' The book shows a remarkable effort on the part of an Indian to explain to the white man his peculiar manners and ways in life and religion, and the face of the author, of whom a good portrait is added as frontispiece, shows the earnestness of his purposes. The preface is dated Old Town, Maine, but the book was printed at Bangor. The gifted author is no longer among the living, for he exchanged this sublunar world for a better one in the month of February, 1894.

DR. EDWARD SELER has just published an important antiquarian illustrated sketch on remains recently discovered in Guatemala, and the Mexican state of Chiapas. These antiquities are ruins of buildings, pictographs, tombs or pyramids and sculptural objects, ornaments on buildings, etc. Some of the localities are Sacule-u, Masapa, Iximché, Kalamté, Pasojon, Comitancillo, Zacualpa, Las Mercedes, and so forth, the article having appeared in Vol. IV, No. 1, of the "*Veröffentlichungen aus dem König-*

lichen Museum für Völkerkunde, Berlin, Reimer, 1895. This splendid periodical appears in large folio size and contains articles of the best scientists only. In the first number is also printed the catalogue of a collection of idols, fetishes and priestly paraphernalia of the Zuni of New Mexico by our *Frank H. Cushing*, (pp. 10, profusely illustrated) and translated into German. Follows an account by the specialist *Dr. Carl Sapper*, on "Ancient Indian Settlements in Guatemala and Chiapas," with map and ten plates, all described from personal inspection and surveys.

LANGUAGES OF BRAZIL.—During the last decennium the Indian languages of Central Brazil have been assiduously studied by native as well as by foreign linguists, who have conducted expeditions into these "dark" countries. The grammar of the Bakairi language by the famous explorer, Dr. Karl von den Steinen, is described as a model of Indian linguistics by those who have seen and studied it. Dr. Paul Ehrenreich, of Berlin, has in his numerous trips been busy to collect all information he was able to obtain on the long and short stops among the aborigines which time allowed him to make. *A.* The Carayá language of the state of Goyaz is the subject of one of his articles and is published in the "Zeitschrift für Ethnologie," 1894, on thirty-two pages. This people is the most important nation of the middle Araguaya river and does not belong to the family of the Gês languages, as was formerly supposed. The syllables are built up on the principle, that of its two components a consonant is always followed by a vowel. From the doctor's notes it appears that the noun distinguishes no gender, case, nor number, and has no real adjectives. Substantives are verbified by appending *ne* or *na*, and the distinction between noun and verb is more accurate here than in many other South American languages. The printed vocabulary is rather considerable and is remarkable through the difference observed between the dialect of the men and the women. *B.* Cayapo is spoken in many countries extending between the Araguaya and the Tocantins as far as Parà and the middle course of the Paràn River. Most of them live in entire independence from the white population, and in the Cayapo we have to recognize the most important portion of the Gês race. Many Cayapo tribes have not yet been visited by explorers. The grammatic structure appears to show similarity with that of Carayá. Ehrenreich secured an extensive vocabulary of the Cradahó tribe, which pertains to the northern portion of the nation; a few words of the Ushikrin and of a dialect of the southern Cayapo. Printed in the "Zeitschrift für Ethnologie, 1894," pp. 35-57. *C.* Another fascicle of the same periodical, 1895, pp. 61-88, contains notes upon the languages of the Chavantes and Cherentes Indians, who call themselves *Akuá* and belong to the Ges linguistic family. The former live on the shores of the Rio das Mortes, the latter on the middle Tocantins. Follow vocabularies of the Guajajara and Anambé of the state of Parà and differing but little from the *lingua geral* or colloquial form of the Tupi. A few notes on the Apiacá of the same state, who belong to the Caraië connection, close this interesting series.

From SAMUEL LAFONE QUEVEDO, M. A., the Argentinian investigator, we have a linguistic study of the Lule language spoken in a part of the Chaco. This tongue is frequently mentioned along with the Tonocote. It is spoken in the same portion of territory and resembles it in its remarkable

mode of suffixation. Quevedo has made his researches not from these Indians themselves, but from the writings of the grammarian Antonio Machoni, a Jesuit father. Quevedo's treatise is not what we may call a grammar, but consists rather of grammatic notes based on his system of radicals. This study is followed by a Lule-Spanish dictionary of considerable extent and by a short catechism with interlinear translation in Spanish. The book was printed in Buenos Ayres, 1894, holds 145 pages and is entitled: *Los Lules. Estudio filológico y Calepino Lule-Castellano, seguido del catecismo. Vademecum para el arte y vocabular del P. A. Machoni*. Separately printed from the "Boletín del Instituto Geográfico Argentino, tomo XV., pp. 185 sq.

"ETHNOLOGISCHES NOTIZBLATT" is a periodical issued by the direction of the Royal Museum of Ethnology in Berlin and destined to inform the literary public of the doings of that institution. Number second, which lies before us, contains fourteen partly illustrated articles and communications made to the museum, e. g., canoe-sculptures from New Zealand, Mount Meru, list of Siamese books and manuscripts received, antiquities of Guatemala (by Dr. E. Seler), latest news of African exploration, correspondence of Dr. Uhle. The report contains 159 pages, with plates, and is published by A. Haack, Berlin. Another publication by the director of the museum, Adolf Bastian, is "Ethnische Elementargedanken", Berlin, Weidmann, 1895, octavo. Two sections of it have appeared up to the present day.

ORNAMENTATION OF THE EYES is customary among several people of foreign parts, and frequently they transfer these ornaments from their facial traits to the sculpture and carvings intended to represent the human form. The present incumbent to the directorship of the civic museum of ethnography in Bremen, German Empire, has made a special study of this pictorial and sculptural feature and has gathered his notes in an article published in the *Transact. Royal Society of Sciences of Saxony, philosophic-historic class*, Vol. 15th, 1895, illust., No. 11, on ninety-seven pages, under the title: *Hinrich Schurtz, Das Augenornament und verwandte probleme*. Polynesia and the northwest coast of America are especially rich in the most fanciful forms of this sort of artistic display.

ALTHOUGH the literature of HYPNOTISM seems extensive already it increases every year through the rapid advance in hypnotic discovery. The best book composed on it in 1894 is by Dr. Otto Stoll, professor in Zurich, who, in his "Suggestion und Hypnotismus in der Völkerpsychologie," published by K. F. Koehler, Leipzig, 1894, pp. 523, has attempted a complete survey of this class of disorders among all the nations of the globe, with frequent historic retrospects. The oracles of Greece, the Eleusinian and other mysteries, the suggestive effect of dreaming and of sleeping in temples and tombs, the ravings of the Maenads and Bacchantes are minutiously described and their influence traced upon the life and religion of the people. On North America Stoll's sketches are rather exhaustive—he speaks of the excitement produced by camp and bush meetings, the laughing epidemics of the Wesleyans, the "rolling exercise" and the "jerks" of the Puritans—all these phenomena prove the close connection between religious and sexual sensuality. Space is too small to say more, but those who try to gauge the value of the book should read first what Stoll says about the Muckers of Königsberg, the Italian fanatic Lazaretti, the Morelstchiki and the Skopzi of Russia.

BOOK REVIEWS.

Chronicles of Border Warfare; a History of the Settlement by the Whites of Northwestern Virginia, and of the Indian Wars and Massacres in that Section of the State; with Reflections, Anecdotes, Etc., by Alexander Scott Withers. A new edition, edited and Annotated by Reuben Gold Thwaites, Secretary of the Wisconsin Historical Society, editor of Wisconsin Historical Collections, and author of "The Colonies, 1492-1750," "Historic Waterways," "Story of Wisconsin," etc. With the addition of a memoir of the author, and several illustrative notes, by the late Lyman Copeland Draper, author of "King's Mountain and Its Heroes," "Autograph Collections of the Signers," etc. 8 vo., 467 pages. Cloth, \$2.50. The Robert Clarke Company.

This history of the western border was originally published at Clarkesburg in northwestern Virginia, in 1831, and at the time created widespread attention. It was read at many a country fire-side until every copy was worn out by constant use. It has been for a long time out of print, but is republished by the Robert Clarke Co., with a memoir of the author by Dr. Lyman C. Draper, and notes by Reuben Gold Thwaites. The author begins with the recounting of the various theories in reference to the origin of the Indians. He then gives an analysis of the Indian character; but the body of the book is taken up with descriptions of individuals and families who lived on the frontier and experienced many hardships and dangers, and with a detailed narrative of the various tragedies through which they passed. This narrative is given in a very graphic style. It not only presents the *Chronicles of Border Warfare*, but all the incidents. It is especially graphic when the cruelties of the Indians are brought out. The book is said to be authentic, though some of the tales of cruelty seem too horrible for belief. There is very little in the book which can be regarded as apologetic for the Indian, and what is a little surprising there is nothing in the notes which relieves the darkness of the picture. Even the terrible slaughter of the Moravian Indians by the white men is spoken of in a way to partially excuse the act of the white settlers who vented their rage upon an innocent party of Christian Indians. Still there is no book in existence that has given a clearer view of the struggles through which the early settlers passed, and perhaps no book that contained a better summary of the events which occurred. The names of the prominent actors in those scenes were formerly like household words, and have a charm for many a lad of the present time. The bravery of Daniel Boone, the daring of James Rogers Clark, the sufferings of Col. Crawford, the treachery and meanness of Simon Girty, the brave deeds of Gen. Anthony Wayne, are brought out for our admiration, while in the back-ground there is any number of private individuals and noble characters which would have remained unknown except for the patience of this author in searching out their history and recounting their exploits and sufferings. It is probable that the sketches of the noted characters, as well as the recounting of the tragedies, will cause this book to be taken up again and read with as much avidity as it was fifty and sixty years ago. This, if it should occur, would probably lead the present generation to appreciate the efforts of the early settlers of the

Mississippi valley, and to cherish their names and memories. The portraits of these individuals who constitute the ancestors of many of the families which still make their home in this valley are worthy of study.

The Meeting Place of Geology and History. By Sir J. William Dawson, LL. D., F. R. S., author of "The Earth and Man," "Modern Ideas of Evolution," "The Chain of Life in Geological Time." Fleming H. Revell Company, New York, Chicago, Toronto; The Religious Tract Society, London. 218 pages.

The meeting place of two sciences is defined by the author, who says, "We have now very complete data for tracing the earth from its original formless or chaotic state through a number of formative and preparatory stages up to its modern condition, but perhaps the parts of its history least clearly known, especially to general readers, are those that relate to the beginning and the end of the creative work." He also says the science of man covers both the old prehistoric ages as revealed by geology and archæology and the more modern world which is still present and of which we have written records, but its date is acknowledged to be uncertain, for little is known concerning it. The history of the earth before the human period and its condition at man's introduction is very obscure. The earliest traces of man are still in dispute. Flints, supposed to be worked, have been found in France in the upper and middle miocene. There are instances of human bones in the pleiocene. It is maintained that the skulls found in the auriferous gravels in Western America are genuine and belong to the pleiocene age. These, however, are still all in dispute. The author grants that man appeared in Western Asia and Europe at the close of the glacial period, for it is proven by the remains of paleocomic men in river beds, in caves and in other localities, and especially in the association with the bones of extinct animals. An illustration is found in the cave of Goyet in Belgium. Here the bones of the cave lion and the cave bear were found on the lowest layer; on the second layer hyenas, wolf, rhinoceros, mammoth, wild horse, wild ox, Irish stag and a few human bones gnawed by the hyenas. The remaining surfaces presented work-flints, ornaments and evidence of the use of fire. Thus man was contemporary with the extinct animals in Europe. Other cases are referred to and the names are given. To illustrate: The Old Man of Cromagnon was said to be of great stature, being nearly six feet high; he had an enormous thigh bone, long skull, broad face and projecting cheek bones. The interments of men of the Constandt race at Spy, Belgium, described by Fraipont and Lohest, are pronounced palæolithic and palæanthropic by Sir William Dawson. The end of the palæolithic age, he thinks, was convulsive and marked by great geological vicissitudes, and its submergence, leading to the vast destruction of animal life, changes and climate and new conditions, in which the palæolithic or neanthropic age was introduced. At the beginning of this age man lived in caves and the reindeer still existed. The caves of Furfooz and of Frontal in Belgium are specimens.

Sir William Dawson identifies the antediluvians of Genesis with the oldest men of geological and archæological science and inclines to the opinion that the deluge was universal in the sense of being a submersion of the whole of the land, either by subsidence or by elevation of the ocean bed. In this respect he agrees with, and perhaps anticipates, the positions of Pro-

fessor Prestwich, who holds that this submergence occurred between the paleolithic and neolithic age and accounts for the contrasts between the skulls and the skeletons and the works of art by this means. This also is a position which many of the American naturalists are reaching, although the bones of extinct animals are found here in lower strata, but without the presence of man, the bones and remains of man in the caves being pronounced by all as very modern, in fact resembling the modern Indian. This book furnishes a good resume of the whole subject and will undoubtedly be sought for as the latest work published. It is illustrated by a number of wood cuts presented in a convenient form.

The Gospel of Buddha. According to Old Records, told by Paul Carus. Third revised edition. The Open Court Publishing Co., 324 Dearborn street, Chicago.

When Arnold's "Light of Asia" first appeared it was criticised as presenting the system of Buddhism under the garb of Christianity, Buddha himself being made to appear very much like Christ—the Savior of the world. The author of this book says in the preface that "all the essential moral truths of Christianity are deeply rooted in the nature of things. Buddha also bases his religion upon man's knowledge of the nature of things. A comparison of the many striking agreements will, in the end, only help to mature our insight into the essential nature of Christianity. It will bring out the nobler Christianity which aspires to be the cosmic religion of universal truth."

The quotations and selections from the sacred books are evidently with this point in view. The author endeavors to present the "Gospel of Buddha" as perhaps nearly equal to that of Christ. The question, however, is whether the book properly represents the system of Buddhism and whether the system as it really exists can be compared to Christianity. There is certainly no revelation of the future in Buddhism, and so it can not properly be called a "Gospel." The life and character of Buddha, whether presented in the poem of Arnold or the prose of this author seem very beautiful and striking, but the teachings about the supernatural and eternal world are very different from those contained in the Scriptures. One is charmed in reading the book, but he will, after all, turn to the life and teachings of Christ as far more satisfactory and nearer to the standard of thought which has been reached by the enlightened minds of those living in christian countries. Sectarianism is an objection to Christianity, but there are many sects among the Buddhists. We are not persuaded to accept Buddha as a teacher, notwithstanding the charming manner in which his teachings are compiled and presented by the able and learned author.

Lakes of North America. A reading lesson for students of geography and geology. By Israel C. Russell, Professor of Geology University of Michigan. Boston, U. S. A., and London: Ginn & Co. 1895.

The first chapter of this book gives a summary of the causes which have produced lakes, as follows: Depressions in new land areas; atmospheric agencies; aqueous agencies; glacial agencies, especially moraines; volcanic agencies; impact of meteors, earthquakes, landslides, chemical action. The third chapter speaks of the lake shores under the name of sea-cliffs, terraces, embankments, deltas, ice-built walls. The fourth chapter speaks

of the different kinds of lakes—the laurentian, the mountain, the saline, and among these mention is made of Lake Superior, Lake Tahoe, Lake Chelan, the Great Salt Lake. The pleistocene lakes are treated of in the sixth chapter and their geological history is portrayed. Among these are the lakes of Laurentian Basin, also Lakes Agassiz, Bonneville and Lahontan. This part of the book is the most interesting and the most valuable, for it brings out many new facts. There is in it a brief review of the theories that have been held as to the former drainage of the Great Lakes, and the changes produced by the glacial period. In reference to the scenery of the region around the borders of Lake Lahontan, the author says "there is an unsolved mystery connected with the tufa deposits that start out as strange, gigantic forms from the desert haze, as one slowly traverses those bitter alkaline lands." This sentence shows the style of the book. The most striking fact brought out by the author is the lack of vegetable fossils in the lake beds of the far west. The remains of the mastodon, mammoth, ox, camel, horse have been found in the sediments of Lake Lahontan. The author says we are led to believe that the climate of the lake period was cold and changeable, uncongenial to either plant or animal life. The large animals whose bones have been discovered were perhaps only temporary visitors; they succumbed to adverse conditions. The camel and the horse have become extinct. The mastodon and mammoth were extinct before the coming of the white man; but the presence of the bones of these animals in the sediments of the lakes leads one to look further back into earth's history to the period preceding the great geological winter, when under genial climate, varied and beautiful vegetation prevailed, and the animals whose bones are found made their homes along the lake shores and on the neighboring forest-covered hills. "Of the presence of man on the shores of Lakes Bonneville and Lahontan the records are silent."

The publishers have furnished a number of full-page plates, which very forcibly illustrate the subjects treated by the author. They have also given the volume a very neat form and furnished a good index.

The Mogul Emperors of Hindustan. A. D. 1398-A. D. 1707. By Edward S. Holden, LL. D. New York: Charles Scribner's Sons. 1895.

The author of this book has undertaken to present in a series of portraits the character of the Mohammedan rulers of Hindustan in an entirely new light. The general impression has been that Tamerlane, Timul, Barbar and the other Mohammedan kings were luxurious oriental despots, distinguished for their cruelty more than any other traits. The impression is not radically changed by the reading of this book, though the author has set forth the other side of the Mohammadan character. Their taste for letters has been shown by Sir William Jones, and many specimens of poetry are quoted by him. The taste for art is shown by Prof. E. S. Holden. The dark things which have been recorded against the name of these monarchs are surrounded by wreaths of flowers and embellished with the adornments of art, so that a rose-colored view of their life is given. The surroundings of these emperors were, indeed, magnificent, and there was an air of luxury in their palaces which rarely prevailed elsewhere. This, however, is so contrary to the Puritan way of living that it of itself makes the contrast between the Mohammedan and the Christian religion very strik-

Iroquois, or Six Nations, of New York. And it is the most enlightened and progressive of all the five civilized tribes in the Indian Territory—viz., the Cherokees, Choctaws, Creeks, Chickasaws and Seminoles, who are the most advanced of any North American tribes.

The genesis of the Cherokees is involved in the mists of pre-historic times. They were first known to the early white settlers and down to the year 1830, as occupants of the upper valley of the Tennessee river, the valleys of the Alleghany range, and the headwaters of the Savannah and Flint. They form a family by themselves, connected, possibly, remotely with the Iroquois. According to their own traditions they came from the west earlier than the Muskogees, and displaced a moon-eyed people unable to see by day. It is almost certain, from records made by one of his followers, that they were reached by the adventurous De Soto in 1540; but, from their interior location, they came but slightly into contact with the Spanish, English and French for many years after settlements began. From their position they were also divided into two sections, separated by the great Unaka or Smoky mountains, viz: Otari (the mountain) and Erati (below)—the Otari dwelling in the mountainous districts and the Erati occupying the lower lands; but they were further divided into seven clans, each of which prohibited intermarriage between its own members. They adhered to the English in colonial times, formally recognizing the king in 1730, and in 1755 ceded territory and permitted the establishment of English forts. The tribe was considerably advanced in civilization when the war of the revolution began. They clung to the royalist side, and in consequence, their country was laid waste by American forces. They were subjugated after a few years of intermittent war, during which they lost much territory, and, by the treaty of Hopewell November 28, 1785, they acknowledged the sovereignty of the United States and were confirmed in the possession of their hunting grounds. Then began the ever recurring story of the white man's encroachment and the red man's resistance, with the ultimate advantage on the side of the intruders. By treaties in 1791 and 1798, portions of their territory were surrendered and many of their people emigrated beyond the Mississippi. In 1817 the Cherokees on the Arkansas numbered 3,000. Those who remained in their old territory abandoned hunting and the greater portion of them lived by agriculture.

But the white men of Georgia, who coveted their lands, demanded the removal of the remaining Cherokees, notwithstanding the tribe had rendered great service in the war with England in 1812 to 1814, and though the Indians were entirely peaceable, generally industrious, and were fast becoming Christianized by the efforts of Moravian missionaries, and those of the American

board, the clamor for their removal prevailed, and in July, 1817, they were forced to exchange their eastern lands for territory west of the Mississippi.

The end was not effected, however, without much trouble and bloodshed. Georgia passed laws extending over the territory of the Cherokees, by which the Indians were practically outlawed, deprived of citizenship, and prohibited from being witnesses. They appealed to the United States Supreme Court, and that body—which long afterward decided that a negro had no rights that a white man was bound to respect—refused the Indians the right to bring an action; and, finally, the general government confessed its inability to fulfill its own treaty obligations. But this inability did not prevent the federal government in 1835 from making a treaty with a small portion of the tribe for the removal of the whole of them, and three years later an armed force was sent into their country to compel the removal. At that time the whole number of Indians in their old home was about 27,000.

The Indians were themselves divided; one section, led by John Ross, at first opposed but afterwards directed the removal. Within a few years, after much difficulty and many murders, the removal was effected.

Since their occupation of a part of the Indian Territory the Cherokees have greatly advanced in learning and material prosperity. About 1821 Sequoyah, a member of the tribe, invented an alphabet, and books and newspapers in their own language have been printed for nearly three quarters of a century.

In the war of the rebellion the Cherokees at first favored the Confederates, but the majority of them soon came over to the Union side. Between the two armies their territory suffered severely, and they were compelled to emancipate their slaves, of whom they were large owners. When the war broke out the tribe numbered something over 22,000; but the casualties of the struggle and the sufferings of their families, incident thereto, reduced the number to about 14,000, and put them back in wealth and material progress as much as ten years. In 1873 they numbered 17,217 and they had sixty-three schools with 1,884 pupils.

The territory of the Cherokees now amounts to about 5,000,000 acres, about one third of which is susceptible of cultivation, the remainder being mostly timber and grazing lands. The United States holds in trust for the tribe something over \$1,000,000 of school and orphan funds, but their greatest revenue comes from \$2,625,842.37 of five per cent United States Government bonds, the interest upon which is \$137,469.01, and which is paid annually and divided pro rata. Besides this, it is said that about \$1,200,000 is now due them on account of their cession of the "Cherokee Strip" some months ago.

They now have 2,500 scholars attending eighty schools, established and supported by themselves at an annual expense to the nation of about \$100,000. To-day 13,000 of their people can read and 18,000 can speak the English language. To-day 5,000 brick, frame and log houses are occupied by them, and they have sixty-five churches with a membership of several thousand. They cultivate upwards of 200,000 acres of land, and have an additional 100,000 fenced. They raise annually 100,000 bushels of wheat, 800,000 of corn, 100,000 of oats and barley, 27,500 of vegetables, 1,000,000 pounds of cotton, 500,000 pounds of butter, 12,000 tons of hay, and saw a million feet of lumber. They own 20,000 horses, 15,000 mules, 200,000 cattle, 100,000 swine and 12,000 sheep.

They have a constitutional form of government predicated upon that of the United States. As a rule their laws are just, wise and beneficent, and are enforced with strictness and justice. Political and social prejudice has deprived the former slaves, in some instances, of the full measure of justice guaranteed to them by the treaty of 1866, and the amended constitution of the nation, but time is rapidly softening these asperities, and will eventually solve all difficulties of the situation, if the tribe is not dispossessed of the territory it now occupies and forced to remove to a new location.

The present Cherokee population is of a composite character. Remnants from other tribes have from time to time been absorbed and admitted to full participation in the benefits of Cherokee citizenship. The various classes may be enumerated as follows:

1. The full blood Cherokees.
2. The mixed blood Cherokees.
3. The Delawares.
4. The Shawnees.
5. White men and women intermarried with the foregoing.
6. A few Creeks who broke away from their own tribe and have been citizens of the Cherokee nation for a good many years.
7. A few Creeks who are not citizens, but who have taken up their abode in the Cherokee country without any rights.
8. A remnant of the Natchez tribe who are citizens.
9. The freedmen adopted under the treaty of 1866.
10. Freedmen not adopted, but not removed as intruders, owing to an order from the war department forbidding such removal pending a decision upon their claims to citizenship.

The Cherokees are governed by a national committee and council elected for two years, and a chief who is chosen for four years. Tahlequa is their capital and chief town. In visiting that place you would almost imagine you were in a small but thriving Kansas town, did you not come into contact with a few half-bloods and full-bloods of the tribe whose color would betray

their race. It is sometimes very difficult to distinguish the quarter-bloods from the pure whites and they nearly all speak English as fluently as it is spoken anywhere.

The Cherokee elections are held in the summer time. The judges are usually seated at a table in the shade of a tree. No ballots are used. The voter is not allowed to come nearer than fifty feet of the table when he votes. He calls out in a loud voice the names of the candidates of his choice, and the judges keep the tally.

Some of the leading men of the five tribes are exceptionally adroit and able, and frequently the political pot of a tribe boils as furiously as does a like vessel in a Kansas campaign.

In the spring of 1891 I had occasion to see one of the prominent men of the Creek Nation, a member of their "Upper Council," as it is called, and a noted politician. Learning that he would probably be at Okmulgee, the capital, the next day, at a convention of the tribe to nominate a chief, or governor, I drove over from Muskogee, a distance of forty miles. The convention was held in the council house of the nation. I attended, and it was not until nearly the close of the second day that Mr. Perryman, the present chief, was nominated. Partisan spirit ran high, and although most of the proceedings were in the native language, I could see that the usual methods of the white man prevailed. On the second day, late in the afternoon, my man came in, with a large additional force of delegates and immediately the nomination was made. Evidently the proceedings had been delayed until his arrival. He was a full-blood Creek named Hotelka Fixico, and the designation is certainly not a misnomer. He is a "fixer" of the highest order.

After the convention I had a conversation with the nominee and found him to be a man of good intelligence, and I should say of large capacity for business. He speaks English fairly well.

I also met at Sasakwa, where he resides, John F. Brown, chief of the Seminoles. Like Chief Perryman, of the Creeks, he is a very able man, a quarter-blood Seminole, and he conducts his executive business systematically and successfully, as he does his private affairs. But the best informed man, the most of a statesman that I saw in any of the tribes, was ex-Chief William P. Ross, of the Cherokees, living at Fort Gibson, but who has since died.

As early as 1776 William Bartram, an Englishman, who traveled among the eastern Cherokees, says of them in a book he published: "The Cherokees in their dispositions and manners are grave and steady, dignified and circumspect in their deportment, rather slow and reserved in conversation, yet frank, cheerful and humane; tenacious of the liberties and natural rights of man; erect, deliberate and determined in their councils; honest, just and liberal, and always ready to sacrifice every pleasure and

gratification, even their blood, and life itself, to defend their territory and maintain their rights." And they seem to have retained all these characteristics, in large measure, down to the present time.

This is the tribe, or people, with whom the United States government, during the past one hundred and twenty years, has made no less than twenty-two distinct and separate treaties, ostensibly to secure to the Indians their rights, but in many cases really to deprive them of their lands or annul or abrogate existing treaties.

The Indian Bureau of the government is said to be honey-combed with dishonesty and thievery. But the trouble is not so much personal as it is a general outgrowth of the vicious and demoralizing system under which the affairs of the bureau are conducted. It crops out in every direction, in the furnishing of supplies, and in the payment of annuities to the Indians; in the appointment of the army of Indian agents, storekeepers, physicians, teachers and others to carry on its work; and in a thousand other ways that will suggest themselves to every intelligent mind.

It is such a condition of public affairs, especially in the Indian Bureau, that would seem almost to justify the statement attributed to "Parson Brownlow" that "the man in the moon never passes over Washington without holding his nose."

I recall a case in which a man had a government contract to supply some Dakota Indians with beef. He had one or two hundred head of cattle in Iowa, and in driving them across a stream on the ice they were all drowned. The bodies of these drowned cattle—some of them after having been in the water for ten days—were taken out, dressed, and the beef issued to the Indians. Some strange epidemic caused the death of a good many of the tribe the next summer, and sometime afterwards an investigation of the matter was ordered, but as the Indians had eaten the meat and the contractor had received his pay for it and even died before the investigation was concluded, it came to naught so far as punishing the real offender was concerned.

There is an Indian agent at Muskogee, in the Creek nation, who is in charge of what is known as the "Union agency for the five civilized tribes." The live stock, tools and agricultural implements of these tribes are of about the same character as those of the average white people of Missouri and Arkansas. And these Indians wear the ordinary white man's dress, except now and then there is a "blanket Indian" among them who refuses to depart from the ancient customs of the race. Most of the tribes outside of the civilized nations are "blanket Indians." It is a matter of some doubt whether a wild Indian of pure blood has ever been thoroughly and permanently civilized.

Father Shoemaker, of the Osage Mission, said "it took him fifteen years to get the blanket off of Joseph Pawneopasshe,

afterwards chief of the Osage tribe, and it took Joseph just fifteen minutes to get it back on him again."

The population of the Five Civilized Tribes by the census of 1890 was 178,097, of which 45,494 were Indians living in their own tribes, and 4,561 Indians living in tribes other than their own. Total Indians, 50,059, the balance being whites, 128,042. But these figures cannot be regarded as strictly accurate, owing to the distrust of the people of anything that savors of an inquiry into their affairs.

The same census also gives the total population of the Cherokee nation as 56,309, divided as follows: Males, 29,781; females, 26,528; Indians in the tribe, 20,624; Indians out of the tribe, 1,391; of negro descent, including claimants, 5,127; whites, including claimants, 29,166; Chinese, 13. There is an apparent gain in population of 5,642 from 1880 to 1890, as shown by the Cherokee census.

The lands of the Five Civilized Tribes, except those of the Seminoles, are covered by patents of the United States, and all of these tribes, except the Seminoles, owned slaves prior to the war. In 1860 the four tribes referred to held 7,369 slaves. The Seminoles held no slaves, but have intermarried with the negroes. The immigration of colored people from the old slave states, since the war, has been large. The equities and rights of the negroes in the lands of the five tribes—and as to citizenship, have yet to be properly settled. The people of the African race in these tribes do most of the work. In the Creek nation they predominate and fairly control affairs. The chief, Mr. Perryman, is about one-fourth negro I should say. The native negroes in that nation have the same tribal rights as the Indian and the two races intermarry, but to the Choctaw nation it is death to marry a negro.

Members of the five tribes may become citizens of the United States under Sec. 43 of the act of May 2, 1890, without losing any of their tribal rights and many of them have done so. But citizenship in the tribes named is regulated by tribal laws—a function conceded to them by the general government, and all of the five tribes, except the Seminoles, have published laws. As a rule they promptly punish crimes committed by citizens, but by the treaty of 1866 the Indian courts punish only Indian criminals for felonies and for offenses less than felonies. The United States courts at Fort Smith, Ark., and Paris, Texas, also have jurisdiction in the trial of felony cases where Indian citizens are the defendants and in all trials for crimes committed in the territory by non-citizens. At Fort Smith about one hundred murderers have been hanged, having been found guilty by the United States court located there. But I was assured by Judge Parker that over 80 per cent of these murders were committed by intruders or non-citizens. Judge Parker's court is in session

the larger portion of the time. The expenses of the court are something enormous. For example, they were \$242,813.41 in 1890. Maledon, the executioner, who is also a deputy United States marshal, personally hanged most of these one hundred men—on two occasions six at a time. The last time they were all Indians.

When an Indian is condemned to death by an Indian court he chooses shooting as the mode of execution, goes home unguarded, fixes up his affairs, bids his friends good bye, returns at the appointed time and is promptly shot. Not an instance of failure to do so, up to 1890, is recorded and none since 1890 that I have found reported.

The title of the Cherokees to their lands is not the ordinary Indian title "by occupancy," but is a qualified, determinable fee, with only the possible reversion to the United States, and the tribe may cut, sell and dispose of timber, and permit mining and grazing by their own citizens within the limits of their tribal tracts. In a message delivered in 1890 Chief Mayes said: "Our people should feel proud and thankful that such distinguished men as Senators Butler, Teller, Ingalls, Dawes and others have the manhood to openly declare on the floor of the United States senate that this land is the property of the Cherokee nation, and that we have the right to live upon it and keep it forever, and if we choose to sell it that we are entitled to its value.

The members of the tribe hold the lands in common, but occupation gives possession or occupancy title, which can be defended in the tribal courts. A citizen running a furrow around a tract of land holds all within the same, and if it covers a highway the road must be changed and pass around the tract. Large tracts are devoted to grazing, one tract alone comprising 50,000 acres. The holders of large tracts are opposed to the allotment of lands in severalty to the people of the tribe. Such action would mean the sale of the surplus lands and these cattlemen would be unable to lease large tracts for grazing purposes after white settlers had occupied the country and improved it. Heretofore there have been many intruders upon these lands. In some instances they have kept their cattle upon them by armed herdsmen and it would seem that neither the United States nor the tribe itself is able to effectually keep them off.

In 1893 Congress provided for the appointment of a commission to negotiate with the five civilized tribes for an allotment of their lands, and an exchange of their tribal for a territorial government. This commission, known as the "Dawes Commission," was in session nearly all last year at one point or another in the Five Tribes conferring with the chosen representatives of those tribes. The commission this winter submitted its report to congress. It seems that it reached no definite result in its conferences with the tribes named. To each it submitted a

written proposition, but all substantially upon the same general lines. The Indians propose to "make haste slowly" in the matter of ceding their lands. The regular councils of nearly all these tribes have been in session since the committee's proposal was received, but none of them have made any response thereto. No favorable response is expected, as the commission found the sentiment of the tribes adverse to the changes contemplated.

The second paragraph of the proposal made by the commission to the Cherokees contains the gist of the proposal to all the tribes. It reads thus: "To divide all lands now owned by the Cherokee nation, not including town sites and minerals for sale under special agreements. Sufficient land for a good home for each citizen, to be made inalienable for twenty-five years, or such longer period as may be agreed upon." Then follow provisions for the settlement of all claims between the government and the tribe, a division per capita and payment of the same of all money found to be due the tribe from the United States, etc.

There is nothing said about the amount that shall be paid for the surplus lands of the tribe—nor how the value of said lands shall be ascertained. This omission is, I take it an almost insurmountable barrier to a settlement with the Five Tribes of the question at issue between them and the government. And who can blame them in view of former treaty-making experiences?

The surplus lands of the Cherokees after the proposed allotments shall have been made, would average in value \$10 per acre, and it makes a vast difference to these people whether they are to receive that sum, or from fifteen to twenty-five cents of it only.

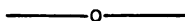
A writer in the *Century* sums up the whole question so pertinently, it seems to me—and withal so justly—that I will quote his words in closing. He says:

"The first necessity of the situation is to strengthen, perfect and make uniform the land titles of the territory. This can most safely and successfully be accomplished, it is believed, by allotting lands to the Indians in severalty, at the rate, say, of one hundred and sixty acres per head—and giving them personal title thereto, inalienable for a stipulated number of years; and providing (if they will consent) for the disposal at government prices of the unallotted and remaining portions of their reservations for their benefit to white settlers. Such allotment and issuance of individual patents would involve, of course, the dissolution of tribal relations—another desirable step in the adjustment of the general question, and the Indian would thus be put upon an even footing with the white man as to the opportunities and advantages of personal independence. At the same time the laws common throughout the states should be extended over the territory and courts established to administer them. In short, the flimsy theory of tribal sovereignty

should be extirpated, the reservation system replaced by fee-simple grants in severalty, the surplus lands opened to white settlement and the Indians placed under the restraint and protection of ordinary and impartial laws with a view to making them self reliant and self supporting. It would redeem the Indian Territory and its inhabitants from their present anomalous and equivocal position and put them in harmony with their environment.

The Five Civilized Tribes are already sufficiently advanced to take care of themselves in every way, and they number nearly two-thirds of all the Indians in the territory and would probably be the predominant class there for many years to come.

The instruction of all Indian children in good schools during a given portion of the year should be made compulsory. In that direction lies the one great hope of modifying and ameliorating the Indian character. It is uncertain, to say the most, whether the adult members of the wild tribes can ever be induced or constrained to raise themselves from their abject savagery to a level of any fixed idea of education. Some impression may be made upon them, doubtless, by patient years of experiment, and the experiment is worth pursuing, but it is manifestly idle to predict any very shining results."



ANCIENT MOUNDS IN NORTHERN MINNESOTA.

By T. H. LEWIS.

From time to time, during the past ten or twelve years, it has been asserted that the works of the Mound-builders existed along the headwaters of the Mississippi River. Apparently the earliest mention of these mounds was in a paper written by Honorable C. N. Bell, the well known writer of Winnipeg, Manitoba. This interesting paper was read at the monthly meeting of the Hamilton Association, and appeared in the Hamilton (Canada) *Daily Spectator* of December 18th, 1885. His statement is that "scattered along the banks of the Mississippi River and its tributaries, from the Gulf of Mexico to its sources in the north, are to be found an immense number of earthworks and mounds of various sizes and shapes. In another paper read at the annual meeting of the Geographical Society of the Pacific, January 18th, 1886, Mr. Bell says: "Leaving the mound districts of the northern states, I desire to show that the mound system of the Mississippi extends not only to its headwaters, but can be identified and carried far to the north, merging into what may be denominated the Red River and Rainy River systems."

Honorable J. V. Brower, the commissioner of the Itasca State Park, (Minnesota) states in his report to Governor Nelson that on October 27th, 1894, he discovered the remains of an ancient village site at the north end of Itasca Lake, and that nearly 300 specimens had been excavated at that point. This statement is followed by a description of the site, and illustrations of the relics found thereon.

During the latter part of last April and the month of May, in company with Mr. Brower, I made an examination of the country immediately around Itasca Lake, and also along the Mississippi River from a point some seven miles north of the lake to the west end of Cass Lake.

The plateaux and hills around Itasca and on both sides of the river for two or three miles below the outlet were pretty thoroughly explored for mounds and other remains. Divided along the usual topographical lines, the remains of at least eight village sites were examined, and mounds were found at two points within the territory above described. The amount of debris found upon the village sites was comparatively small and consisted principally of fragments of broken pottery, chips and a few implements of various kinds, perhaps thirty or forty in number, less than half of which were perfect.

Mr. Brower found a lone mound on the west side of the north arm of the lake, which was twenty-four feet in diameter and two feet in height. The point of the low ridge on which it is situated is about one mile from the outlet and is located on the east half of the southwest quarter of section 2, town 143, range 36 west, in Beltrami County.

There is a group of ten mounds situated on a plateau about a quarter of a mile east of the river and about the same distance north of the lake. They are located on the east half of the southwest quarter of section 35, town 144, range 36, in Beltrami County. These were surveyed on April 30th, and on May 1st nine of them were excavated with the following results:

Mound No. 1 was eighteen feet in diameter, one foot in height, and was composed of sandy loam. At the bottom, scattered over the natural surface of the ground, a few human bones and some fragments were found, which includes two femurs, one radius and one section of vertebra.

No. 2.—An embankment eighty-three feet in length, sixteen feet in width at the east end, twenty-one feet in width at the west end, and two feet in height, was not excavated.

No. 3.—An elliptical mound thirty-eight feet in length, twenty-four feet in width and three feet in height, was composed principally of black sandy loam. A little to the west of the center the loam of the natural surface had been removed, and resting upon the gravel was a heap of calcined human bones mostly broken into small fragments. There were five skulls

recognizable, the fragments being grounded together, and pieces of as many more were intermingled with them. At the north edge of the calcined heap was a human skull, which was in a fairly good state of preservation. Just above the heap, and almost resting upon it, were six skulls and a number of human bones, which were more or less decomposed and broken into fragments by the pressure of the earth around them. Still above the latter and near the top surface of the mound was the remains of an intrusive Indian burial, which had evidently been covered over with birch bark. The bones of this skeleton were much more decomposed than any of the other ones found within the mound and were almost black in color. Only small fragments of the birch bark were found, but from the number of pieces and the position it was very evident that the bark had been used merely as a covering and not as a wrapper. East of the center and just above the gravel six skulls in a natural state, one calcined skull and a few human bones were found, but nothing else of interest. A careful examination of these remains and of their relative positions demonstrated the fact that no system had been used in their interment, but that they had been placed in the mound in a promiscuous manner. In different sections of the mound two small beds of gravelly sand and two of charcoal and ashes were found. The latter were evidently a part of the material used in construction, as there was not the slightest evidence of heat around or beneath them. It will be noted that nineteen skulls were positively identified and an estimate of five additional ones was made, based upon the shape of the other fragments exhumed, so that twenty-four skulls is a fair estimate for the number of original burials found within this mound.

No. 4 was seventeen feet in diameter, one and one-half feet in height and composed of black sandy loam. Only one small fragment of a human skull was found and that near the bottom of the mound.

No. 5.—An egg-shaped mound, was forty-three feet in length, twenty-four feet in width at the east end, sixteen feet in width at the west end, two feet in height and composed of a light sandy loam. Near the east end a small pit five feet in diameter had been excavated in the gravel to the depth of one and one-half feet beneath the natural surface. Within this pit three skulls and a few human bones were found.

No. 6 was twenty-six feet in diameter, three feet in height and composed of sandy loam. On the bottom near the center were parts of two skeletons, which included a few fragments of a skull.

No. 7 was twenty-two feet in diameter, three feet in height and composed of a sandy loam. Only one small fragment of pottery was found in this mound.

No. 8 was twenty-eight feet in length, eighteen feet in width, two and one-half feet in height and composed of sand and sandy

loam. Two small beds of ashes—which had been used in construction—and a few fragments of human bones were found upon the natural surface near the center.

No. 9 was sixteen feet in diameter, two and one-half feet in height and composed of sandy loam—the sand predominating. No remains of original burials were found, and, in fact, nothing that would indicate that the mound was constructed for sepulchral purposes. Near the top surface were two intrusive Indian burials, male and female. These were badly decomposed and had evidently been covered over with birch bark. The form of burial differed somewhat from that in No. 3. In this case it was very evident that the skeletons had been placed in the mound after the flesh had decayed and while the ligaments still held the major portion of the bones together, for some of them were not only out of place, but had been reversed as regards their natural position. Whether these intrusive burials are to be attributed to the Ojibways, Dakotas, Christinos, or the Assiniboin is a mooted question.

No. 10 was forty-four feet in length, eighteen feet in width and two and one half feet in height. The western part was composed of sandy clay and the eastern part of black sandy loam. Near the center of the embankment, but in the loamy section, two skulls and parts of three skeletons were exhumed. These were resting upon the gravel and were original burials.

Commencing near the center of the group and extending to the southward for some three hundred yards are the remains of an old village site, as is evidenced by the broken pottery, chert chips, etc.; but doubtless this site was not occupied until long after the mounds were erected.

EFFIGY MOUNDS.

The most interesting group of mounds yet discovered in Northern Minnesota is situated on a low bluff on the north side of the Mississippi River, and are distant about one-half mile in a direct line from Tascodiack Lake. There is a grand view to be had from the bluff, which takes in the meadows, the lake, and the country for several miles to the southward. Special interest attaches itself to these mounds from the fact that they are of the imitative or effigy class, and that they occupy the most northern, as well as the most northwestern limit of such works—so far as surveys have been made. This group is located on the southeast of the southeast quarter of section 23, town 146, range 32, in Beltrami County, and was surveyed on May 15th, 1895.

No. 1 is seventy-eight feet in length, following the curves, two and one-half feet in height, and probably represents a fish with open mouth.

No. 2 is one hundred feet in length, two feet in height, and evidently belongs to the same class.

No. 3 is one hundred and thirty feet in length, two and ~~one~~ half feet in height, and probably represents a serpent.

No. 4 is a nondescript, ninety-six feet in length and three feet in height.

The mounds extend along the edge of the bluff eighty to one hundred feet from and thirty-five to fifty-five feet above the river.

The mounds along the Mississippi River from Itasca to Cass Lake are but few and from this fact, taken in connection with the scant remains to be found upon the old village sites, it is very evident that the country was but sparsely settled at best and could not have been occupied for any great length of time.

MOUNDS AND MINING TITS.

As but little is known as regards the archæology of Northern Minnesota, a statement of what has been reported by surveyors, land-examiners and others may be of interest in a general way.

Beltrami County, in addition to the five groups already surveyed, has eleven groups of unsurveyed mounds and one enclosure.

Itasca County is reported as having twelve unsurveyed groups, two groups of stone mounds, two enclosures and two localities where there are inscribed boulders. One of the above mentioned groups of mounds is located at Cut Foot pass, and on the authority of Dr. P. D. Winship, of Park Rapids, it is stated that one of the mounds of this group represents a turtle.

Cass County has, in addition to nine surveyed groups, fifteen unsurveyed groups and one enclosure.

St. Louis County has twelve groups, and ancient mining pits are reported as existing in three localities. Within recent years a number of mounds have been explored in the vicinity of Tower and Ely.

Lake County has five groups of stone mounds, two stone enclosures and some ancient mining pits.

Cook County has two groups, containing seventeen mounds in all, and five groups of ancient mining pits.

Assuming that there are 9,000 mounds within the limits of the state of Minnesota, over 7,500 have been surveyed, leaving less than 1,500 to be accounted for. Surveys and examinations have been made in every county excepting three, and antiquities of one kind or another are to be found in seventy-nine out of a total of eighty counties—Carlton being the exception.

St. Paul, Minn., Sept. 9, 1895.

INDIAN NATIONS OF THE GREAT LAKES.

By W. M. BEAUCHAMP.

This paper is intended to give a brief view of the geographical distribution of the several Indian nations belonging to the country of the great lakes during part of the seventeenth century. It will be exhaustive, and the chief sources of information are the Jesuit Relations and some early maps. The country east of Montreal and the Hudson River is outside of its design.

One of the earliest maps of interest is the Dutch chart of 1614, (N. Y. Col. Doc.) which much resembles one prepared two years later. The maker of this map had his information from Kleynties and his comrades, who had gone from the Mohawks westward and southward, and adds: "In deliberately considering how I can best reconcile this one with the rough drafts communicated, I find that the places of the tribes of the Senneecas, Gachooos, Capitanasses and Jotteccas ought to be marked down considerably farther west into the country." On both the Maquaas, or Mohawks, have their proper place, but with the suffix of "Caroomakers." The Senecas appear farther southwest, for the Dutch for a long time distinguished only the Mohawks and Senecas, calling both by Algonquin names. On the south of the last, on the earlier map, are the Gachooos; the Capitanasses are southwest of these, and farther on are the Jotteccas, while the Minquaas are on the lower Susquehanna. The homes of all can be fairly identified.

The map of 1616 varies from this. "Hef Meer Vand Irocoisen" appears in northern New England, and part of Canada is introduced. The Minquaas are placed farther north than before, being the Audastoc of the French, the Susquehannas or Conestogas of the English. The other names, south of the Senecas, were probably tribal divisions of the Andastes, the Jotteccas being omitted. Champlain placed the Carantouanais, Great Tree People, on the Susquehanna below Elmira, and in the key to his map of 1632 they are described as being three days south of the Antouhonarons, against whom they fought, although of the same family. It was for them he waited when he attacked the Iroquois' fort in 1615. In his narrative of his expedition to Lake Champlain in 1609, the Indians tell him that Vermont belongs to the Iroquois.

The Five Nations of New York were first clearly distinguished in the Jesuit Relation of 1636, where they are called Sonontcerhonons or Senecas, Onontcerhonons or Onondagos, Oueioerhonons or Cayugas, Onniocerhonons or Oneidas, and the Agnierhonons or Mohawks, *Konon* is the Iroquois word

for people. In the list of 1640 the Cayugas are more properly called Oniouenhroron, the first being a mistake. For a few years their country was called Onioen, but this may have been merely its Huron name, as the later designation of Cayuga soon prevailed. On Sanson's map they appear as Sovouaronon, and on that of Creuxius, they are Oionenii, while their proper name is given to the Oneidas. On that map Oneida Lake is also called Lacus Oiogoenronius. Later the Cayugas were known as the Goyogouins. The whole Iroquois country has been accurately examined. A journal of Arendt Von Curler, recently discovered and published, narrates his journey to the Oneidas, 1634-5, and mentions all the western Iroquois by name, but includes all under the general name of Senecas. Their castles were Onneyatte, Onaondage, Koyockure, and the two Seneca castles of Hanotowany and Senenehalaton, apparently forms of Sonontouane and Tiotohaton.

Antouhonorons, as given by Champlain, seems the same as Sonontouhonorons, the Senecas. He describes them merely as allies of the Iroquois, for the league had not long been formed, as having fifteen strong villages. At that time they were at peace with the Neutrals. Like the Dutch, he may have included all but the Mohawks under this name. The Konkhandeenhroron are placed between the Onondagas and Cayugas in the list of 1640, taken from Father Ragueneau's map, but while they appear in the list of 1635, they are not called Iroquois, though speaking the Huron tongue. Otherwise they might have been thought a division of the Senecas, who have always formed two bands. They were south of Lake Ontario, apparently, and quite likely were part of the Andastes, perhaps the Carantouanais.

Among the others mentioned as speaking Huron in 1635, were the Neutrals or Attiwandaronks, *a language a little different*. These were on the north side of Lake Erie and took no part in the war between the Hurons and Iroquois. They were afterwards subdued by the latter and were made up of several so-called nations. One division was the Onguiarahronon, (misspelled Ongmarahronon in the Relation of 1640,) and may have been the Niagagarega, a nation destroyed, in the Neutral country, which is mentioned in the same way as Atiragenrek, in the Relation of 1656. South of this and nearer Lake Erie appear the Antouaronons, a nation destroyed. These may have been the Ahouenrochron of 1635, the Ouenrohroron of 1639. De la Roche Daillon visited the Ouarororon, *a separate people*, in 1627. They lived in New York, a day's journey from the Iroquois, but were attached to the Neutrals. The Andowanchronon may have been there, as they follow the Senecas in the list of 1640. The Ouenrohroron were at first among the Eries, then fled to the Neutrals, and then took refuge with the Hurons.

On Marquette's map appears also the Ka Kouagoga, a nation destroyed, probably Neutrals, as they once had a few villages east of Niagara River, and some consider these the Kah

Kwabs, of Seneca traditions. The Aondironon of 1640, were mentioned as a nation destroyed in 1656, and the Ondisronu are placed just east of Niagara River, on Creuxius, map of 1660. They were Neutrals, nearest to the Hurons and were destroyed by the Senecas in 1648. The Atiaonrek, another destroyed nation mentioned in 1656, may also have been another Neutral tribe.

The Khionontaterrhonons were the Petun Nation, afterwards known as Tionontates. They were southwest of the Hurons. The Rhucrrhonons of 1635, and the Erichronon of 1640, probably included some nations found in the latter list. They are variously placed, having occupied much territory. The Relations make them sometimes quite near the Iroquois, and sometimes comparatively distant. At first they were on the southern shore of Lake Erie, but retired inland quite a time before their overthrow, on account of their western enemies. Their place on the map comes merely from conjecture. Sanson's map, 1656, locates them southwest of Lake Erie; Creuxius, 1660, places them southwest of that lake, while one of La Hontan's has them south and west of it; and Hennepin, 1689, between two large rivers in Ohio. It seems proper to consider the Massawomckes as a southern division of this numerous people. Not improbably the most western nation speaking the Huron tongue, was another branch. The Schahentoarrhonon of 1635, were probably the Skenchiophonon of 1640. They were friends of the Hurons, speaking their language, and appear at the west of Lake Erie, as the Squenquioronon, on Sanson's map. Creuxius places P. Onnonderetius there, making Latin of Indian words.

An accurate and discriminating survey of the Erie country is greatly to be desired, but a number of well known sites not far from the lake, may properly be assigned to them. Most of those in Cattaraugus and Chautauqua counties, N. Y., seem to have belonged to this numerous people at some time, as well as others in Pennsylvania. They were utterly destroyed in 1654-5.

In the list of 1640 the Hurons were called by the generic name of Ouendat, (Wyandot,) but the Kontareahronon is mentioned specifically, lying on the eastern border and perhaps being distinct from the four great nations. The Totontaraton is also mentioned as an Algonquin nation which had fled to them from the St. Lawrence, where its name appears at Otondiat on Sanson's map. The four nations of the Hurons were the Attignaouantan, the Attigneengnahac, the Arendahronons and the Tohontaenrat. The first two were the ancient inhabitants, coming there about A. D. 1400, according to their traditions. The third nation was received about 1590, and the fourth about 1610. They probably left the lower St. Lawrence about the time the Mohawks did, or soon after. The Huron and Petun territory has been accurately examined and the history of both is well known.

These comprise the Huron-Iroquois nations definitely known at that day. The Algonquins of the great lakes will be more briefly treated, many being nomadic. It was usual for the Jesuits to follow the Indian custom of calling all the small bodies of savages by proper names, so that the number of these is large as compared with the territory occupied. Creuxius, with his Latin terminology, more clearly distinguishes between nations and settlements or towns. One of the most prominent of these nations was that of the Nipissiriniens, near the lake of that name and north of the Hurons. It appears on Sanson's map under this name, but was at first called the Sorcerers by the French. Its Huron name was Askicouanehronons, and it was more wandering than settled. Other nations north of Lake Huron, as given by him, were the Aouechissaronon, being the Ehressaronon of 1640; the Elsouataironon, which may be the Houattaehronon of the same year, and the Eachiriouachaaronon, Enchek and Aossondi.

On the northeast shore of Lake Superior, on this map, from northwest to southeast, were the Ironinidons and the Kiristinous or Kilistinous, a number of people reaching to Hudson's Bay. The Nadouessouc or Sioux were next to these, being still east of the Mississippi on Marquette's map of 1673. Astakouan-kacronons followed, and the Skiaeronons, otherwise the Paw-ichtigouek, were at the Sault Ste. Marie. Creuxius called them the Pagittoecii. They are the Oscouarahronon of 1640. Attracted by the fine fishing many small tribes joined them there, and from that vicinity came the Mississogas at a later day.

On the east side of the Lac des Puants, now Green Bay, on Sanson's map, were the Oukouakanaronons, apparently the Puants. The Hurons usually called them the Aoucatsiwaenhronons, their Algonquin name being Winnipegon, afterwards Winnebagos. Their name was connected with their origin. Much farther south were the Assistaeronons, the powerful Fire Nation, called Mascoutench or Mascoutins by the Algonquins. Although the missionaries explained that their popular name came from a mistaken interpretation, Mr. W. W. Tooker has given some good reasons for thinking they might have worked copper by the aid of fire. On Hennepin's map of 1697, they are placed east of Lake Michigan. They were known to Champlain, and the Neutrals fought against them. Still later they were attacked by the Iroquois, who knew them as the Ontonagannha, and these seem to have been the Onontiogas, afterwards found among the Senecas, in their Huron town. A tribe of this nation, called the Ouchawanag, has led some to think they might have been connected with the Shawnees.

In Michigan, Sanson's map had the Ariatoeronon at the north, being the Ahriottaehronon of 1640. On the east side were the Couaeronon, or the Akhrakouaeronon of 1640; and the Aictaeronon were farther south. In Canada, between the Ottawa and Otonabee Rivers, were the Quionontareronnon or Ehonkehronon, being the Ontarahronon of 1640. This was

a small body of Algonquins, commonly known as the Little Nation of the Isle, advantageously posted on the Ottawa river. The other Algonquins called them the Kichesipiiriniwek. Other Algonquins lay to the south of these, but were of little account. West of all these were the Hurons, Neutrals and Petuns.

Champlain placed the Cheveux Relevez north of Lake Erie, and Creuxius on the Great Manitoulin Island. They soon became known as the Outaouacs or Ottawas, and included several nations. Other nations naturally come into view, the Maloumines or Wild Rice Indians, near the Puants, being visited in 1640. The Illinois were first mentioned in 1656. It has been conjectured that the Irinions of 1642 were the Illinies, but a careful reading of that Relation makes it clear that these were the Ironinidons of Sanson's map. The Kickapoos and Miamis were reached in 1670. The Hurons had some Algonquin allies in 1648, south of Lake Huron, called Ontanceek, and there were other obscure Algonquin tribes. One far down the St. Lawrence must not be forgotten, because often confounded with the Iroquois family. It had its name of Iroquet from that of its principal chief. He was the one who refused to show the Neutrals the way to the St. Lawrence. Its proper name was Onnontchataronon in the Huron tongue, and it, once had its home in Montreal.

If one were to include in this all the nations against whom the Iroquois fought we would reach the Mississippi, Hudson's Bay and the Carolinas. No distance was too great for these terrible warriors. After the Huron war they had to seek even more distant foes. Among these was the Amicouek, or Beaver nation, better known as the Nez Perces, three days north of the Hurons, while the remote tribes of New England trembled at their name and presence. But in most of the country now considered scarcely a tribe was left out of the many mentioned. A populous land became their mere hunting grounds. They made a desert and called it peace.

THE FRESCOES OF MITLA.

BY PHILLIP J. VALENTINI.

A large folio volume, containing forty-nine pages of text and thirteen photographic illustrations, bearing the title *Wandmalerien von Mitla*, has appeared. It is devoted to describing and explaining a series of pictures painted *al fresco* on the inner walls of a chamber in the famous but now somewhat dilapidated palace of Mitla, Mexico.

Dr. Edward Seler, who is at the head of the American department of the Ethnologic Museum of Berlin, on an exploration tour in 1888 was the fortunate discoverer of them. The discovery was accidental and took place when he was led to house his horses in the curate's stable that was roughly adjusted for this purpose in one of the chambers of the named ruins. It took him and Mrs. Amelia Seler, the latter being the faithful companion, everywhere, of her laborious husband, as much as eleven days to secure an exact copy from these paintings, which on account of the height were accessible only by the way of ladders and the construction of a scaffold, and it is but now, after the lapse of seven years, employed in collecting the material necessary for giving an accurate idea of the historic find, that the author finds himself ready to publish the results. In doing so, he dedicates the volume to the well known promoter of American archæology, the Duke of Loubat, who liberally bore the expenses connected with a luxury edition.

Here then, and not without a new feeling of perplexed astonishment, we stand again before the revelation of a quite unknown fact. That the ancient American artists were consummate architects and sculptors we need not be told. That they knew how to emblazon their horoscopic calendars, drawn on vellum or on maguey paper, with a wealth of most beautiful and lasting colors, we have learned from the pages of those fifteen so-called Mexican Codices, which were edited some fifty years ago, by the munificence of Lord Kingsborough. But that like the advanced Egyptians, the Greeks and the Romans, our mysterious prehistoric artists should have also viewed their chamber-walls in the light of a national "poikile" and had chosen these walls as a ground upon which to perpetuate "al fresco" the exploits of their heroes, and that they knew how to represent them pictorially and as intelligibly to the sense of sight as it is possible without the employment of the phonetic medium—this fact, indeed, has been a new addition to the store of that miscellaneous and enigmatic knowledge which accumulates year after year, and the threads of which to the present day have withstood all efforts made in the line of logical and therefore acceptable connection.

It would take more space than is allowed here to enumerate in detail all the arguments by which the author of the volume was enabled to reach the final result of his investigation concerning the very subject matter as it is represented in the frescoes. Dr. Seler comes to the conclusion that the story told in them is nothing else than that of Quetzatlcoatl, the culture hero of the Toltecs, a story which oral as well as written tradition is told in unconnected fragments and in such legendary disguise as was that of ancient Osiris, the culture hero of the Nile River. Again, however, fate has intervened to transmit the story as complete as Dr. Seler assumes it was depicted. Almost all the lower portions of the frescoed panels are obliterated and effaced by the hands of white-washers, and other breaks were caused by rain leaking through a rotten roof. Thus, the otherwise so welcome a find is but a fragment, suggestive enough, indeed, but not conclusive, inviting to study and challenging all the powers of trained imagination, but also ever ready to enrapture the lover into the realms of hazardous speculation.

The text is divided into six parts. In Part I the reader is introduced into the locality of Mitla itself, and a description is given of the sundry palaces; of their chambers and the purposes they served. The upper chambers were accommodated for the living of the high priest and his acolytes; the subterranean were destined for abodes of deceased kings and priests, with an additional sacrum in which the idols and all the other paraphernalia connected with the cult of the dead were preserved. (Pages 5-11).

In Part II we are informed of all that is known of the Zapotecan nation, to which Mitla owes its construction, which is but little, and this little only as far as it is connected with the continuous war in which they were engaged with their neighbors, the Aztecs. (Pages 12-16).

Part III embraces an ingenious comparison made of the Zapotecan calendar and that of the Aztecs, and the mythology of both nations is shown as mutually interlaced. (Pages 17-22).

Part IV represents the special Zapotecan conception as regards religion, their pantheon and the organization of their priesthood. (Pages 23-27).

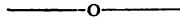
Part V gives the sculptured and pictorial representations of the Zapotecan gods. (Pages 28-39).

Part VI concludes the text with the detailed description and interpretation of the wall frescoes themselves. Engaged in this work, Dr. Seler has an occasion to prove what advantages he enjoys in having acquired absolute control over that multi-form and ever changing Proteus of Mexican mythology. Without this aid, he would scarcely have succeeded in identifying, and beyond all dispute, that it is the image of Quetzatlcoatl, which offers the clue for disclosing the burden of the pictorial text. We may not find ourselves in agreement with him as regards several other identifications and the conclusions drawn

from it, the ground being that we cannot see neither so deep nor so far as he does. But, in principle, we adopt this essence of his theory. (Pages 40-49).

On pages 51-56 an alphabetic glossarium is given of the words and objects occurring in the text. Thirteen splendid photographs, showing the Mitla-Mausoleum out and in doors, its hall of massive columns, a surprising and novel variety of mosaic samples with which the walls are covered, the plan of the black and colored buildings, and illustrations of remarkably fine pottery dug out in the environs of Mitla conclude the pages of the highly interesting work.

Dr. Seler, in company with his wife, is presently again enroute for explorations to be made in Mexico and Guatamala.



FLINT IMPLEMENTS OR THUNDER STONES.

A French scientific expedition has recently returned from Cochin, China, to Paris, bringing with it valuable collections. Among these were a large number of wrought and polished flint implements, some of the most interesting of which are illustrated in the accompanying cut, reproduced from *La Nature* and described as follows in *Popular Science News*:

These flints are finely worked and polished, and if found in Europe would have been attributed to the Neolithic period of the human race. At present there is no way of estimating their age, which may be comparatively modern as compared with that of the similar implements found in Europe or America. It is very remarkable that the forms of these flint implements are practically the same in whatever part of the world they may be found. The prehistoric man of Cochin, China, worked the lumps of flint into the same forms, and probably by the same process, as did the men who settled in northwestern Europe after the melting of the glaciers, or those mysterious progenitors or predecessors of the American Indians, whose remains are so abundant in this country.

A still more curious fact is that all over the world the same origin is attributed to these stones by the people of the present day. The name of thunder stones is universally applied to them by the savage races of the East Indies, the South Sea Islands, Africa and South America, as well as by the more civilized people of China and India, and the ignorant peasantry of Europe. In Italy alone a curious exception occurs in some localities, where the long, flat implements are known by the remarkable name of "the tongues of St. Paul". All recollections of the people who made them, or the use for which they were designed, seems to have been lost; and this would either indicate their great antiquity or that they were fashioned by another and different race before the immigration of the present inhabitants of the countries where they occur.

THE INDIAN AS A CITIZEN.

BY HON. JAMES WICKERSHAM.

With the discovery of America by Columbus, the circumnavigation of the globe, the discovery, exploration and the settlement of the South Sea Islands and his entrance into eastern Asia, the Anglo-Saxon began the subjugation of the world.

In the past four centuries he has subdued and colonized America and established great empires in places formerly occupied by Indian tribes; has wrested the islands of the Pacific from the aborigines; has conquered ancient India, whose temples, schools and civilization were grown gray with age before the ancestors of the conqueror had emerged from barbarism; and is now, through diplomacy and force, advancing against the splendid empire of Japan and the tottering civilization of China. It is the boast of the English nation that the sun never ceases to shine upon its flag; soon the boast will be that the English speaking people govern the world.

This march of the conqueror has been so sudden and accompanied with such strange new battle forces that the Indian races have been thrown prostrate before him; they have contended against him valiantly; the Peruvians and Aztecs stood before the Spanish invader with a degree of courage, heroism and fortitude which has challenged the admiration and sympathy of the world; they were slain by thousands, when additional thousands sprang to their places, only to yield up their lives in the useless struggle; the mailed and heavily armed cavaliers destroyed nations, burned their literature and temples, razed their cities and reduced entire populations to abject obedience or slavery.

From Plymouth Rock, Virginia and the Carolinas the Indian of our land has been forced westward to rapid extermination, ever bravely fighting for his country, his home and the graves of his people. Phillip, the Mohican, after warring valiantly against the New Englanders, was treacherously betrayed and slain. His head was sent to Plymouth and exposed on a gibbet, where it was exhibited twenty years, and one of his hands to Boston, where it was exhibited in triumph, and his mangled body was denied the right of sepulture. His wife and infant son were, with many other equally innocent Indians, shipped to Jamaica by the colony of Massachusetts and sold into slavery. One of his most valiant captains was captured and barbarously executed on Boston Commons, "where his head was cut off and put upon a pole upon the gallows opposite to his son's, that was there formerly hanged." Civil and religious

liberty may have been born at Plymouth Rock, but so likewise was contempt for the rights, liberties and lives of the Indians; if free and constitutional government in America had a beginning in the articles signed by the pilgrims on board the "Mayflower," equally true is it that the mistaken and un-American Indian system within the United States dates from the same moment.

From the first settlements in Virginia and Massachusetts to the present date wars have followed the encroachments of the white man upon the Indian fields and hunting grounds. The superior martial powers of the Anglo-Saxon have enabled him to vanquish the Indians, although they have exhibited bravery and heroism of the highest order; warriors of renown have time and again flung their naked and defenceless followers against the heavily armed and well drilled battalions of the white man; native statesmen have repeatedly formed compacts of Indian tribes with the vain hope of staying the oncoming destruction. The names of Weatherford the Creek, Osceola the Seminole, Logan the Mingo, Pontiac the Ottawa, Little Turtle the Miami, Tecumseh the Shawnee, Red Jacket the Seneca, Black Hawk the Winnebago, Sitting Bull the Sioux, Joseph the Nez Perce, Kamiskin the Yakima and Leschi the Nisqually are worthy of preservation in classic history.

But their bravery, courage and heroism were in vain; they have fallen before the superior powers of the white man; their lands have been seized and parceled out to strangers; the buffalo and herds of game upon which they subsisted, like the Indians themselves, have been exterminated, and the few remaining Indians are now confined to a prison ground or reservation, which they cannot leave except with the consent of the conqueror.

The wrongs inflicted upon these people in the past three centuries excite our warmest sympathies; at the mention of instances of particular flagrant acts of cruelty we are justly indignant; we weep with them over the loss of homes, kindred and country; we are moved with feelings of sympathy at the history of their heroic endeavors; at the contemplation of their present condition a sense of duty impels each lover of justice, liberty and law to extend to them a helping hand for their present and future protection. Our sympathies, however, are unavailing; our indignation cannot repair past wrongs; grief cannot restore lost homes, kindred or country; pride in the efforts and achievements of their dead heroes cannot restore their freedom or former tribal glory. Our duty to the living remnants, however, remains; we may ameliorate their suffering, protect their liberties and property, and by a faithful performance of present duty prevent any further injustice and wrong to a helpless and dependent class of native born residents of the United States. To do this, however, we must accept the condition as we find it; his wrongs are of the past; a contemplation of them may be inseparable from an examination of his

legal status as an individual or as a member of a tribe, for out of these wrongs and disregard for his natural rights grew his unique position in this nation of constitution and laws; we have permitted the abnormal growth of a class within the nation which is not of the nation; this growth must be cut from the body politic; we must abolish the Indian office, officials, reservations and schools; naturalize the Indian, make him a citizen, and then *let him alone*.

TRIBAL OR NATIONAL RIGHTS.

England and France and Spain while in possession of portions of the United States managed Indian affairs each in its own way. Out of these diverse ways were gradually evolved a few fundamental rules that have continued for a century as the basis of our unique system of Indian management. The first colonists in Virginia and Massachusetts found it necessary for their protection to recognize the right of the Indian tribes to the region occupied by them. The Indian idea of ownership is communal. The community or tribe owned the fields and hunting grounds. No such a title as an individual ownership of a particular field or tract was ever made by the members of any tribe, nor even by the tribe itself; but a general community right to the occupancy by the entire tribe of a vague and undefined area over which they scattered to fish, hunt or raise fields of corn, was recognized and necessarily respected from the settlement of Jamestown and Plymouth. Such tracts of territory as the early colonists desired were purchased from the tribes, upon an agreement with the sachems or chiefs, and thus early began the system of contracts or treaties which continued for three centuries.

The colonizing nations of Europe parceled the new world out between them, claiming the right to do so by virtue of discovery. The territorial claims of the English, French and Spaniards were not based upon the purchase of small areas from small tribes of Indians, but upon what seemed to them a higher and more satisfactory title—that of discovery and agreed partition. Upon the various discoveries of her seamen England claimed the undefined New England, Virginia and Carolina regions, without obtaining the consent by purchase or even subjection of the many different and widely scattered tribes inhabiting them. But when the weak and small bands of colonists settled in the wilderness in the immediate proximity to a tribe of Indians, which in comparison to the colony was numerous and therefore inclined to rule and be dangerous, it became a matter of extreme importance to conciliate them as a means of protection. The colonists knew of the European claim of title by discovery, and knew that between the colonizing nations it was recognized as superior to the Indian title by occupancy, but the Indian had no conception of such an ownership and promptly put in his claim to the soil. In the immediate presence of this claimant, able to back up his title by

an appeal to war, the colonist had no other escape than to supplement his nation's alleged title by discovery by purchasing another from the Indian tribe. Beginning in this necessity the title by occupancy has ever since been recognized in the Indian tribes and is now an established doctrine of our jurisprudence.

Another, and the next prominent feature of our Indian system arose at the same time and from nearly the same necessity. Into the great uninhabited areas claimed by the different European nations each imported the body of its civil and criminal laws. These laws reached into the depth of the wilderness to any distance that the citizens of that power extended their settlements. The whole body of these laws rested over the whole area, so that all persons of European blood, residing within the area claimed by England, were subject to the laws of England, whether living in settled communities or scattered among the Indians. But it was impossible to bring the Indian tribes, or the members thereof, under the operation of these foreign laws. The Indians had a system of government and laws, rude and unstable, and yet of such a character that it, too, has been recognized by civilized nations; but the theory of the white man's laws he could not appreciate, and any effort to regulate his conduct or property rights by such laws would have invoked instant and bloody war. For these reasons the laws of England were never attempted to be extended over the Indian, and right of tribal self-government was conceded to him. The condition of the area claimed for colonizing purposes by England may be likened to a sea containing many islands, the sea representing the body of English law, and the many small islands the distinct Indian communities governed by their own rude system. It would have been impossible for the English laws to have been enforced as between individual Indians, without the use of an army and the widest ramifications of a police department. All of this was, of course, impossible in the early settlements of our colonies, or even later, on a wide and thinly settled frontier, and from this impossibility and from necessity sprang the second great principle of our national Indian policy; the right of the tribe or Indian nation to govern in its own domestic affairs. Without a just recognition of this principle anarchy must have prevailed, where, by its rude aid, a partial security to life and property was obtained within the territory occupied by Indian nations.

The colonizing European power, claiming title by discovery, must of necessity go a step farther and deny in the Indian tribe a right to convey title in the soil to any one. The government claimed title as a land owner, and conceded occupancy in the Indian as a tenant. Were the Indian tribes permitted to convey the soil to purchasers great confusion must of necessity arise; under the English system the crown was the source of all title; sales by the tribe or members thereof would have resulted in frauds upon the Indian, disputes over titles, and wars between tribes anxious to secure payment for disputed terri-

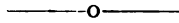
tory. While having no interest in the sales the government would be obliged to maintain armies for the preservation of the peace, and see the Indians over-reached and wronged by designing white men. It might even see its territory sold to and occupied by a hostile and foreign people. As between its own people and foreign nations then, the colonizing government claimed and exercised the right to dispose of the entire body of Indian lands, after settling and removing the Indian claim by occupancy. This doctrine is now the settled policy of our government, sustained by a decision of our highest courts, and is the basis of our national land system.

The United States government, either by conquest, revolution or purchase, has succeeded to all the claims of England, France and Spain to the area within her borders. The Supreme Court of the United States has examined each of the principles herein discussed and has fully sustained the right of our government to exercise them. Whatever right either of these foreign colonizing nations obtained by the discovery of our lands now resides in our national government; the Indian right of occupancy has been conceded; the right of the United States to dispose of the public domain after extinguishing the Indian title is fixed and beyond question; but in the growth of our nation, and the gradual extinction of the Indian race, the right of local self-government in the Indian tribe is likely to be lost. In the Indian territory, where the civilized tribes maintain a constitutional form of government, it may continue for many years, but throughout the length and breadth of our land it exists, if at all, only as a fiction of law.

On March 3, 1871, congress passed an act which reads as follows: "No Indian nation or tribe within the territory of the United States shall be acknowledged or recognized as an independent nation, tribe or power with whom the United States may contract by treaty"—saving, however, the obligation of previous treaties. Whatever may be said of this act of congress from a legal standpoint, in view of the prior legislation of congress and the decisions of the Supreme Court of the United States, it nevertheless finally and effectually extinguished all future national claims of the Indians within the United States. It reduced their status, except when protected by prior treaties, from nations or tribes to that of individuals. Theoretically the former conditions must be referred to in determining the Indian's rights; his rights as a member of any tribe, claimed through an existing treaty or contract, will undoubtedly be enforced, for the Constitution of the United States declares an Indian treaty to be one of the supreme laws of the land; all such treaty rights, however, for judicial determination. The contract is made, it binds both parties, and the sole question is: What are the rights of each party under this contract? With the determination of that question the Indian department employee can have but little to do; it is wholly for

the judicial department if any dispute arises; the Indians' rights are fixed and cannot be varied by any department officer or employee.

Treaties are expiring by limitation. What shall be done for the Indians who have no treaties, as well as those whose treaties have expired? What rights will these people have before our law? Can they protect their persons and property as the law now stands? What additional legislation is necessary for the honor of our country?



EXPLORATION OF THE TEMPLE OF BEL.

BY PROF. HERMAN V. HILPRECHT.

Thanks to the gracious protection which his majesty the sultan has always and eminently extended to the Babylonian Expedition of the University of Pennsylvania, and to the lively and cordial interest which Hamdy Bey, the director-general of the Imperial Museum in Constantinople, has shown in it, the interrupted excavations could be resumed in the fall of the same year, 1889, as soon as cold weather set in, and pressed on with energy and fresh confidence. As a basis of operations had been marked out in the first campaign, there was, of course, less need for the assistance of the Assyriologist in the field than at home, where the sifting of the material and the preparations for the publication of the cuneiform discoveries, claimed his entire attention. Only the director, the business manager, and the dragoman returned to Babylonia, while the architect made use of his studies to complete, in Paris, a plan in relief of the body of ruins at Niffur.

The valuable experience which the members of the expedition had acquired the first year, the comprehensive oversight of the central committee in Philadelphia (Mr. E. W. Clark, chairman), and of the director in the field, and the powerful support of the Ottoman government, insured a complete success to the second campaign also. Ever deeper the explorers penetrated into secrets and riddles of the huge mound of ruins. Hundreds of graves, clay coffins, and urns were opened, and the ruins of demolished habitations and storehouses, along with the contents of their chambers, were explored. In this way thousands of documents, inscribed bricks, vases, and votive tablets were collected. The active life and motion which once pulsed in the streets of the city, and in the forecourts of its temple, on the palm and corn laden banks of the great canal, unfolded itself before the eyes of the restless explorers.

The second campaign came to a more peaceful ending than did the first. At its close, both Dr. Peters and dragoman returned to America, and Mr. Haynes, who had labored with so

much skill in Niffur for the object of the expedition, was unanimously chosen its director to continue the explorations. He went alone to the field of labor, and since that time has exposed himself to the rains of winter and the heat of summer almost continuously. He has had merely the temporary help and company of another American named Meyer, who has rendered great service by his excellent drawings of the ruins and of objects found in them. But Meyer's weakened frame fell a victim, in December last, to the malaria on the border of the marsh, where even before this the Syrian physician and the present writer had absorbed the germs of typhus. In the European cemetery in Bagdad, on the banks of the Tigris, he rests, having fallen a staunch fighter in the cause of science. Even if the sand-storms of the Babylonian plains should efface his solitary grave, what matters it? His bones rest in classic soil, where the cradle of the race once stood, and the history of Assyriology will not omit his name from its pages.

The terraces of the temple of Ekur (that is, mountain house) rose ever more distinctly out of the rubbish mass which had grown above it through milleniums. The impressive ruins stood about one hundred feet above the level of the surrounding plain, while its foundation lay hidden in the earth's bosom more than sixty feet below that level. The platform of the first king of Ur, who built here some 2800 B. C., was soon reached. But deeper still sank the shafts of the Americans. "What for ages no king among the kings had seen"—to speak with King Nabun'id—"the old foundation of Naram-Sin, that saw I." The numerous bricks bearing the name of the great Sargon, who, 3800 B. C., had extended his powerful empire to the shores of the Mediterranean, came forth to the light of day under pickax and shovel. By this the expedition supplied irrefutable proof of the historical character of this primitive Semitic kingdom, which has often been doubted. The curse of the king, which he had engraved in cuneiform characters in the door-sockets of the entrance, "Whosoever removes this inscribed stone, may Bel, Shamash and Ninna root him out, and destroy his posterity," had no terrors for the science of the nineteenth century. New trenches were cut. At times the waters of the god Ea, and the Anunaki, the Babylonian spirits of the depths, sprang up, and tried to frighten away the bold explorers; all in vain, however.

Under the buildings of Sargon and Naram-Sin one of the largest and most important finds rewarded the labor that had been expended. An arch of brick, in splendid preservation, and of nearly the same form as is found in the later monuments of the second Assyrian empire, was laid bare, and most carefully photographed. By this the question long discussed by the historians of architecture, as to the antiquity of the arch, entered upon a new stage, and its existence in Babylonia about the end of the fifth and the beginning of the fourth millenium before Christ was proven. But, although the excava-

tions have gone already twenty-three feet below the platform of King Ur-Gur of Ur (about 2800 B. C.), not yet have they reached the deepest foundations of this venerable sanctuary, whose influence for over four thousand years had been felt by all classes of the Babylonian people. But in the presence of this fact we begin to have some notion why Nippur is spoken of as the oldest city of the earth in the old Sumerian legends of the creation.

Close upon seventy thousand dollars has been spent on the excavations in Nuffar, to say nothing of the loss of life and the endurance of trouble by those who have borne the burden and heat of the day on its fields of ruins. Great sacrifices of time, money and personal devotion will be needed to carry the exploration to its end. But what the University of Pennsylvania and its friends have begun will be finished.

The classification and editing of the numerous and important results of the expedition has been entrusted by the Committee of Publication (C. H. Clark, chairman) to Professor Hilprecht, who has planned their publication in four series of from ten to fifteen volumes each. Other Semitic scholars of America have been invited to take part in their publication and have promised their assistance for the near future. Two volumes, prepared by the editor-in chief, have appeared already, and three are in the press, while seven others are in preparation, one of them containing the history of the expedition by Dr. Peters and Dr. Haynes. It may be worth while, at this point, to summarize the most noteworthy results.

About thirty thousand cuneiform tablets form the bulk of what has been recovered. Many of these are of the time of the earliest dynasty of Ur (about 2800 B. C.), and of the period of the Cassite kings (about 1725 to 1140 B. C.), which hitherto were not represented by dated documents. Of the manifold character of these documents—syllabaries, letters, chronological lists, historical fragments, astronomical and religious texts, inscriptions referring to buildings, votive tablets, dedications, inventories, contracts, etc.—nothing less than an exhaustive examination can give a clear idea. Most of the early rulers of Babylon, who were known to us only by name, and nine whose very names had been lost, have been restored to history by this expedition. Through the abundance of the recovered texts of the earliest Semitic rulers, Aluharshid, Saagon I., and Naram-Sin, comprising hundreds of inscribed bricks, door-sockets, marble vases, and clay stamps for bricks, our conception of the power and extent of the Semitic race about 3800 B. C. had to undergo a radical transformation.

Of especial value are the hundred and fifty fragments of inscribed sacrificial vessels and votive objects belonging to rulers already known to us through Tello, as they promise to cast entirely new light upon the chronology of a difficult period. Besides this, the first publication showed the Publication Committee of Philadelphia to be determined to clear up

the entangled questions of Babylonian paleography by treating them on scientific principles.

Those who have studied the explorations of Loftus and Layard know what indescribable pains they have taken to save for the British Museum three clay sarcophagi, even though they crumbled to pieces on contact with the air. Thanks to the patient efforts of Haynes, nine clay sarcophagi have already been excavated at Nuffar, and conveyed in good condition to the Imperial Museum at Constantinople, and twenty five more stand packed, ready to leave the fields of ruins. Among the great number of seals and seal-cylinders, such as the Babylonians employed in business transactions, there are some of every period of their history, and several belonged to kings and governors. Two hundred clay bowls, closely inscribed in Aramaic Hebrew, and Mandaean, allow us a welcoming glimpse into the wizardry of Babylonia, which exerted considerable influence on the religious teachings of the later, post-biblical literature of the Jews. Thousands of enameled and plain vases of clay of all sorts, playthings, weapons, weights, gold and silver ornaments, objects in stone, bronze, and iron, together with a collection of human skulls, offer us help in the study of the piebald ethnological relations of Babylonia.

With regard to the wealth of its results and the scientific treatment of the documents it has published, this Philadelphia expedition takes equal rank with the best sent out from England or France.

THE MENHIRS OF MEUDON.

TRANSLATED FROM THE FRENCH BY R. G. ABBOTT.

N. Berthelot, the erudite chemist and perpetual secretary of the Academy of Sciences, has brought to notice the existence of two *Menhirs* near Paris, in the forest of Meudon.

Menhirs are especially numerous in the north and west of France, in the departments of LaManche l'Orne, Calvados, Morbihan, etc. Skeletons are found near the stones, from which fact certain archæologists conclude that the menhirs were funeral monuments. Others surmise the menhirs to have been an emblem of the force and the fecundity of nature.

The disposal of the menhirs in a single straight line or in several parallel lines is termed alignments. The best known are those of Carnac in Morbihan, where the lines extend for three kilometres and the menhirs exceed the number of 1900.

Sometimes the menhirs are arranged in a circle, semi-circle or oval, with closed curves, or polygonal contours. In this case the enclosures receive the name of *Cromlech*: from the Celtic terms *Crom*, curve; and *lech*, stone. The finest cromlech of Morbihan is that of the isle of Monks; but the most celebrated is that of Avebury, which has been reconstructed by Britton, and which we present in perspective view to our readers. The cromlechs were probably the temples, or places of reunion for military assemblies or the courts of justice.

Dolmens are altars formed of enormous flat stones, from 30 centimetres to 1 metre 25 centimetres in thickness, placed horizontally upon other stones of 1 metre in height, which are driven into the earth.

The two menhirs to which M. Berthelot directs attention have been recently brought to light by the felling of the surrounding forest timber. One of them was still standing, the other had fallen over. The upright menhir is a table of trapezoidal sandstone 60 centimetres thick, and 50 centimetres high. The base measures 2 metres 50 centimetres, and the summit 65 centimetres. It weighs about 10,000 kilogrammes. The two blocks are of sandstone, and appear to have been excavated from an abandoned quarry situated from 1,500 to 2,000 metres distant. M. Berthelot thinks their object was to designate the region of streams which feed the lakes of Chalais and Villebon, and recalls the discovery forty years ago of a dolmen in the avenue of the Chateau of Meudon.

These monuments have no inscriptions, signs or figures. In other localities remains bearing inscriptions have been unearthed, but such inscriptions or signs are undoubtedly the production of a subsequent epoch, instead of being a direct message from the Celts, our remote ancestors.

THE DISCOVERY OF THE PUEBLOS.

BY STEPHEN D. PEET, PH. D.

In writing the history of the explorations which led to the discovery of the pueblos and cliff-dwellings, we shall have to go back to the time when Narvaez was wrecked upon the Florida coast. This occurred in the year 1528, near Tampa Bay. Those of the party who were not drowned remained on an island or on the mainland for six years, and endured from the Indians the greatest indignities. At length, four of them—three Spaniards and a negro—under the lead of Cabeza de Vaca, escaped, and took their flight towards the mountains of Northern Alabama.* Thence their course was westerly across the Mississippi, "the great river coming from the north," across the Arkansas River to the headwaters of the Canadian, and thence southwesterly through New Mexico and Arizona to Culiacan, or Sonora, which they reached in the spring of 1536. Culiacan was a province which had been visited by the Spaniards under Nuno de Guzman, and a colony settled there.† When these fugitives arrived at Culiacan they told marvelous stories concerning the things which they had seen and heard; and, among other things, they mentioned the great and powerful cities, which contained houses of four and five stories, thus confirming the report of the Indian slave. When these tales were communicated to the new governor, Francisco Vasquez de Coronado, in his home in Mexico, he set out with haste to the province of Culiacan, taking with him three Franciscan friars,‡ whom he dispatched with the negro Estevanico on a journey of discovery, with orders to return and report to him all they could ascertain about the "seven celebrated cities." The monks, when they came near the province, sent the negro in advance. The negro, however, as soon as he reached the country of the "seven cities of Cibola," demanded not only their wealth, but their women. The inhabitants, not relishing this, killed him and sent back all those who had accompanied him.§ This disheartened the monks, and they returned

* The names of the Spaniards were Alvar Nunez, Cabeza de Vaca, Andres Dorantes and Alonso del Castillo Maldonado, and that of the negro was Estevanico (Stephen).

† The occasion of visiting this province was the report which was brought by an Indian, a slave, that there were somewhere north of Mexico, cities, seven in number, as large as the city of Mexico itself, whose streets were exclusively occupied by workers in gold and silver, and to reach them a journey of forty days through a desert was required.

‡ The towns of Compostella, Culiacan, Cinaloa, and Sonora are laid down on the military map of the United States and as given in the map by General Simpson, are placed along the east coast of the Gulf of California.

§ The name of one of the priests was Marcos de Nica, commonly called Friar Marcos. Castaneda's Relations are the sources of information about the journey.

§ The place which the monks visited and where the negro was killed has been identified by F. W. Hodge. See *American Anthropologist*.

to Culiacan; but in their report to Coronado they gave a glowing description of all that had been discovered of the seven cities, as well as of the "islands filled with treasure, which they were assured existed in the Southern Sea."

Arriving at Mexico, the friars proclaimed, through their pulpits, the marvelous discoveries, and Coronado busied himself with preparing an expedition to the region. Many gentlemen of good family were enlisted, and probably there had not been an expedition in which there was such a large proportion of persons of noble birth. It was also arranged that two vessels should take supplies and follow the army along the coast of the "Southern Sea." The army reached Culiacan, which was the last town inhabited by the Spaniards, and was two hundred and ten leagues from the City of Mexico. After resting a couple of weeks, Coronado led the advance of his army, consisting of fifty cavaliers, a few infantry, his particular friends and the monks, leaving the rest of the army to follow two weeks after. Passing out of the inhabited region, he came at the edge of a great desert, to a place called Chichilticale, and could not suppress his sadness at what he saw. The place of which so much had been boasted was only a ruined, and roofless house, which at one time seemed to have been fortified and was built of red earth.*

On quitting the place they entered the desert and at the end of fifteen days came within eight leagues of Cibola. There the first Indians of the country were discovered. On the following day they entered the inhabited country, but as the army came in sight of the village they broke forth into maledictions. The following is Castaneda's description of the place:

Cibola is built on a rock and this village is so small that in truth there are many farms in New Spain that make a better appearance. It may contain two hundred warriors. The houses are built in three or four stories; they are small, not spacious and have no courts, as a single court serves for a whole quarter. The inhabitants of the province were united there. It is composed of seven towns, some of which are larger and better fortified than Cibola. These Indians, ranged in good order, awaited us at some distance from the village. They were very loth to accept peace; when they were required to do so by our interpreters, they menaced us by their gestures. Shouting our war cry of Sant Iago, we charged upon and quickly caused them to fly. Nevertheless, it was necessary to get possession of Cibola, which was no easy achievement, for the road leading to it was both narrow and winding. The general was knocked down by the blow of a stone as he mounted in the assault, and he would have been slain had it not been for

* This was the work of civilized people who had "come from afar." It has been thought by some to be Casa Grande on the Gila—a building which is far famed because it represents one class of structures which was common in this region and was supposed to have belonged to the ancient Pima Indians, who formerly built pueblos, but of a different type from those which were inhabited by the Moquis and Zunis. Mr. A. F. Bandelier thinks that the red house may possibly have been Casa Grande, though the ruin is perfectly white at present. He says that this kind of village includes a much larger and more substantial structure. It grows more conspicuous as we ascend the course of the Otonto Creek. It consists of a central building, into which, in some cases, all the buildings are merged; sometimes enclosed by broad quadrangular walls, while transverse walls connect the enclosure with a central hill. In some cases there are indications that the house was erected on an artificial platform. He says that the Pimas claim all the ruins north of the Gila to the "Superstition Range" as those of their own people.

Garci Lopez de Cardenas and Hernando d'Alvarado, who threw themselves before him and received the blows of the stones which were designed for him and fell in large numbers; nevertheless, as it was impossible to resist the first impetuous charge of Spaniards, the village was gained in less than an hour. It was found filled with provisions, which were much needed, and, in a short time, the whole province was forced to accept peace."

In this connection it may be interesting to give an account of the discovery of the Rio Colorado. It will be remembered that the vessels were ordered to follow the march of the army along the coast of the Southern Sea. The vessels put to sea from La Natividad on May 9, 1540. They put into the ports of Xalisco and Culiacan, but finding Coronado and his army gone, they sailed northwardly until they entered the Gulf of California, which they experienced great difficulty in navigating. After incredible hardships they managed to get the vessels to the end of the gulf, where they found "a very great river, and the current of which was so rapid that they could scarcely stem it." Taking two shallops with some guns they commenced the ascent of the river by hauling the boats with ropes.*

The general, Fernando Alarcon, reached a point on the river as far north as about the 34°, where he planted a cross and deposited letters at the foot of a tree, which were afterwards found by Melchior Diaz.† This discovery of the Gulf of California and the Colorado River is important, for it is connected closely with the discovery of "the seven cities." The same river was reached by a party consisting of twelve men, under Don Garci Lopez, who were sent out by Coronado after his return to Cibola. After a journey of twenty days through the desert they reached the river, whose banks were so high "they thought themselves elevated three or four leagues in the air." "Their efforts to descend were all made in vain."

From Cibola the general sent out Alvarado with twenty men, who, "five days after, arrived at a village named Acuco."

"This village was strongly posted, inasmuch as it was reached by only one path, and was built upon a rock precipitous on all its other sides, and at such a height that the ball from an arquebuse could scarcely reach its summit. It was entered by a stairway cut by the hand of man, which began at the bottom of the declivitous rock and led up to the village. This stairway was of suitable width for the first two hundred steps, but after these there were a hundred more much narrower, and when the top was finally to

*The region at the mouth of the Colorado is a flat expanse of mud, and the channels at the entrance from the gulf are shifting and changeable. The navigation is rendered periodically dangerous by the strength of the spring tides. Fort Yuma is 150 miles from the mouth, and to this point the principle obstructions are sand bars. Above Fort Yuma for 180 miles the river passes through a chain of hills and mountains, forming gorges and canons. There are many swift rapids and dangerous sunken rocks. The Black Canon is twenty-five miles long.

† Melchior Diaz, who had been left at Sonora, placed himself at the head of twenty-five men, under the lead of guides, and followed up the coast one hundred and fifty leagues, until he arrived at the river called Rio del Tizon, whose mouth was two leagues wide. He reached the spot fifteen leagues from its mouth and found the tree marked by Alarcon, dug and found the letters. The party crossed the Rio del Tizon on rafts and turned toward the southeast, thus going around the Gulf of California. No ruins were discovered by this party. The spot which this party reached was much nearer its source than where Melchior Diaz had crossed, though the Indians were the same which Diaz had seen.

be reached it was necessary to scramble up the three last steps by placing the feet in holes scraped in the rock, and as the ascender could scarcely make the point of his toe enter them he was forced to cling to the precipice with his hands. On the summit there was a great arsenal of huge stones, which the defenders, without exposing themselves, could roll down on the assailants, so that no army, no matter what its strength might be, could force this passage. There was on the top a sufficient space of ground to cultivate and store a large supply of corn, as well as cisterns to contain water and snow."

Three days' journey thence Alvarado reached a province called Tiguex, where he was received very kindly, and was so well pleased that he sent a messenger to Coronado inviting him to winter there. Five days' journey thence Alvarado reached Cícuye (Pecos), a village very strongly fortified, whose houses had four stories. "Here he fell in with an Indian slave, who was a native of the country adjacent to Florida, the interior of which Ferdinand de Soto had lately explored." The Indian, whom they called the Turk, spoke of certain large towns and of large stores of gold and silver in his country and also the country of the bison. Alvarado took him as a guide to the bison country, and after he had seen a few of them he returned to Tiguex, the Rio Grande, to give an account of the news to Coronado.

While the discoveries above mentioned were being made, some Indians, living seventy leagues toward the east arrived at Cibola. They offered gifts of tanned skins, shields and helmets, and spoke of the cows whose skins were covered with a frizzled hair resembling wool, showing they were buffaloes.

Coronado, who had remained at Cibola, hearing of a province composed of eight towns, took with him thirty of the most hardy of his men and set out to visit it on his way to Tiguex or Rio Grande. In eight or eleven days he reached the province called Tuhahaco, which appears to have been situated below the city of Tiguex. The eight villages comprising this province were not like those of Cibola, built of stone, but of earth. He learned of other villages still further down the river. In the meantime the army moved from Cibola toward Tiguex. The first day they reached the handsomest and largest village in the province, where they lodged. "There they found houses of seven stories, which were seen nowhere else. These belonged to private individuals and served as fortresses. They rise so far above the others that they have the appearance of towers. There are embrasures and loop-holes from which lances may be thrown and the place defended. As all these villages have no streets, all the roofs are flat and common for all the inhabitants; it is therefore necessary first of all to take possession of those houses which serve as defenses."

The army passed near the Great Rock of Acuco (Acoma), already described, where they were well received by the inhabitants of the city perched on its summit. Finally it reached

Tiguex, where it was well recieved and lodged. It was found, however, that the whole province was in open revolt, and the army was obliged to lay siege to the city and capture it anew. After the siege the general dispatched the captain to Cia, which was a large and populous village four leagues west of the Rio Grande. Six other Spaniards went to Quirix, a province composed of seven villages. All these villages were at length tranquilized by the assiduous efforts of the Spaniards. The army spent the winter here, but early in the next season, May, 1541, they took up the march to Quivira in search of the gold and silver which the Turk said could be found there. The route was via Cicuye (Pecos), twenty-five leagues distant. After leaving Cicuye (Pecos) and crossing some mountains they reached a large and deep river which passed near to Cicuye, and was therefore called the Rio de Cicuye (Pecos). Here they were delayed four days to build a bridge. Ten days after, on their march, they discovered some tents of tanned buffalo skins inhabited by Indians who were called Querechaos.

Continuing their march in a northeasterly direction they came to a village which Cabeza de Vaca had passed on his way from Florida to Mexico. The army met with and killed an incredible number of buffaloes; but reached a point 850 miles from Tiguex. Here, the provisions giving out, Coronado with thirty horsemen and six foot soldiers continued his march in search of Quivira, while the rest of the army returned. The guides conducted the general to Quivira in forty-eight days. Here they found neither gold nor silver, though the Cacique wore on his breast a copper plate, of which he made a great parade. The army, on its return from the prairies, came to four large villages and reached a place where the river plunged beneath the ground. In the beginning of 1542 Coronado returned by the way of Cibola and Chichilticale to Culiacan, and finally reached the City of Mexico.

Thus ended the great expedition which for extent and distance traveled, duration in time (more than two years) and for the multitude of its discoveries, and the many branch explorations, excelled any land expedition that has been undertaken in modern times.

It was the first expedition which was ever led into the southwest interior, but did more to bring to light the wonderful villages or cities located there than any other that has ever taken place. To us the narrative of the expedition is of very great value, for it reveals the exact condition of the country as it was three hundred and fifty years ago. It is to be remembered that this expedition took place less than fifty years after the discovery and only fifteen years after the expedition by Ferdinand de Soto, and eighty years before the landing of the Pilgrim Fathers. It resulted in disappointment to the leaders, for they had expected to find cities filled with gold, similar to those which had been

discovered by Cortez in Mexico and by Pizarro in Peru; but, instead, they found solitary buildings in ruins, and such villages as were inhabited were situated on barren rocks, and were perfectly destitute of gold or silver or the precious metals. The region which they went so far to reach was inhabited by wild tribes, who dwelt in huts or wigwams, and chased the buffalo for subsistence.

There were two motives which ruled the Spaniards wherever they went—the thirst for gold and the conversion of the natives. The thirst for gold was not satisfied, but the opportunity for christianizing the Indians was great. So the country continued to be occupied by the Spanish missionaries. From this time on, the history is one of missions rather than of discovery or conquest, though there were various military expeditions and many fierce battles. The revolts of the natives against the dominion of the priests required the presence of armed hosts, and only ended with the subjugation of the people by military force. New Mexico was brought altogether under Spanish rule by Juan de Onate in 1595. In 1680 the natives threw off the yoke, but were again subdued fifteen years later. The archives of the missions were destroyed in the revolt, and the history previous to that date is only known in outline. The diaries kept after this date show that the authors visited many of the ruins which have attracted the attention of later explorers, and also that they found many of the towns inhabited which now exist only as ruins.

We shall not dwell further upon the history of the region, nor shall we at the present time speak of the discoveries which have taken place since the region came into the possession of the United States government; but shall proceed at once to the question whether these various localities visited by the Spaniards under Coronado can be identified. This is an important question, for it brings out the changes which have occurred in three hundred and fifty years, and at the same time throws light upon the relative age of the different ruins.

We shall first speak of the distribution of the pueblos. On this point we shall quote the words of Dr. Washington Matthews, who long resided at Fort Wingate, and is familiar with the whole region. He says: "Along the great Cordillera of the American Continent, on both sides of the equator, from Wyoming to Chili extends a land abounding in ancient ruins. A large part of this land lies in the boundary of the United States. It contains the Territory of Arizona, most of Utah, more than half of New Mexico, extensive parts of the states of Colorado and Nevada, with small portions of Texas and California. The great rivers which drain it into the ocean are the Colorado on the west, and the Rio Grande on the east; the former flowing toward the Pacific, the latter toward the Atlantic. It is an arid region, but not an absolute desert, for there is no part of it on

which rain does not fall some time during every year, but it is on the high mountains only that it descends abundantly, while on the lower levels the moisture is scanty, and irrigation is necessary to successful agriculture. The ruins have been known to the world for three centuries and a half; they have been in the possession of the United States for over forty years. Yet it is only within the past few years that any attempt at systematic exploration or excavation has been made among them.*

A. F. Bandelier says: "The northern limits of the House-builders remains yet to be definitely established. Taos seems to be the northernmost Pueblo. The eastern limits seem to be the meridian of the Pecos River; the western, the great Colorado, and the dismal shores of the Gulf of California; the southern limits, the ruins found in southern Colorado and in southern Utah. Within the area thus defined the villages were scattered very irregularly, and in fact their inhabitants occupied and used but a small quantity of the ground. Extensive desert tracks often separated the groups and these spaces were open to the roving Indians, who prowled in and about the settlements much to the detriment of the inhabitants. Thus, Acoma, is separated from the Zuni group by at last seventy miles of waste, and the Navajos raided over this space at will, endangering communications from the Tehuas, while both tribes were some distance away from the Rio Grande and the side valley. From Acoma to the Rio Grande another forty miles of desert intervened. Between the latter and Tiguex the uninhabited region is from thirty to forty miles, and here the Apaches could lurk and assault at any time. A desert stretch of twenty miles separated the pueblo of Picuries from the Tahuas; and a stretch of thirty miles separated them from Taos. Twenty-seven miles to the southwest of Santa Fe is Cochiti, and three miles east of the stream is the old pueblo of Santa Domingo; on the same side but directly on the river bank stood Katishtya, the antecessor of the present Felipe. Farther west on the Jemez River the Quirquires inhabited several cities. Here was a cluster of the Cia towns, and northwest of Cia began the range of the Jemez who inhabited a number of pueblos along the Jemez River.† The Pueblos, far from being masters of New Mexico previous to the coming of the Spaniards, were hemmed in and hampered on all sides by tribes which were swift in their movements, and had a great advantage over the Pueblos in number.

It must not be supposed that the area indicated is uniformly covered, for there are many districts utterly devoid of ruins.

*See Seventh Memoir National Academy of Science, Vol. VI, Human Bones of the Hemeway Collection, by Dr. Washington Matthews, U. S. A. Introduction p. 142.

†The total number of pueblos, as stated in the sixteenth and seventeenth centuries, does not at all agree with that number as it stands at the present time. It is much larger and varies from forty-six (Escalante, from reports at the time of the rebellion,) to over one hundred. (Onate, in the Acts of Submission of 1598.)

Very few are found in the high forests, for it is useless to look for ruins at an altitude exceeding 8,000 feet—climate, lack of space for cultivation, together with the steepness of slopes forbid. The lower limits of the ruins seem mostly dependent on natural features. On the side of Arizona, but not on the sea-coast the ruins ascend within 1,000 feet of the sea level. There are said to be traces of the succession of ruins along the Canadian River far across the great plains.”*

“There is nothing in the natural resources of New Mexico that could maintain a large number of people whose industrial means of support were those which belonged to the “stone age.” The water supply of the territory is remarkably scant, and, while the Indian knew and used springs which the present settler is sometimes unacquainted with, the value of such springs was not very great. They might suffice for the wants of one or a few families, some times for a small village. To such watering places the Indian was limited, outside of the river bottoms of larger streams. But the larger streams are few and far between, and only portions of their course are suitable for cultivation. Only the Rio Grande, the San Juan, the Chama, parts of the Pecos, Jemez, Puerco and Upper Gila irrigate large valleys.”†

Mr. L. H. Morgan says that “New Mexico is a poor country for civilized man, but quite well adapted to the sedentary Indians, who cultivated about one acre out of every hundred thousand. This region and the San Juan immediately north of it possessed a number of narrow, fertile valleys, containing together possibly 50,000 inhabitants, and it is occupied now by their descendants (excepting the San Juan) in manner and form as it was then. The region is favorable to the communistic mode of life, cultivation of the soil by irrigation being a necessity.”

The disappointment of the Spaniards, who came from the mountain city and were familiar with the luxuriant growth of the southern coasts, and found this region so destitute of forests and so silent and lonely, must have been great, for it was a new experience to them. So it is with every one who traverses the region. The scenery is entirely different from that which prevails elsewhere, and the life is as different as the scenery.

As to the age of the pueblos very little can be said. One supposition is that the people formerly dwelt in one-story houses, which were clustered together in a circle with a court in the center, something like those in Arizona Territory, which Bandelier says has the “checker-board” appearance; but the attack of the wild tribes, which were the Navajos and Apaches, compelled

*The plains of San Augustine in Southwestern New Mexico, the plateau of the Natanes in Eastern Arizona, the banks of the Rio Grande from the San Louis Valley to the end of the gorge appear not to have been settled in ancient times.

†A line from Taos in the extreme north as far south as where San Marcial now stands, or a length of nearly 230 miles; from east to west they spread from longitude 105° 30', (Taos and Pecos) to nearly 110° 30', (the Moqui villages.) (See Final Report, Part I., p. 119.) Lieut. Simpson makes the distance east and west 360 miles.

them to build their houses in terraces, making them resemble modern flats, except that the lower stories were closed. The upper stories were reached by ladders, each story having a terrace or platform in front of it. The relative age of the Pueblos and Cliff-dwellers is a mere matter of conjecture. Some think the Cliff-dwellers the older; others regard them as later, though no cliff-dwelling has yet been found occupied. It is a common impression that the pueblos are all very ancient; but recent investigations have proved the contrary. The majority of the villages which were visited were occupied, and were probably built by the people who dwelt in them, but their history could not be carried back to a certainty more than five or six hundred years.* The buildings which are now standing, and are at present occupied, are not the ones visited by the Spaniards. The villages have been moved and new structures have been erected several times over during the three hundred and fifty years which have elapsed, though they are in the same vicinity and their architecture and mode of life may be very similar. This makes it more difficult to identify the exact spots which were visited of which we have the descriptions, though it gives us a better idea of the people and the persistency of their customs, if we take the later accounts and compare them with the earlier.

Taking the localities through which the Spaniards passed, let us now see how many of the ruins can be identified. We shall begin with the place called Chichilticalli. The question is whether the Casa Grande was actually the building which was reached. On this point we shall quote first from Father Font, who saw it in 1775, and says it was known by the name of Montezuma, and was one league from the Rio Gila. "The Casa Grande, or palace of Montezuma, must have been built five hundred years previously (in the thirteenth century), if we are to believe the accounts given by the Indians; for it appears to have been constructed by the Mexicans at the epoch of their emigration when the devil, conducting them through different countries, led them to the promised land of Mexico." This was the Spanish conception of the ruins.

Various American travelers have visited this region—Emory and Johnson in 1846, Bartlett in 1852, Ross Brown in 1863, Leroux in 1854, Bandelier in 1880-1885, F. H. Cushing and Washington Matthews in 1887. Emery's description is as follows:

It was the remains of a three story mud house sixty feet square, pierced for doors and windows. The whole interior of the house had been burnt out and the walls much defaced. The site of the house is flat on all sides; and the ruins of the houses which compose the town extend more than a

* Certain pueblos were mentioned to Fray Marcos of Niza, under the name of Totontec, a Zuni term applied to a cluster of twelve pueblos lying in the direction of Moquis, which were abandoned before the sixteenth century, but the reminiscence of which still remained in the name. See Bandelier, Vol. III, Part I, p. 114.

league toward the east. All the land is partially covered with pieces of pots, jugs and plates painted in different colors—white, blue and red—very different from the work of the Pimas. The house forms an oblong square facing exactly the four cardinal points; and round about there are ruins indicating a fence or wall, which surrounded it. In the corners there appears to have been some edifice like a castle or watch tower. The interior of the house consists of five halls—three middle ones of one size, twenty-six feet by ten feet; the extreme ones longer, thirty-eight feet by twelve feet; all eleven feet high. The inner doors are of equal size, two feet by five feet; the outer doors are double width. The inner walls are four feet thick; the outer walls six feet thick. All of the building is of earth, and according to appearances is built in boxes or moulds of different sizes. A trench leads from the river at a great distance, by which the town is supplied with water. It is now nearly buried up. The house is seventy feet from north to south, and fifty from east to west. The interior walls are four feet in thickness; they are well constructed; the interior walls are six feet thick. The edifice is constructed of earth, in blocks of different thickness and has three stories. We found no traces of stairways. We think they must have been burnt when the Apaches burnt this edifice.”*

Bandelier describes Casa Grande and the cities adjoining, as well as the canals. He says:

“The careful study of documents is indispensable for successful exploration of the antiquities of the country. Numerous notices of ruined villages are scattered throughout the voluminous archives of Spanish rule in the Southwest. I will refer here only to the descriptions of the Casa Grande by Father Rino and Father Sedelmair; of the Casa Grand, by Rivera; Northwestern New Mexico, by Father Escalante. Their descriptions, dating back, enables us to restore much in these edifices to which their present conditions gives no clue.”

“Between Casa Grande and Florence the distance eastward is nine long miles, and the country shows no change. Several ancient irrigating ditches are seen on the road, some of which are quite deep. Nowhere did I notice any trace of a lining or casing, as at Tule; the raised backs or rims seemed to be only of the soil. Ruins in scattered clusters are numerous, all of the same character. In one place I found an elliptical tank almost as large as the one at Casa Grande and presenting a similar appearance. Wherever walls protruded the walls were the same, only thinner. This may be due to the fact that that they were merely partitions, and that I nowhere could measure the outer ones, which have crumbled. In short, from Casa Blanca in the west—and probably some distance beyond—a line of ruins extends to east of Florence, and probably as far as Riverside, or a stretch of more than sixty miles. These ruins, however, do not reach very far inland, although some are scattered throughout Papagueria. At this day Casa Grande shows two stories with vertical walls on all four sides, and from the center rises a third story like a low tower. Whether the latter originally extended over the whole building or not, I am unable to determine.”

Dr. Washington Matthews' account is more complete and full, and includes many new localities. It appears that the Hemenway Expedition arrived in the valley of the Salt River, a tributary of the Gila, in Arizona, and began excavating some stone ruins on the uplands, but were attracted by some earth mounds on the flood. The result was the discovery of an extensive collection of habitations—a city it might be called—some six miles in length and from half a mile to a mile in width. The mound

*Notes of a military reconnaissance made by Lieutenant Colonel William A. Emory, Corps of Topographical Engineers, in 1846-47, with the advance guard of the Army of the West, p. 82

proved to be the débris of a great earthen house, of many stories and many chambers, and analagous in structure to the still-standing Casa Grande, before referred to, which is distant from the mound to the southeast less than thirty-five miles in a direct line. In the course of excavation at this place so many skeletons were found under the floors of the houses that Mr. Cushing devised for it the Spanish name of Pueblo de los Muertos, or, briefly, Los Muertos, the town of the dead; and this name was retained for it, although he subsequently found other ruined cities in the vicinity where skeletons were as common as here.

The party discovered the remains of six other large cities within ten miles. Of these three were named: First, Los Acequias, from the number, size and appearance of the old canals or irrigated ditches through which the inhabitants conducted water to their fields; second, Los Hornos, the ovens, from the number of earthen ovens found there; third, Los Guanacos, because in it were found small terra-cotta images of animals thought to resemble the llama of South America. In these ruined cities the remains of buildings like the Casa Grande were found. They were of four kind: 1, temples; 2, estufas; 3, communal houses; 4, ultramural houses. Of the temples there was only one to each city and this was centrally located; though in one of the cities there were seven such buildings, the largest of which was in the center. Each building was surrounded by a high wall from five to ten feet thick. The lower story of each was divided into six departments, which were used as store rooms for the priests. The other stories were used as priestly residences. The entire building served as a fortress in times of danger.

The sun temples, or estufas, were built of earth on a great basket frame of hurdles, elliptical in shape, were roofed with a dome made of spiralling, contracting coils of reeds, which were heavily covered on the outside with mud, and resembling an elongated terra cotta bowl inverted, reminding one of the Mormon temple. The dimensions were about 150 feet in width, 200 feet in length. The floor within was elevated so as to form a sort of ampitheater. It is thought that in these buildings public rites of the esoteric societies were performed, as they were in close proximity to the priests' dwelling.

The communal houses were the principal dwelling places. They were built of mud without the hurdles. These contained many ruins on the ground floor and are thought to have been

*Dr. Washington Matthews speaks of figures inscribed on the rocks representing animals which resemble the Llamas of Peru and hunters throwing lassos at them. These may possibly have been elks, for they are associated with other animals with horns like the deer, and there is no evidence that the people knew anything about the Llamas. There are turkeys inscribed upon the rocks. These were probably the domestic fowls, for tame turkeys were common among the pueblos.

*This illustrates the superstition about the six houses of the sky: 4 for the cardinal points; 2 for the zenith and nadir,

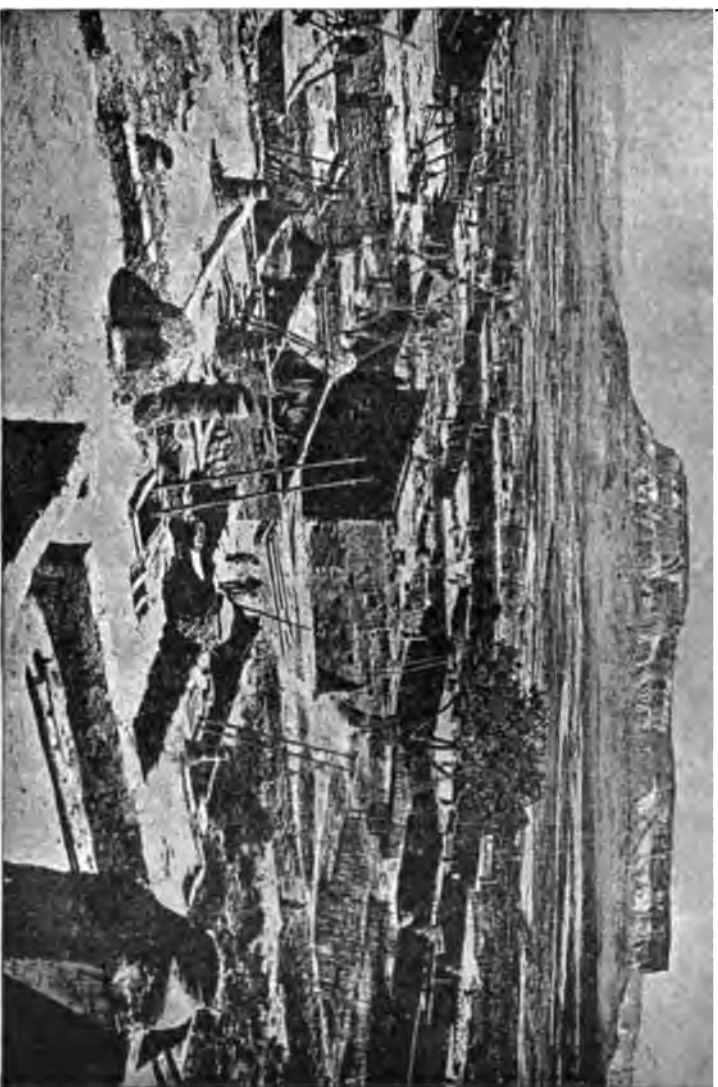
the homes of separate clans. Each was surrounded by a high earthen wall and generally by a separate canal or acequia. Each had its single appropriate water reservoir with a branch canal leading into it, its own separate Pyral mound, or place of cremation, and its one great underground oven for the preparation of food. In Los Muertos at least fifty of these great buildings were unearthed.

The ultra mural houses were small low huts made of sticks and reeds, and were situated outside the limits of the earthen houses and formed separate groups. Each contained a central fire-place. In one place they constituted a town of considerable size, which contained a sun temple, but no priest temple. They may have belonged to the Pimas or some later modern tribes.*

The acequias or irrigating canals are noteworthy. The explorers in the Salado Valley have traced over one hundred and fifty miles of the larger canals. They varied in width from ten to thirty feet; and in depth from three to twelve feet. Their banks were terraced in such a form as to secure a central current. This device was to facilitate navigation; and it is thought that the canals were used not only for irrigation, but for the transportation of the produce of the fields and of the great timbers from the mountains which the people must have needed in the construction of their tall temples and other houses.

In various parts of our arid region the old Indian canals may be still easily traced where they are cut through hard soil or where they are so exposed and situated with regard to the prevailing winds, that the sand is blown out of them rather than drifted into them. There are places in Arizona where the American settlers utilize old canals for wagon roads. But in most cases the canals have been filled with sand and clay to the level of the surrounding soil, and, to the ordinary observer, no vestige of them remains. Yet, Mr. Cushing, guided by his knowledge of a custom which exists among the Zuni Indians, was able to trace the course of these obliterated channels. The ancients constructed great reservoirs to store the excessive water when the river was high. The present occupants have no such works. The canals of the moderns follow straight lines; those of the ancients were tortuous. In the old canals the fall was about one foot to the mile, in the new it is two feet to the mile. The ancient people used the water to a greater advantage than the moderns and covered a wider territory with their system. A Mormon community made use of the prehistoric cut and saved \$20,000 by this means. The ancient people had also a system

*Mr. Baudelier speaks of the enclosures found apart from the houses, rectangular spaces surrounded by upright small stones. The Pima Indians assert that these were garden-beds. They are now very numerous in Arizona. He says that the scattered remains of permanent villages with artificial tanks, mounds of houses constructed of masonry—sometimes more than one story high met here and there are evidences of a period of relative quiet that has long since disappeared; though he thinks the Pimas may have built these canals. The Yumas and the Papagoes continue to occupy the region.



ZUNI WITH TA'YA LA'NA IN THE DISTANCE

of rainwater irrigation. For conserving the waters of the sudden rains on the mountains and hills the people built dams in the ravines and large reservoirs in the neighboring foot hills. From these reservoirs the waters were allowed to flow gradually over the fields.

The groups which have always gone by the name of "seven cities of Cibola" will next be considered. The description given by Friar Marcos de Nizza is the first one. It dates back to 1538. There has been some discussion as to which one of the seven cities he saw. He did not enter any of the pueblos, but the principal men led him to a place where he could see Cibola from afar. His description is as follows. "Cibola lies in a plain on a slope of a round height. Its appearance is very good for settlement—the best that I have seen in these parts. The houses are as the Indians told me—all of stone with their stories and flat roof. As far as I could see from a height where I placed myself to observe I could see that the city was larger than the City of Mexico itself. The Indian guides reiterated the statement that the village now in view was the smallest one of the seven; and that Totonteac (Tusayan) was much more important than the so-called seven cities. Here he raised a wooden cross,* naming the new land the New Kingdom of Saint Francis, and turned back with much more fright than food."

The latest description is the one given by Victor Mindeleft, of the Ethnological Bureau, who says: "It has been the custom to give the name of Old Zuni to a group of small and ruined pueblos which lie at the summit of the great mesa called by the Indians Thunder Mountain, *Ta-a-ya-la-na*, and that the six villages on that formidable height were the original ones of the Zunis. This much is certain, that it was the place of refuge—the citadel or safety place—of the Zuni, the center of many religious performances, and the object of many myths. Three times, according to the records, did the Zuni flee to the plateau of this gigantic mesa within the course of two centuries. Each time they were induced to return to the valley below in a peaceable manner. This Thunder Mountain rises to the height of one thousand feet above the plain, and is almost inaccessible. There are two foot trails, each of which in places traverses abrupt slopes of sandstone where holes have been pecked into the rock. From the northeast side the summit of the mesa can be reached by a tortuous burrow trail. All the rest of the mesa is too abrupt

*Bandelier thinks that Kiakima was the place where the negro was killed and where Niza erected the cross. This has been disputed by Hodge, who thinks that Kuikawuk was the first-discovered city of Cibola. The early Spanish names of the towns are Macaquia (Masaki), Coquimo (K'iakima), Aquico (Hawikuh), Canabi (Kianawe), and Alona (Halona). (See American Anthropologist Vol. VIII No. 2, P. 142-149.)

The following names are given by Mr. Cushing and by Mr. Bandelier: Halona on the site of the present one, Kiakima, south of the gigantic mesa, Matzaki; north of the same mesa, the place where the negro, Estevan, was killed; Pianaua, three miles south of the actual Zuni; Huhauien, Zuni hot springs; Chanahue, the same vicinity. Bandelier Vol. III, Part 1 P. 133.

to be scaled. The top of the mesa was an irregular figure, one mile in width, and surrounded on all sides by perpendicular cliffs."*

"The narrative of Castaneda describes Cibola as built on a rock. The road leading to it was both narrow and winding. It was no easy achievement to get possession of it. The village of Zuni, as it now stands, is built upon a small knoll on the bank of the Zuni river, three miles west of the conspicuous Mesa. It is the successor of all the original seven cities of Cibola, and is the largest of the Pueblos. At this point the river is perennial, it has no special advantages for defense, but the convenience to large areas of tillable soil led to the selection of the site. It displays a remarkable compact arrangement of dwellings, some of which have been carried to a great height. Five distinct terraces may be seen on the south side of the cluster, though the highest point is said to have reached a height of seven terraces at one time. The arrangement of dwellings about a court, characteristic of the ancient pueblos, is not seen; for the original building had been covered with rooms of later date. The old ceremonial kivas in rooms for the meeting of the various orders or secret societies were crowded into the innermost recesses of this innermost portion.†"

General Simpson says that it is far more compact than Santa Domingo—its streets being narrow and in places presenting the appearance of tunnels, or covered ways, on account of the houses extending over them.‡

Acoma, whose remarkable situation on the top of a high rock has made it the most conspicuous object in New Mexico for nearly three centuries, is easily identified. The case is, how-

*See Plate, Eighth Annual Report, P. 89.

†See Eighth Annual Report Bureau of Ethnology, p. 97.

‡The villages of the Moquis were situated northwest from the Zunis, twenty-five leagues but Coronado seems to have passed by them on his way to Cibola.

This Cibola was the first pueblo which Coronado reached on his way eastward and the last one which he left on his return. Espejo in 1583 visited the same region and after leaving Acoma turned toward the west to a certain province called by the inhabitants of Zuni, and by the Spaniards, Cibola; in which province Coronado had erected many crosses which yet remain standing.

The American Atlas by Thomas Jefferys, London, 1773, gives Zuni and Cibola as synonymous names.

Bandelier gives the following evidence that the Zuni and Cibola have been properly identified. He quotes Castaneda. (1.) "Twenty leagues to the northwest is another province which contains seven villages the inhabitants have the same costumes, customs and religion" as "those of Cibola," "Tucayan." This was called by "Jaramillo Tucayan to the left of Cibola, about five days' march. West of them is the river called "Rio del Tizon" or Gila River. (2.) Five days journey to the east there was a village called Acuco. Jaramillo says: "A village in a very strong situation on a precipitous rock called Tutahaco. (3.) This village "Tutahaco," Acoma, lay between Cibola and the stream running to the southwest, according to Jaramillo, "entering the sea of the north." (4.) Jaramillo says: "All the water courses which we met whether they were streams or rivers, until that of Cibola, and I believe in one or two journeyings beyond, flow into the South Sea." (5.) "All the writers from Antonio del Espejo, 1584, down to Gen. J. H. Simpson, 1871, have identified Zuni with Cibola."

In regard to the identity of the Moqui district with the Tusayan, he says. It was first made known under the name of Mohoce in 1583, by Antonio de Espejo, "Four journeyings of seven leagues each westward from Cibola." One of its pueblos was called "Aguato," Awatobi. Fifteen years later in 1598, Juan de Onate found a pueblo Mohoce twenty leagues westward of the first one of Zuni. (See papers of A. I. A. Page 12, Vol. I.)

ever, different with Tiguex. It is mentioned as lying three days from Acoma, but the direction is not given. The belief has been expressed that Santa Fe stands on the old site of Tiguex. W. H. Davis locates it on the Rio Puerco, and Cicuye on the Rio Grande some where near the valley of Guadalupe. Gen. Simpson places it at the foot of Socorro Mountains on the Rio Grande and Cicuye at Pecos. Bandelier places Tiguex near Bernalillo, and identifies Tutahaco four leagues to the south of Tiguex with Isleta, and says that this was on the same river as Tiguex. From it Coronado ascended the stream to Tiguex. Castaneda says that "Tigeux is the central point."

An expedition was sent from it which discovered in succession Quirix on the river, with seven villages, the Quires district including San Domingo, Cochiti, San Felipe, Santa Ana and Cia, near the Rio Grande, Aguas, Calientes, three villages, Acha *Picuries* to the northeast, and "Braba" Taos far to the northeast. Bandelier says it is unmistakable and refers to Castaneda and Jean Bleau.*

Recent investigation has thus enabled us to locate at the time of the first discovery a large number of the principal pueblos, or groups of pueblos, of New Mexico and Arizona. The pueblo of Casa Grande appears to have occupied at that time the identical position in which it is found to-day. The pueblo of Zuni occupies the ground claimed by the cluster to which the name of "Cibola," or "Seven Cities," was given, but it is the only remaining one of the seven, and is probably a recent construction. The Moqui towns appear to be the same which the Spaniards found three hundred and fifty years ago. It is probable also that Isleta is the same as Tutahaco, which Coronado reached in "eight or eleven days," and Acoma the same as Acuco. Pecos was situated on the Tiguex Rio Grande, and is the same as Cicuye.

*Simpson says: There were a number of villages visited by Coronado which were situated on the Rio Grande or its tributaries—Quirix unquestionably, San Felipe, De Queres. In the Snow mountains, seven; Kimena, three; Chia, one; Silla (Cia), Hemes, Jemes, Aguas, Calientes, the ruins which I have seen at Ojos Calientes, twelve miles above the Hemes on the Rio de Hemes and Braba Taos. The last town on the Rio, Tiguex, was built on the two banks of a stream, which was crossed by bridges built of nicely squared pine timber.)

EGYPTOLOGICAL NOTES.

BY WILLIAM C. WINSLOW, PH. D.

THE Hyksos god Sutekh, or Set, has long been as much of a puzzle to Egyptologists as the origin of evil to the theologians. Professor Sayce, always alert, now writes that he has discovered to what language and people the name of that deity (?) belongs. It is Kassite; and the suggestion of Dr. Brugsch is thus confirmed, which brought the Hyksos from the mountains of Elam. A Babylonian seal cylinder (No. 391) in the Metropolitan Museum of New York bears an inscription which shows that it belonged to "Uzi-Sutakh, son of the Kassite (*Kassu*), the servant of Burna-buryas," a king of the Kassite dynasty, who ruled over Babylonia B. C., 1400. The name of Sutakh is preceded by the determinative of divinity. We can now understand why it is that the name has never been found in Syria or in the lists of Babylonian divinities, and we can further infer that the Hyksos leaders were of Kassite origin. The Hyksos invasion of Egypt, accordingly, would have formed part of that general movement which led to the rise of the Kassite dynasty in Babylonia.

DR. BOTTI claims to have made discoveries at the site of the Serapeum in Alexandria. He has found inscriptions of the time of Hadrian and Severus, dedicated to "Serapis, and the deities worshiped with him in the temple." It must have been for them that the empty shrines described by Aphthonius had been built. Tacitus (*Hist.* iv. 84) tells us that the Serapeum stood upon the site of an ancient sanctuary of Isis and Osiris in the old Egyptian town of Racotis, the western division of the later Alexandria; and it is just here that Pompey's Pillar is situated. Bruchium, the eastern division of the city, was destroyed in A. D., 275, forty years before Aphthonius wrote. Besides the inscriptions, Dr. Botti has found remains of gilded ornaments and a bull of fine workmanship, all of which come from the great central court. He has also found a few tombs, and, above all, long subterranean passages cut through the rock under the site of the ancient building, and once accessible from the court. The passages are broad and lofty, and were originally faced with masonry. Here and there are niches in the rock for the lamps which illuminated them. Nothing has been found in the passages except some broken pottery, but at the entrance of one of them are two *proskynemata* scratched on the rock by pious visitors. The passages, therefore, must have been used for religious worship; and we are reminded of the fact that similar subterranean passages were needed for the

Mysteries of Serapis, and that Rufinus informs us that they actually existed under the Serapeum at Alexandria.

Dr. Botti enthusiastically asserts:

"The secrets of the Serapeum are at last about to be disclosed! We are upon the threshold of the venerable sanctuary which Alexander the Great visited, where Vespasian the sceptic performed miracles, and where Hadrian, Sabinus, Caracalla, and Zenobia sacrificed."

As Cairo is to have a new and splendid museum, this account of the fine building at Alexandria recently dedicated by the Khedival government will be doubly interesting.

"The collection of objects, which includes many things of great interest, has been skilfully arranged by the curator, Dr. Botti, and the system of lighting shows everything to advantage. It has lately been enriched by valuable donations of jewels, gold ornaments, etc., from the collection of the late Sir John Antoniadis, and of coins from Mr. Glymenopoulo; and, the director-general of the Antiquities Department having promised to fill up all disposable space with contributions of Greek and Roman relics now lying in the Ghizeh Museum at Cairo, its interest and value will shortly become largely increased. The present building, specially constructed, is all on one floor; it covers an area of about 660 square yards, and is planned with a view to enlargement when necessary. The municipality and the Alexandria Archaeological Society are making excavations in the city and neighborhood, hoping to discover the exact site of some one of the famous monuments of antiquity, and so throw light upon the topography of the ancient city; but hitherto their researches have proved only negative, and the great extension of building, especially during the last thirty years, has much diminished the field for excavation, and entirely obliterated many promising sites. It is expected that the museum, with the public library containing 7000 to 8000 volumes, will prove a sufficient source of attraction to induce tourists and archæologists to make some stay in Alexandria, instead of merely rushing through it, as is their wont."—*Times*.

AN EARLY RESERVOIR.—Dr. Schweinfurth has discovered the remains of an early reservoir in the Wadi Gerrawi. In order to preserve the rainwater due to occasional thunderstorms in the desert, a great dyke of large stones was built across the mouth of the Wadi, at a distance of some miles from the bank of the Nile. The dyke was sixty-six meters in length at its base, and eighty meters in its upper part. Dr. Schweinfurth's further explorations showed that it had been constructed for a colony of stone-cutters, who worked in the alabaster quarries he discovered in the neighborhood, and for whose use a road, of which he found the traces, was made. In an alabaster quarry, three and one-half miles to the northwest, he came across a figure of "Ptah, the lord," rudely engraved on a block of stone. The figure takes us back to the time when Memphis, with its patron-god Ptah, was the capital of Egypt; and in the great stone dyke we may therefore see a relic of the building operations of the Old Empire.

DR. CHARLES DUDLEY WARNER, just from London, tells me this week that he attended a meeting of the Egypt Exploration Fund Committee where the remark made, "We have only just begun to scratch Egypt as yet," met with *amen* from all. We may expect news from M. de Morgan this winter, whose

brilliant disclosures the past season or two justify the above comment on inexhaustable Egypt. *Deir El-Bahari I.*, on a splendid scale, is now in press. The preliminary volume was comparatively small. Every public library of the land should possess it.

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Editorial.

THE PALÆOLITHIC AGE IN AMERICA.

A paper was read before the A. A. A. S. by the editor, which received favorable notices at the time and has been called for by several since. As no abstract was furnished the Secretary for publication, it is given here in brief. The title as given was the Palæolithic Age, its characteristics and the tests by which we may determine it. 1. The palæolithic age is destitute of all architectural ruins. 2. The art of this age varies greatly, for rude specimens are found in the gravels, and finely wrought imitations are found in the caves. Rude art alone then is not a proof of the age. 3. The horizon is generally determined by the geological tests, rather than by archæological, but really requires an agreement between the two to be satisfactory. 4. The best test of the palæolithic age and the chief characteristic is the presence of the bones of extinct animals. 5. The discovery of human bones in connection with certain rude relics is sometimes regarded as decisive, but is, after all, an uncertain test. 6. The character of the bones and skulls is thought by some to determine the age. There is, however, no fossil man which can be identified as the "palæolithic man," certainly not in America. 7. Changes of climate and great geological changes are supposed to have intervened between the palæolithic and neolithic ages. Prestwich and Dawson are authorities for this. Cope thinks the same changes can be recognized in the caves of America, as the bones of extinct animals are at a lower depth, but human remains or tokens have not been found in that horizon. 8. A very wide gap exists between the two horizons. The tokens of man in the caves are modern Indian. The discovery of a rude relic in a gravel bed does not by any means establish the palæolithic age. It may be a hint, but is not a proof, as the proof is accumulative only. The discovery of the arrow-head, which was reported by Prof. F. G. Wright, is important, but it does not establish the palæolithic age in America, for six out of the eight tests are lacking, viz: The bones of extinct animals; human bones associated with skulls of a low type; the succession of horizons, and the evidences of change of climate, and of sub-

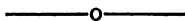
sidence since the deposit of the rude relic. Two are present—the location of the find in the gravel, and the rude form and appearance of the relic. The remains of old soil and ancient forest beds are numerous, in fact two horizons of them at the west, one thirty feet down and the other sixty feet. No relics have been found in these showing human handiwork.

The following is the report of the paper which appeared in the daily newspapers. It is given here for the sake of the points which were brought out in the discussion:

"Dr. Peet believes more fully than most of the modern school of anthropologists in a distinction between the ruder palæolithic and the neolithic implements, as distinguished by the character of the workmanship, whether roughly pounded out and chipped or nicely polished. He is a skeptic as to the existence of palæolithic man in America, thinking that the existence of four doubtful implements is not a sufficient proof. The paper pointed out the fact that a great gulf seems to intervene between palæolithic and neolithic man, such as might be accounted for by a great flood or other geological catastrophe. It is very singular, he said, that while in Europe the remains of palæolithic man are very numerous, there should be so few in North America, and that there should be no remains of habitation."

The paper was discussed at great length by Dr. Cushing, who called Professor E. D. Cope to take the chair during his remarks. Dr. Cushing endeavored to emphasize the importance of the distinctions which Dr. Peet had drawn between the palæolithic cults of Europe and America, and also to show that the evidences of palæolithic man in America were not sufficiently strong to warrant their unqualified acceptance. Mr. Cushing then sketched the hypotechnical man of earlier years in America in a very realistic manner. He began by pointing out as a fact of infinite moment in the history of civilization that Europe is the only country in the world possessing true flint, the most perfect possible material for a primitive people, and often shaping itself to the needs of the hunter or the artisan. In this country only two substitutes at all approaching flint in excellence are found, and these only in scattered localities, obsidian, a glass-like rock, and chert, a black flinty rock. The absence of remains of dwellings he paralleled by the case of the Eskimos. He gave a masterly and suggestive outline of the suppositious history of primitive man as he made his way along the retreating glacial beach, finding food ready to his hand and moving as the glaciers move. He drew a parallel between the dawn of civilization in the desert of southwestern Asia and the similar development in southwest America, showing how man gradually acquired the power to advance to the mastery of the forests, while another race took the place of those who had migrated. One race followed another, the Mound-builders giving way to the Indian,

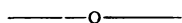
and the latter steadily climbing up till his growth was ruthlessly arrested by the hand of the white man. Prof. Cope showed the importance of studying the bones of extinct animals as a guide to the history of prehistoric man. In this sense the work of the palæontologist must have the final word to say. It is a curious fact that in the Champlain period which is now the battle-ground of the students of primitive man, the eastern part of the country had plenty of elephants but no mastodons, while the reverse was the case on the Pacific Coast.



THE CHALDEAN ACCOUNT OF THE DELUGE.

Different theories have been advanced as to the character of the Deluge by the British savans, and extreme views are still held. They will be illustrated by the papers read by Prof. W. J. Sollas and Prof. Jos. Prestwich before the British association in 1894. Prof. Sollas's opinion will be learned from the following extract: He endeavored to show that, although a local phenomenon, it was yet on a grand scale, and, in plain terms, a genuine historic catastrophe. The Chaldean story of the Deluge, discovered now some twenty years ago by George Smith on the tablets brought by Layard from Nineveh, contained the remarkable statement that the ship of Sitnapistim, the Chaldean Noah, grounded on the mountains of Nizir, which are situated inland about 240 miles up the Tigris Valley; while its starting-place was Surippak, a very ancient city even at the time of the Flood, supposed to be situated near the mouth of the Euphrates. This pointed to a journey up stream totally inconsistent with the supposed pluvial origin of the Deluge. Suess consequently looked for its cause in a great sea-wave produced partly by an earthquake, partly by a hurricane, which, rising in the Persian Gulf, was driven up the Mesopotamian Valley. Suess's explanation appeared improbable when it was considered that the floor of the Tigris Valley stands at a height of at least 600 or 700 feet above the sea-level, where the lower Zab cuts through the Nizir hills. The waves produced by cyclones rarely exceed forty-five feet in height, so that it would require an exceptionally bad one to bring the sea to Bagdad, which is one hundred and fifty-four feet above the sea-level, not to speak of the Nizir hills. Under these circumstances it became incumbent to acquaint ourselves more closely with the historical character of the Deluge story. Its occurrence as an episode in the Gizdubar epic, full of obviously unveracious statements, was not reassuring, and if we said that its language was that of poetic exaggeration the judgment would seem mild. Yet this was all that was required to reduce the story to commonplace proportions. The identification of the Gizdubar legend with that of Heracles was a matter of great importance,

for if the Greeks had borrowed the epic they would not be likely to neglect the episode, and accordingly we found them in possession of the Deluge legend of Deucalion. The Egyptians had sun-stories of their own, but as they were without that of Gizdubar, so they were silent about the Deluge. The Nile does not cause calamitous overflowings like those of the Tigris, and consequently the Egyptians possessed no Deluge legends of native growth. In China the case was different. The Yellow River, "The Curse of China," had always produced disastrous deluges, and in the third Schu of the Canon of Yao, who reigned somewhere about 2357 B. C., we read: "The Ti said, 'Prince of the Four Mountains, destructive in their overflowing are the waters of the flood. In their wide extension they enclose the mountains and cover the great heights, threatening the heaven with their floods, so that the lower people is unruly and murmur. Where is a capable man whom I can employ this evil to overcome?'" Khwan was engaged, but for nine years he labored in vain, whereupon another engineer, Yu, was called in. Within eight years he completed great works; he thinned the woods, regulated the streams, dammed them and opened their mouths, provided the people with food, and acted as a great benefactor of the State. It was refreshing thus to pass from the ornate deceptions of legend to the sober truth of history, and if the famous Chaldean fable could be reduced to equally simple language, we should probably find it describing very similar events, or events just as little astonishing as those of the Chinese Schu. History fails to furnish evidence of any phenomenon which in the geologic sense of the word could be called "catastrophic", and geology has no need to return to the cataclysms of its youth; in becoming evolutionary it did not cease to remain essentially uniformitarian.



ARCHÆOLOGICAL NOTES.

GREEK COINS.—Among the recent students of early Greek coins no one has been more successful than M. Jean N. Svoronos. His study of the coins of Gortyna bearing the nymph, Britomartis, seated on the branches of a budding tree, and more recently the devices accompanied by stars, have been published. Another paper on a certain coin of Mantinea represents Ulysses at an eventful point in his history. This theory that Arcadian myths were embodied in the symbols contained in the coins is a novel one, but is very suggestive. Ulysses is represented as armed with a javelin, with an oar in his left hand, which is planted in the ground. The myth is that on the visit to Hades the shade of Tiresias foretells to Ulysses how difficult and dangerous will be his return to Ithaca, because of the anger of Poseidon. "You will return again to Ithaca after traveling through many lands,

carrying a shapely oar, but will reach a people who have never seen a ship with its painted sides, nor the shapely oars, the wings of a vessel who shall say, "you are carrying on your white shoulder a winnowing fan." When you do, plant your shapely oar into the earth and make a solemn sacrifice to Poseidon, the ruler of the sea. Then turning homeward offer to the immortal gods, who ruled the sky, the sacred *hecatombs*. Other scenes in his life have been placed on coins, and among them is that when Ulysses escapes from *Polyphemus* by clinging to the fleece of the sheep, and riding under the bellies of the sheep out of the cave, thus avoiding the giant. This is represented by the figure of a ram.—*American Journal of Numismatics, Boston, October, 1895.*

ENGINEERING TOOLS AT POMPEII.—Professor Goodman delivered a lecture at Yorkshire College, Leeds, England, on the results of a recent visit to Pompeii. He said he was not only charmed by the great beauty of the works of the ancient Romans, but by their extreme ingenuity as mechanics. The streets were paved, and in many places deep ruts had been worn by the chariot wheels. The water supply was distributed by means of lead pipes laid under the streets. There were many public drinking fountains. The bronzes found revealed great skill. Ewers and urns have been discovered with internal tubes and furnaces similar to the arrangement now used in modern boilers. Several very strong metal safes have been found. Locks and keys were very ingenious. Sickles, billhooks, rakes, forks, axes, spades, blacksmith's tongs, hammers, soldering irons, planes, shovels, etc., are remarkably like those used to-day; but certainly the most marvelous instruments found are the surgical instruments, beautifully executed, and of design exactly similar to some recently patented and reinvented. Incredible as it may appear, yet it is a fact that the Pompeiians had wire ropes of perfect construction. The richest and most complete bath yet found in the ruins of Pompeii has recently been discovered. It is a large building, with sculptured basins, heating apparatus, lead pipes and bronze faucets. The walls and floors are tiled. Everything is in an almost perfect state of preservation, owing to the roof having remained intact when the city was buried in the year 79.

NEWSPAPER REPORTS.—The newspapers are sometimes valuable to archæologists, but they have to be read with a great deal of caution, for the tendency is to substitute sensation for science. To illustrate: The *Chicago Record* recently gave one column to the description of some gigantic remains of human beings found in California. The account may have been correct, but on the same page two columns were given to some remarkable discoveries in Minnesota, which to an archæologist would have been more plausible if they had been reported in the Gulf States or

among the Pueblos or in Central America. The trouble with these fancy writers for the newspapers is that they make mistakes in geography. Vases covered with sphinxes may be found in Egypt, but not in Michigan; so pottery vessels covered with beautiful raised handles in imitation of animals are found in the Gulf States, but not in Minnesota. It is probable that an effigy mound in the shape of a bird was found, and it is not impossible that some copper relics were contained in the mound; but that a dainty pitcher, as thin as an egg-shell, with a delicate vein in the raised blue figure which could not be scratched with a knife, was found, is doubtful. Men nine feet high and women eight feet and four inches do not grow in Minnesota any more than animals resembling the modern horse, with skulls larger than elephants. This article is taken from the *St. Louis Globe-Democrat*. We would advise our friends of the *Chicago Record* to be careful what they quote from the latter paper, for that paper is always sensational and seldom reliable.

ANCIENT CEMETERY.—A surveyor, Mr. M. C. Cowen, recently came upon a prehistoric cemetery in Milfred, Ohio, covering many acres, and thousands of graves. The curator of the state museum opened them and found pipes, beads, pearls, spear-heads, and other relics.

ANOTHER FIND IN ARIZONA.—J. Walter Fewkes, who has recently returned from Arizona, reports the discovery of many cliff dwellings in the southern part. These people were the ancestors of the present Moqui Indians. They were of the Pueblo tribe, which reached a remarkable stage of civilization, building permanent cities rather than temporary wigwams. "I came across in Southern Arizona a great buttress, which was known to the Indians as Red Rock. Built at the top of a slope leading to the foot of the precipice I found a row of small protuberances built against the steep wall. These appeared in the distance like a collection of swallows' nests. On approaching I found them to be an abandoned settlement of an ancient race. On entering I found the floors covered with a thick alkaline dust, which alone suggested their age. The only living inhabitants were numerous birds, bats, and, in one case, a rattlesnake, which guarded the door against me. They might be described as resembling six rudely formed bay windows, built out from the solid rock, under a ledge of overhanging cliffs. The entrance to each house was usually through a hole near the floor, large enough for one man to crawl through. On either side was generally a small peephole, or window. Going south of Red Rock I passed through a valley, which doubtless had been trodden by but few, if any, white men before. Steep rocks hemmed us in on either side, while the rocky ground was almost impassable. About midway in the dismal valley, on the left

bank of the Rio Verde, I came across the greatest of all these cliff settlements. The side of a steep rock, several hundred feet high, was completely honeycombed with these chambers, filled with valuable stone implements, pottery and other relics."

RUINED CITIES ON THE GILA.—The *Scientific American* contains a very good description of these ancient ruins, and closes with a conjecture that the entire city had been shaken by an earthquake, for deep digging has brought to light large quantities of bone dust lying in what appears to be at one time a trench, some seventy feet long and nine feet below the surface. Usually urns containing ashes of the dead and jars filled with corn and beans in a remarkable state of preservation are found, but these deep diggings reveal something unusual.

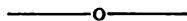
MASTODON TUSKS.—A gang of men boring for water at Burlington, Iowa, struck sand, seashells and seaweed at a depth of 150 feet, it being evidently the bed of a one-time inland sea. A short distance farther the drill and six-inch casing were bent and broken by a hard substance, which, on investigation, proved to be large pieces of pure ivory tusks, hard as flint, but perfectly preserved.

AN ANCIENT VESSEL has been unearthed in the Mississippi River shore near Winona. It was four feet underground and made of heavy oak planks nailed together with hand-forged spikes. It is supposed to have been the property of N. Perrot, a French explorer, who early in the seventeenth century built a fort near this lake, on the east side.

FOSSIL HUMAN FOOTPRINTS.—One of the commonest fallacies of archæologists is one which consists in taking an accidental circumstance for a general principle, or as logicians express it, taking the minor premise for the major and drawing conclusions from it. It is well illustrated in the case of a young man whose portrait appears in the last number of *Popular Science News*. In New York State there are rock markings which have the resemblance of footprints of men and animals. These markings are found at the side of a brook which is dry in summer but flows in winter. The supposed footprints all lie lengthwise in the current of the stream, and were probably made by pebbles which were lodged in the depressions of the silurian rock. The inference which will be drawn is that all so-called fossil human footprints were made in the same way. Here is the fallacy—a dispute might arise as to what constitutes a "fossil human footprint," but if any one infers that all of the footprints which have been found on the rocks in the Mississippi Valley and which are sometimes called "fossil footprints," were made in this way he will certainly be mistaken. That veteran in archæology and geology, Col. Charles Whittlesey, has described these rock mark-

ings with great care. He made *squeezes* of them and drew patterns of the prints which were engraved. The engravings have been published. No one knows why these footprints were pecked into the rocks, but that they were pecked, there is not a shadow of doubt. Fossil human footprints were discovered by Mr. Earl Flint in the *tufa* beds, near Lake Nicaragua. The *tufa* may have been of recent origin, but the footprints were genuine.

THE MISSING LINK.—At the third International Congress of Geologists, which met in Dayton, Dr. E. Dubois described his discovery of the "missing link," and defended his views. It is called *Pithecanthropus erectus*, a transitional, man-like form. Dr. Dubois described the locality in Java where the remains were found, and mentioned as occurring near them a tooth of *Hyæna*, bones of *Cervus*, etc. No complete skeleton was found. The speaker then described the cranium and femur; of which he had maintained that they belong to a man-like creature. He had compared the thigh-bone with 150 different femora of Malays, negroes, Europeans, and other races, but could establish no similarity. Virchow's view of the greater resemblance of this femur to that of the apes (especially *Hylobates*) is correct. It is remarkable that the zoologists maintain the skull to be human, while the human anatomists refer it to the apes.



BOOK REVIEWS.

Commemoration of the Fourth Centenary of the Discovery of America. Columbian Historical Exposition, Madrid. Report upon the Collections Exhibited at the Columbian Historical Exposition. By Daniel G. Brinton, M. D., LL. D., D. S. C. Washington. 1895.

The arrangement of this report is according to the countries, and represents the relics, both historic and prehistoric, which were sent. They are as follows: In the Mexican department—a stone representing a human head, supposed by some to represent a race foreign to that which inhabited the region. It marks extreme age and was found near Jacona. A collection of thirteen hundred and twenty-five relics, in some of which we find articles ornamented with Greek patterns. These were domestic utensils and tools from Michoacan. Among the domestic tools were corn mills or metates; also spindle whorls, ear-rings, mirrors of obsidian, bells of copper, vases made from alabaster and lava, some of which represent human figures in attitudes which show the religious experiences of the native, and a number of amulets. They were taken from mounds which contained the remains of ancient temples. Eight native calendars were shown; also a large number of manuscripts, painted records, and two codices called by the name *Porfirio Diaz* and *Baranda*; the reproduction in wood of the temple, sacred edifices and enclosure of an ancient city near Vera Cruz, visited by Cortez; also the temp'e of Tajin, near Papantla. These resemble those found at Teotihuacan, in Mexico. A number of castes from Mexico in-

cluded the famous calendar stone, the sacrificial stone, the statue of Tlaloc. Several stones represent a number of rods—fifty-two in number, symbolizing the tying together of the years, evidently symbolic. In the department from Guatemala were autograph letters of Columbus, and a manuscript ascribed to Father Ximenes, extracts from the book called *Popol Vuh*. There were idol portraits or statues, a number of vases of terra cotta which present the form of familiar animals, a stone monkey scratching himself, a monkey with the head and tail of an owl. A few objects which present the glyphs painted upon their sides are very valuable as throwing light upon the Maya character. From Nicaragua and Lake Managua many articles in pottery—urns, dishes, plates, cups, whistles, flutes, shoe-shaped urns, funerary urns, human figures, arrow points, and knives of obsidian. The pottery from Nicaragua is brilliant and of many colors. From Costa Rica was a collection of small images in gold, representing the human figure, birds, frogs, symbolic animals. A bird holding a man in its beak is supposed to be a symbol of the creation. Other articles in copper and gold represent eagles, lions, and images of special deities. There were also chisels and war-clubs made from stone. The Republic of Colombia furnished many articles. They were arranged in three groups, independent of each other. Those from Chibcha contained objects of gold, consisting of sixty-nine human figures, six masks, twenty-three animal figures, and nineteen instruments; in copper, twenty-four animal and human figures; in pottery, thirty-eight vases. From another district are about one thousand objects—some of them in gold—consisting of diadems, crowns, scepters, collars, ear-rings, ornaments, rings, bells, flutes, whistles, gold vases of graceful form and varied size. These are different from the Chibcha relics. In the third region, Antioquia, are four hundred and eighty-three pieces, showing that the tribes were rich in gold and were very skillful. There were also from here articles from Chinqui, many of them being gold. Mr. A. L. Pinart, in 1890, published a photographic album containing ten plates of inscriptions from the isthmus of Panama. Examples of inscriptions and engravings on stone were shown at Madrid. The Chibcha numeral system, astronomic calendar and mythology are very interesting. The department of Ecuador contains many art products of the Kechua people—a mortar with large ears, bearing the figure of an animal cut upon it; a musical stone used as a bell; circular stones used to attach to the ends of clubs; several specimens of copper in the form of axes or hatchets; a number of vases in pottery were pointed at the end, like Greek vases, others were upon feet. From Peru there were a few objects in silver and gold, some idols in wood, textile materials and some fifty specimens of pottery. Many of these were from the vicinity of the famous Temple of the Sun at Pachamac. From Bolivia were two idols in stone found among the ruins of Tiahuanaco, several idols in wood, various textile materials. From Uruguay were relics taken from "village sites," utensils, weapons, burnt stones, remains of hearths, bones of animals, and a few human bones; teshoas, used for cutting; more than nine thousand specimens of arrow-heads and lance-heads made of jasper or quartz; sling-stones, hammer stones, hand stones, with depressions for the fingers. The Argentine Republic has a great variety of relics depicted in water colors, representing painted vases of clay, also human figures, animals, and especially the

serpent. East of the Andes are walls of cut stone and edifices of great extent, showing the influence of ancient Peru. These were represented by charts.

The Mammoth Hunters. By Willis Boyd Allen, author of "Lost on Umbago," "Pine Cone Stories," "John Brownlow's Folks," "The Lion City of Africa," etc. Boston: Lathrop Publishing Company. 1895. Illustrated by Joseph H. Hatfield. 12 mo., cloth, 150 pp., 75 cents.

The Department of Archæology has at last been invaded by the storyteller. The mammoth, whose bones have given rise to some strange myths among the aborigines, is taken as the subject of a story after the style of James Mayne Reid. The scene is laid on the Yukon, and a picture of Sitka is given. A wonderful discovery of some mammoth teeth follows, hardly sufficient to warrant so long a journey. A cow moose is also seen, ducks were plentiful and genuine fossils in the shape of *elephas primigenius*, the true mammoth of scientists were found. The book may develop a taste for archæology among the boys, and be useful in this way, though there is not much science in it.

The Early Navajo and Apache. By Frederick Webb Hodge. From the *American Anthropologist*, July, 1895. Washington, D. C.

The effort to trace back the history of the Navajo is difficult, and yet the author of this pamphlet has succeeded remarkably. It appears that great changes in language, customs, style of building, and organization, as well as location, have occurred. The creation, according to the mythology of this tribe, was not so very long ago. It was only fifty-two years after the creation that the tribe moved to the San Juan. They had no herds, and made their clothes mostly of cedar bark. This was not earlier than the fifteenth century. They acquired their first flocks and herds through the Pueblos soon after 1542. They found the Apaches occupying portions of New Mexico—a wild people. They were originally a cliff-dwelling people, but regarded the Pueblos as far superior. Their myths speak of the agricultural cliff-dwellers as gods. They, however, united with the Apaches in attacking the Pueblos about the time of the advent of the Spaniards. The villages of the Jemez had been abandoned in consequence of the forays of the Navajos, although not many years afterward the Apaches appear in the rôle of allies of the Jemez, Tewa and Pecos against the Spaniards. The pueblos in closest proximity were naturally the first prey of the Apaches and Navajos, viz.: the westernmost of the Rio Grande villages. Previous to this time the village Indians, such as the Jemez, Zuñi and Sia, dwelt in several scattered towns, situated mainly with reference to convenience to the fields. Seven villages had been visited and destroyed prior to 1540, by Indians who painted their eyes and lived in the same region as the buffaloes, and had "houses of straw and corn"—probably the Comanches. The raids of the Navajos commenced about 1622, and the Jemez were compelled to abandon their villages, and from that time until the subjection of the Apaches and Navajos pueblo architecture and selection of sites became seriously affected. The tribes who occupied separate villages now erected and dwelt in a large communal structure. For nearly two hundred years after the coming of Onate (1680) the history of the pueblo tribes is one of Apache rapine. To-day, with but two exceptions, no pueblo in New Mexico occupies the site it held in the sixteenth and early in the seventeenth

century, or before, let us say, the inception of the Apache invasion. The exceptions are Acoma and Isleta. The former pueblo occupies the mesa which it held when Coronado passed through the country. The reason is plain—the mesa was not continuously occupied on account of its impregnable character, but because of the inexhaustible water supply for domestic use in a natural cliff near the summit. While Isleta stands on its prehistoric site, as determined by Mr. Lummis, the habitancy of the pueblo has not been continuous.

Notes on Shippo. A Sequel to Japanese Enamels. By James L. Bowes, author of "Japanese Pottery," etc. London: Kegan, Paul, Trench, Trübner & Co., Limited, Paternoster Row, Charing Cross Road.

The Japanese enamels described in this book are marvels of art and are very ancient. They are of two kinds—the *cloisonne*, in which the designs are formed upon metal, by fine ribbons of the same material being soldered upon the base, and the *champleve*, in which the enamels are hollowed out of the hollow base. They belong to three periods—ancient, middle and modern, the ancient period dating from 660 to 781; the middle period from 782 to 1183; the modern from 1184 to 1868. The Japanese enamels are in contrast with the Chinese, though they are supposed to have been introduced from China rather than from Corea. Glass making, under the title of *shippo* work, was common in Japan from the fourth to the tenth centuries, and was revived in the sixteenth century. Mirrors are made of glass, also beads. It appears that this style of art has required a great deal of experience, as well as skill, as only a few have been able to acquire it. The modern workers have found their models in the middle period. It is stated that the form of the vases lacked grace in common with most of the other art works of the country. Still the beauty and delicacy of the enamels of the Hirata works are beyond compare. The book is full of photographic plates, and is of itself a work of art. The author, Mr. James L. Bowes, is evidently a man of fine taste, and is fortunate also in securing such excellent publishers.

Annual Report of the U. S. National Museum for the year ending June 30, 1895. Washington. 1895.

The articles which will interest archæologists in this report are as follows: A description of the Models of Human Figures, given by the Assistant Secretary; Chinese Games, Dice and Dominos, by Stewart Culin; Primitive American Armor, by Walter Hough, Ph. D.; Notes on the Ethnology of Thibet, by W. W. Rockhill; A Description of two Castes, A Plea for Museums to Illustrate Human History, by Cyrus Adler, and an article of Public Libraries, why not Public Museums, by E. F. Morse. We learn from the first article the following facts: For fifteen years the National Museum has been constructing models of human beings for exhibition. These figures show the peculiarities of the different races, also their costumes, weapons, instruments and handicrafts. The following may be mentioned: A Congo warrior with shield and spear, a Japanese man and woman with the usual dress, a Yankton Sioux with costume as a female, also a Choctaw squaw, a Samoan youth, a Dyak warrior, a Xivard Indian in feather costume, Zuni bread-makers, Indian woman dressing hides, a Bushman, Matabale warriors, Zulus of Zambezi. We learn from the second article that dominos, cards and dice are common all over the globe, and are very similar in their

making. This suggests contact and it is accounted for on the law of parallel development. The most interesting article is the one on Shields and Body-Armor. We learn from this that these were very common among the natives of America. The volume is too thick and heavy to last well and would have been better if it could have been put into two volumes and the material classified according to the departments.

Transactions of the Wisconsin Academy of Sciences, Arts and Letters. Vol. X. 1894-1895. Edited by the Secretary. Published by authority of law. Madison, Wisconsin: Democrat Printing Company, State Printer.

This bulky volume of 620 pages contains articles on mathematics, birds, banks, geology of Conanicut Island, spider, carbon compounds, the erosive action of ice, economics, on *crustacea*, on boulder trains, geological services, and the origin of the Dells, but not a word about archæology or ethnology. The proposed Natural History Survey also leaves both of these departments out, notwithstanding the fact that the State of Wisconsin has a most interesting series of pre-historic works, and a very interesting aboriginal history. Is it because there is no competent person in the state to advocate or superintend these departments? Have not the universities and colleges a responsibility in the matter? And the science of anthropology is certainly important enough to be recognized by the state which is so distinguished for its high grade of scholarship; and the academy which has been so distinguished for ability and thorough work should have some representative of the department among its members.

The Literary Digest. Funk & Wagnall Co. Publishers, New York.

This journal contains the portraits of Dr. A. H. Sayce, Prof. Francis A. March, and several other distinguished philologists. Its articles on archæology are well selected and valuable.

Voyages des Pelerins Bouddhistes. Les Religieux Eminents. Qui Allèrent Chercher La Loi Dan Les Pays D'Occident. Memoire Compose A L'epoque de La Grande Dynastie Tang. Par I-Tsing. Traduit en Francais. Par Edouard Chavannes. Paris. 1894.

This is a book of 217 pages. It treats of the voyages of the Buddhist priests in China during the epoch of the great Tang Dynastie, 618-906 A. D. The volume contains many Chinese characters, and is very learned in the history of the period.

Materiaux Pour l'Histoire de l'Homme Revue d'Anthropologie—Revue d'Ethnographie Reunis. l'Anthropologie, Paraissant tous les deux mois sous la Direction de MM. Cartailhac, Hamy, Topinard. Paris: G. Masson, Editeur. 1894.

"The Feminine Divinity and the Sculptures upon the Menhirs," by E. Cartailhac, is a very interesting article. It is followed by The Sculptures in Europe, showing the influence of Greek and Roman, by Salomon Reinach. These articles should be read together, for the figures and symbols are very similar.

Minnesota Historical Collections. The Mississippi River and its Source. By Hon. J. V. Brower.

The Report of the Survey of the Source of the Mississippi, by Hon. J. V. Brower fills 360 pages. It is attended with many plates and wood cuts. Some of them portraits, others maps. The half-tone cuts, taken from

photographs, illustrate the scenery. The maps are valuable, for they give the history of discovery. The portraits are also interesting, for they bring down the record to modern times. It is a volume which will go down to posterity as a monument of patient literary investigation and personal explorations, which will perpetuate the name of the author.

The American Historical Register. Genealogy, Biography, History and Heraldry. The Historical Register Publishing Co., Philadelphia.

This is very elegant in its style and is mainly devoted to the "old colony" period. The August number contains an article on Lafayette's visit in 1824, and one on Old Kentucky Watering Place, by Sallie E. Marshall Hardy.

Palestine Exploration Fund. Patron—The Queen. Quarterly Statement, London; Hanover Square, W.; and by A. P. Watt & Son, Hastings House, Norfolk Street, Strand, W. C.

The explorations and excavations of Jerusalem by F. J. Bliss, Ph. D., form a most interesting part of this report. There are others on the Stoppage of the River Jordan in 1267, by Rev. Canon Dalton and W. E. Stevenson, Esq., which explains the miracle in the time of Joshua. The Identifying of the Cave of Adullam, by Rev. W. F. Birch, and The City of David, by Rev. D. L. Pitcaim, also Lapping of the Water, by Rev. A. Moody Stuart. A Journey in the Hauran.

Proceedings of the American Antiquarian Society for '94 '95.

The Past and the Present in Asia, The New-found Journal of Chas. Floyd, The Aborigines of the West Indies, Rival Claimants for North America, by Justin Winsor; Analysis of the Pictorial Text Inscribed on the two Palenque Tablets, by Philipp I. J. Valentini; Scotch-Irish in America, by Samuel S. Green; and the Story of Chequamegon Bay, by R. G. Thwaites; The Food of Certain American Indians, by Lucien Carr. These are the most notable articles.

Sixty-fifth Year of the Bibliotheca Sacra. A Religious and Sociological Quarterly, conducted by G. Frederick Wright and Z. Swift Holbrook, Oberlin, Ohio: Bibliotheca Sacra Company.

The article by Prof. G. F. Wright, entitled Prestwich on the Deluge, and that on the Triumph of Assyriology in the October number are well worth reading.

Bulletin of the American Geographical Society. Published Quarterly. New York.

The first number contains an article on Korea and the Koreans, by Wm. Elliot Griffith, D. D.; the second, A Journey up the Yukon River, by Israel C. Russell; the third contains The Coast Desert of Peru, by Alfred F. Sears, C. E. All of these are scholarly and interesting.

The Popular Science Monthly. Edited by William Jay Youmans. New York: D. Appleton & Co.

Many articles on archaeology and anthropology will be found in this popular magazine. The following are specially worthy of mention: The Beginning of Agriculture, by M. Louis Bourdeau. Archaeology in Denmark, by Prof. Frederick Starr. Race Mixture and National Character, by L. R. Harley, A. M. Professional Institutions, by Herbert Spencer. Sur-

vivals of Sun-worship, by Fanny D. Bergen. Trades, and Faces, by Dr. Louis Robinson. Ancestor Worship Among the Fijians, by Basil H. Thomson. Primogenial Skeletons, the Flood, and the Glacial Period, by H. P. Fitzgerald Marriott. The Aims of Anthropology, by Prof. Daniel G. Brinton.

The Atlantic Monthly. Devoted to Literature, Science, Art and Politics. Boston: Houghton, Mifflin & Co. The Riverside Press, Cambridge.

There have been many articles during the year in this valuable magazine which will interest our readers. Among these we will mention the following: The Secret of the Roman Oracles, by Rudolfo Lanciani, in the March number. Flower Lore of New England Children, by Alice M. Earle, in the April number. A Pilgrimage to the Great Buddhist Sanctuary of North China, by William Woodville Rockhill, in the June number. John Smith in Virginia, by John Fiske, in the September number.

The History of Greece. For Colleges and High Schools. By Philip Van Ness Myers, L. H. D. Ginn & Co. Publishers. Boston.

This is an excellent text-book and has the merit that it is up to date. The chapters are short, but comprehensive. The style is terse and forcible. The numerous wood-cuts illustrate the text. Some of them represent the treasures of Priam and Schliemann's discoveries; others, the battles of the Trojans, as depicted upon the ancient vases. We get a good view of the different styles of architecture from the wood-cuts, as well as various portraits and coins. The ancient temples were taken by photograph and were, therefore, correct. The restorations of the temples are, however, not so satisfactory. There is always a charm about Greek history. It differs from all other history in this respect—one never tires of reading it. The book is really a work of art, and is valuable for the cuts, if for nothing else; but the letter press is excellent.

The Indian Antiquary. A journal of Oriental Research in Archæology, Epigraphy, Ethnology, Geography, History, Folk Lore, Literature, Numismatics, etc. Edited by Richard Temple, C. L. E. Major, Indian Staff Corps. Bombay; London.

Notes on the Spirit Basis of Belief and Custom. By J. M. Campbell, C. L. E. I. C. S.

