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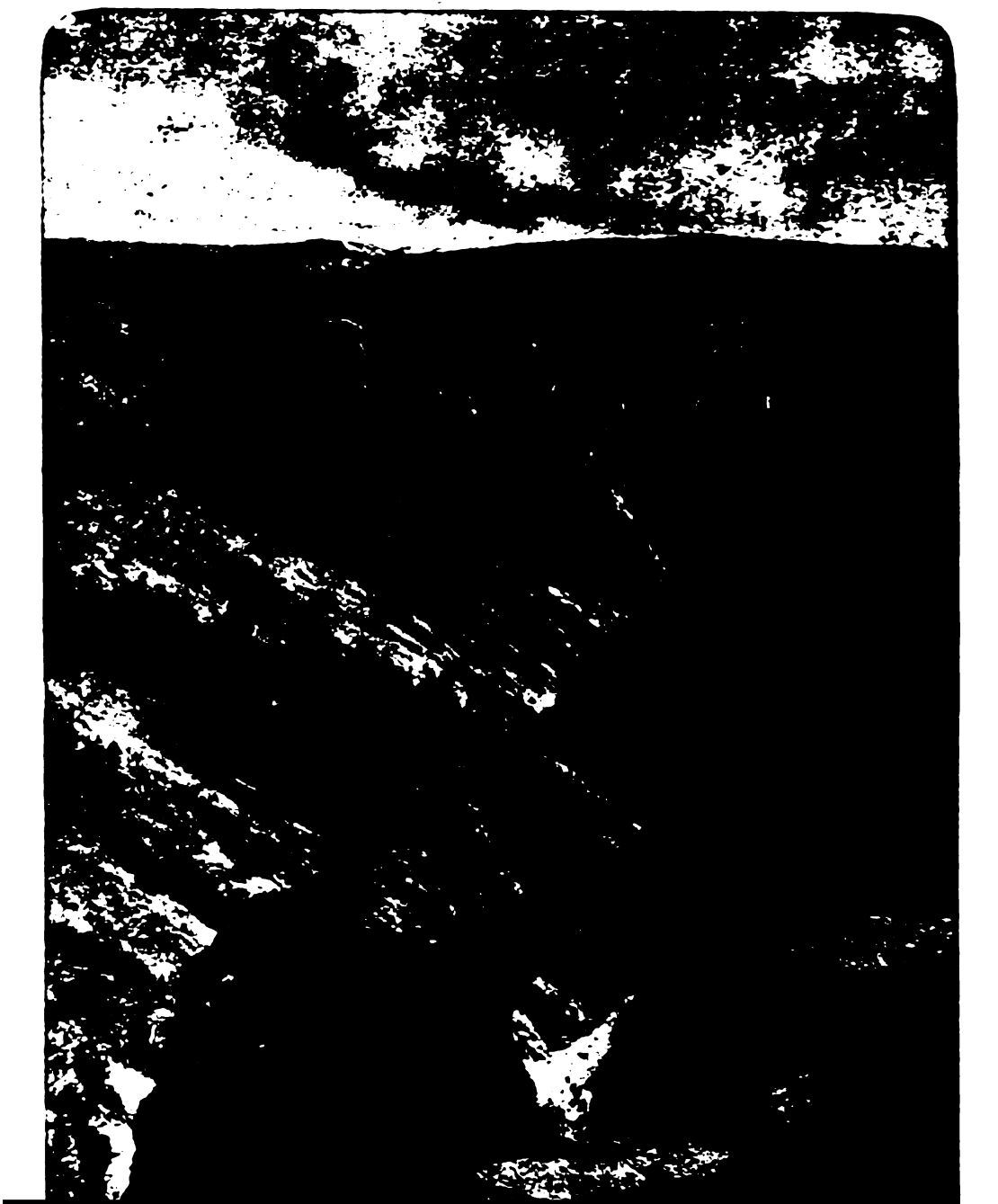
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*The American antiquarian
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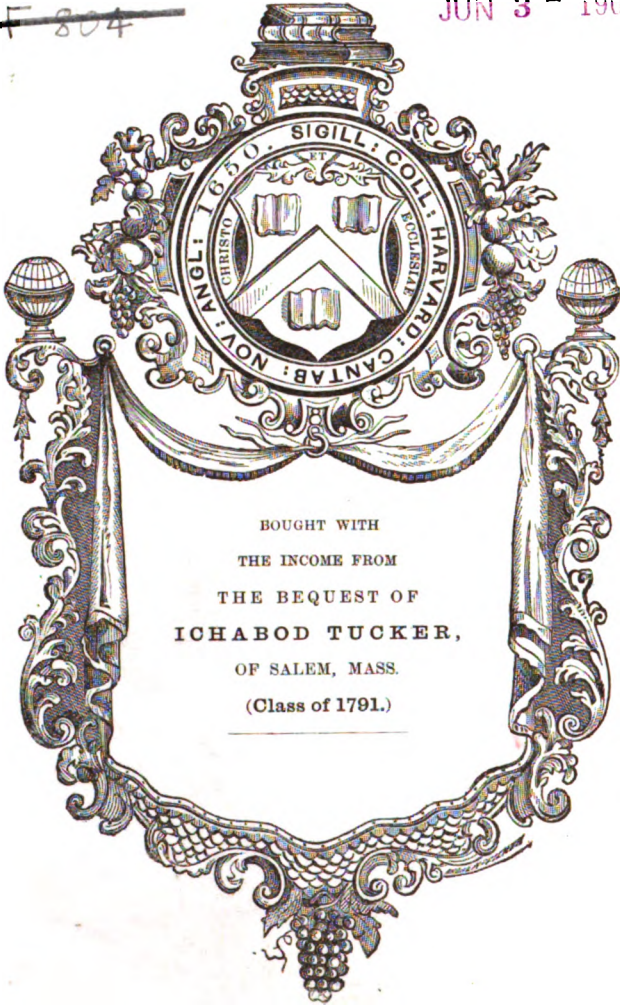
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JANUARY-FEBRUARY—NOVEMBER-DECEMBER, 1908.

REV. STEPHEN D. PEET, PH.D., EDITOR.

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1908.

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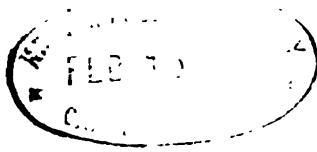
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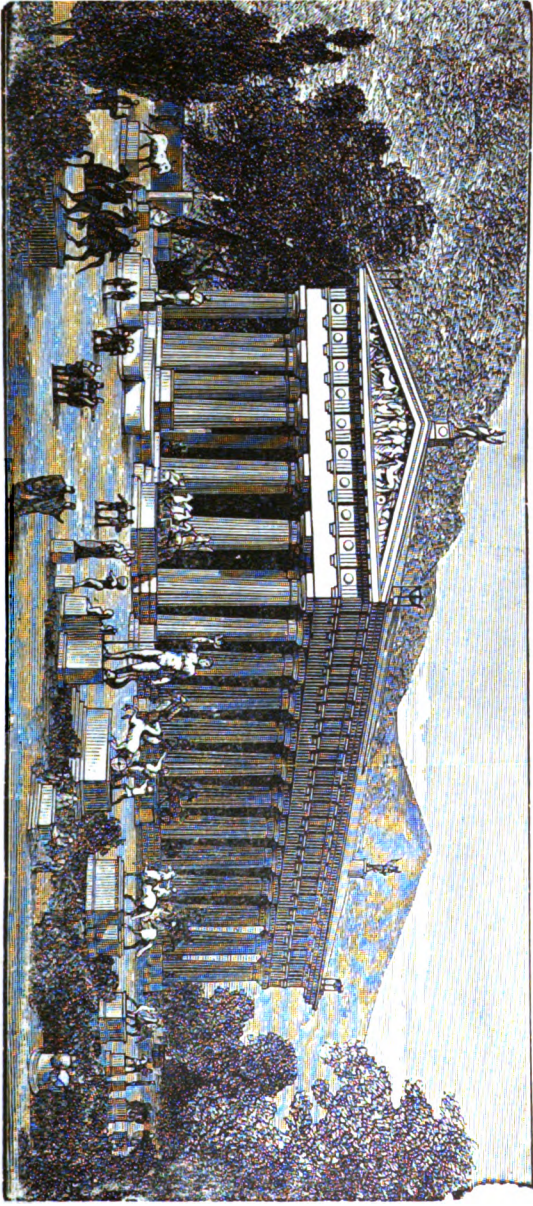
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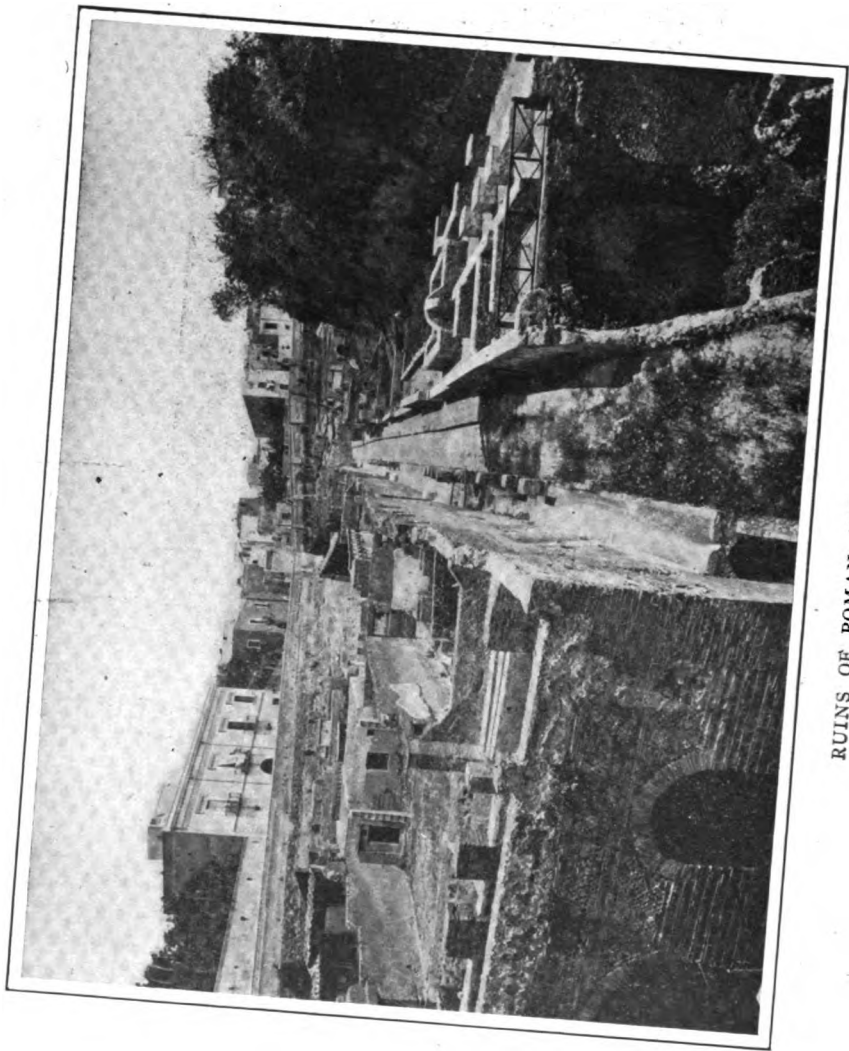
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GREEK ARCHITECTURE.



RUINS OF ROMAN ARCHITECTURE.

THE

American Antiquarian

VOL. XXX

JANUARY AND FEBRUARY, 1908.

No. 1

SOME PUZZLES OF ROMAN ARCHAEOLOGY.

BY J. O. KINNAMAN, A. M.

The Roman Forum and the Palatine Hill! What a volume of history in those words! No other equal area has had such a profound influence upon the history of the world. The Acropolis at Athens was a great and mighty factor in the evolution of the human race, yet it was as zero compared with the Forum and the forces that emanated therefrom.

In this valley between the Palatine and Quirinal were wrought the seeds of the Twentieth Century Civilization. Here the destinies of nations were decided, here was the center of the power that gave the world law, order and organization. This historical interest is not confined to the Forum alone, but every spot, every square inch within the walls of Servius is redolent with contributions toward world-good. We do not know all the places, we cannot locate all the things that played a part in this drama of civilization, for the topography of the city has its unsolved problems.

It is our present purpose to discuss some of these questions. We do not pretend to answer them, but mayhap we can offer helpful suggestions.

We will begin with the Palatine. This is the hill upon which the original Rome was built, be the founder whom he may. Here we find the oldest remains, dating from the Kingly Period. At the present it is covered with the remains of the palaces of the Cæsars, with the exception of a space 525 feet long and 318 feet wide at the west corner, where are found the relics of the Kingly Period sacredly preserved by the Emperors.

In the study of the Palatine there are several things that must be kept in mind:

1. The Palatine was originally almost square, each side measuring approximately 1,350 feet. It is now more nearly circular in form, measuring 1,240 feet in circumference; it is 154 feet

above the sea level and 96 feet above the present level of the city of Rome.

2. The Palatine was selected by Augustus as the site of royal residence, and on it was erected the first palace, the *Domus Augustana*.

3. Tiberius added a wing to the house in which he was born, the *Domus Germanica*, thus producing the second palace, the *Domus Tiberiana*. This palace he connected with that of Augustus by an underground passageway which still exists.

4. Caligula extended the palace of Tiberius toward the Forum, thus covering the entire northwestern portion of the hill.

5. Nero occupied the northeastern part with his Golden House. After the suppression of the Golden House, Domitian converted the grounds into the gardens of Adonis.

The Flavian Emperors gave the first unity to the different palaces. They also built the first separate state apartments (*Aedes Publicae*). The house of Augustus was rebuilt together with the so-called Stadium. Hadrian and the Antonines merely kept existing buildings in repair. Hadrian, by the way, did add the hexedra to the Stadium.

Septimius Severus added to this great mass of masonry a mighty range of buildings facing the Cælian. Later Severus Alexander and Heliogabalus added still more buildings. This in brief is the main outline of the topography of the Palatine.

Now we are ready to study some of the puzzles that confront the archæologist in this region. We speak of the Stadium just as if we knew exactly what it is. The name Stadium has been given to the edifice between the house of Augustus and the Baths of Septimius Severus. By some authorities it has been called the Stadium because of its shape and dimensions. It is 160 meters long by 47 meters wide. The true length of a stadium is 177.40 meters. Two fountains occupy the place of the goals. Another theory that holds its position pretty well is that this space was not a Stadium, but a *Xystus* or garden belonging to the house of Augustus. Its building is usually attributed to Domitian when rebuilding the *Domus Augustana*. But its original foundation must date from the time of Augustus himself. Undoubtedly in the time of the founder of the Empire it was merely a landscape of flower beds enclosed by a wall. There are no traces of seats, steps or porticos that would go to make a Stadium. It is further probable that Hadrian built the portico composed of two stories. Septimius Severus added the finishing touches in erecting the hexedra.

Theodoric was the last to rebuild the structure. Whatever it may have been before, Theodoric changed its purpose, at least.

The so-called arena was changed by him into a basin shaped like a bathtub, but it was not water tight, and therefore, could not have been used for that purpose. It seems that this last reconstruction must have been used for a small amphitheater, for the basin was built upon about three feet of rubbish. This last demonstrates the fact that the building must have been in a very ruinous condition when it was rebuilt for the last time; this, must have been caused, in part at least, by the same earthquake that wrought havoc with the Coliseum.

Now can it be stated what this building really was, and by whom its original foundation was laid? It is more than probable from its position that it was originally a flower garden laid out by Augustus, and was part of the pleasure garden of his palace. What it may have become later is a matter of mere conjecture. Xystus or Stadium, whichever it may be, a solution for its mystery, could one be found, certainly would throw a great deal of light upon the life of the Palatine. Our present knowledge engenders merely a dispute over technicalities that defy proper and clear-cut demonstration.

When Vespaſian was elected Emperor in 69 A. D., his first thought was that of reducing the imperial residence to its old limits of the Palatine. Therefore, in pursuance of this plan, he began to demolish the Golden House of Nero and build the Flavian amphitheatre. Yet, with all his zeal to appease public clamor, and at the same time to make himself popular, he could not refrain from building himself a new palace. This palace stood between the houses of Tiberius and Caligula on one side and that of Augustus on the other.

Domitian has been called a Midas. Everything he touched turned into gold. He was not content to build a mighty palace alone, but in accordance with his taste everything must be in proportion. Therefore it is necessary that this *Aedes Publicæ*, as Nerva called the palace, must have grounds that would help to display to advantage the great mass of masonry.

So Domitian laid out a garden of great luxury and, in accordance with oriental style, called it *Horti Adonææ*. The idea was borrowed from the Assyrians, who were accustomed to dedicate all such gardens to Adonis, the promoter of plant life. The question now presents itself for solution: Where was located the *Horti Adonææ*? The question is more easily asked than answered. When Domitian cleared away the remains of the Golden House on the northeast corner of the Palatine, it is more than probable that he converted the space thus acquired into the above named gardens. This is the only space that fits the marble plan of the city, a fragment of which we possess,

and on this fragment is the plan of these grounds. Its modern name is Vigna Barberini. Besides the marble plan we have some other proofs, though the evidence is not primary. In the Acts of Sebastian, Cardinal Wiseman has his hero martyred in a garden dedicated to Adonis. While the tale is not trustworthy as history, yet its topographical incidents are more or less genuine. We have other documentary evidence in the form of a map. Count de Rossi in commenting upon this map has marked out the principal structures on this corner of the hill. He marks everything accurately with the exception of one spot which he calls an unknown *coquina*. The church later dedicated a chapel on the spot where legend said Sebastian had been martyred. This chapel stood in a hippodrome of later imperial times. Now we know that the *hippodromo palatii* was the appellation of what is now the Vigna Barberini from the fall of the empire to the end of the tenth century. Thus, from one primary evidence and several secondary evidences, we can locate with some degree of certainty the Horti Adonæa, one of the most beautiful gardens of ancient Rome. But it will take more primary evidence to fully establish the location. Any visitor to the Eternal City cannot afford to miss a visit to this part of the Palatine.

One more architectural problem remains for our consideration before we turn our attention from the Palatine. Few remains in the city of Rome is better or more widely known than the Septizonium. While the structure of Septimius Severus is well known, archæologists and linguists are still discussing the meaning of the word "Septizonium." Septizonium was the name applied to that part of the palace facing south. From the name we would naturally infer that there were seven rows of columns (*septem zonæ*). These rows formed balconies. On the symbolical side they probably represent the seven planets or bands of atmospheres, which fad of building was just coming in at the time of Severus.

Jordan and others contend that there were not seven rows of balconies, but only three at most. The purpose for which it was built was to mask the structures behind it. If this be true, three rows would not fulfill this intent; it would not even mask the substructures. Drawings exist, 1560, which were sketched when the palace was in a ruinous condition; these drawings show three rows of balconies. The question is not so much as to whether there were three or seven rows as whether there were six or seven rows of porticoes and columns.

The existing ruins of the palace of Severus are 165 feet high. The Septizonium was built as a facade to this palace and as screen to the other buildings behind. If this be true, the screen

must have been very high, for the palace originally was much higher than the extant remains. If we were to balance probabilities in the light of known facts, it would seem to me that the weight of evidence must be toward the conjecture of more than seven rows rather than less that number.

Let us now move our view-point and betake ourselves to the Forum. While the area of the Forum is small, yet it has many unsolved problems.

When Romulus was fighting the Sabines, victory perched upon the banner of his enemies; in despair he prayed to Jupiter to stay the onslaught of the Sabines, vowing a beautiful temple to "the father of gods and of men." Romulus never fulfilled his part of the contract though Jupiter did. The temple was built by M. Atilius Regulus in 286 B. C. Now the question is: Where was this temple located and is there any extant remains? Classical writers place the temple of Jupiter Stator near the Mugonian gate, at the highest point of the Nova Via nearest the Summa Sacra Via. It was also included within the fourth region. These indications concur in placing the temple on the site of the Turris Chartularia. A famous bas-relief places the temple side by side with the Arch of Titus.

Usually a mass of concrete on the Palatine at the entrance of the palace of Domitian is pointed out as the cella of the temple. But this mass has nothing in common with the foundation of a cella. It is the foundation of one of towers built by the Frangipani. The blocks of peperino of which the Chartularia is built are probably from the cella of the temple. So, taking primary evidence into account, we may with certainty locate the temple beside the Arch of Titus with its entrance facing north. We may also reasonably conclude that the Turris Chartularia marks the site of the temple of Jupiter Stator. The query may arise: If the Chartularia marks the site, was the Arch of Titus built, as it were, upon the steps of the temple? No. Originally the Arch stood a considerable distance further north than its present location. Late in its history the Arch of Titus was moved and made a part of the fortifications of the Frangipani. When the Arch was moved the course of the Sacra Via was also changed. Keeping these things in mind, there remains no difficulty in making the Chartularia mark the temple of Jupiter Stator.

Between the column of Phocas and the street of Janus we come upon one of the most interesting relics of the Forum. These are the plutei or screens of white marble with bas-reliefs on either side. Each screen stands upon a comparatively modern base of travertine. These monuments were found in September, 1872. They have been of great value in unraveling the topog-

raphy of the Forum. Though some objects are represented in conventional form, yet they may readily be identified. On one side we have the Emperor seated upon a seggestum addressing a female figure, which Professor Renaud suggests is Charity bringing to the Emperor's notice the needs of Italy. One of the bas-reliefs represents the burning of the tax rolls. This act of generosity was performed by Trajan, so the Emperor must be Trajan.

The reliefs locate the Rostra Julia, the Arch of Augustus, the Temple of Castor and Pollux, the Basilica Julia, the Via Viscus, the Temple of Saturn, the Rostra Vetera and the Temple Vespasian, thus giving us in the main the topography of the Forum.

Now the question arises: What was the purpose of the plutei? In regard to this there are several theories advanced. Nichols suggests that they formed an avenue along which processions moved to an altar. Middleton advances the theory that they formed a gangway through which voters passed. Professor Planter, following Thidenat, gives them a place on the Rostra Vetera.

Whatever their original purpose, which no amount of technical discussion can settle at present, it seems certain that the plutei do not stand in their original position. They were probably erected in their present position by Diocletian after the fire of Carinus. Could it be that they are the frieze of some temple, all traces of which are now lost? We do know that three buildings stood near the column of Phocas and the present site of the plutei. The suggestions offered by Nichols, Middleton and Thidenat seem merely guesses.

On the west end of the Forum we have the most venerable of monuments, the Rostra Vetera, the platform from which, for centuries, the warfare of words was carried on between Democracy and Aristocracy. The platform was built between 449 and 438 B. C. At the former date the Volcanal is mentioned as the platform from which orators addressed the people, the latter date marks the first mention of the new tribune. The Rostra was consecrated by the Augurs when it was built. A building or work of any kind once thus consecrated could not be moved. If it fell into ruins and had to be repaired or restored, it must be on the same spot that the former structure occupied. So from a religious standpoint (religion ruled with an iron hand), it was impossible in any manner to remove it from its original site. But Cæsar could build a new Rostra. He took advantage of the opportunity and built the Rostra Julia at the opposite end of the Forum. Cæsar may have enlarged the Rostra Vetera and repaired the damages caused the revolution of the Clodians, but nothing more. We feel assured that the relative position of

monuments that remain *in situ* have never been changed in spite of the argument to the contrary.

The question has often been discussed: Where stood the equestrian statue of Domitian? In 1873 official announcement was made that this monument was found. But the archæologists were too careless in their observations and thus made a mistake. They identified a rough piece of masonry without foundation, resting directly upon the travertine pavement of Diocletian with this monument of the Golden Age. This piece of rough and careless work probably belongs to the *Caballus Constantini* which is mentioned in documents of the sixth and seventh centuries. It must be remembered that the monument of Domitian could not have survived the "*memoriæ damnatio*" and therefore was probably demolished on the very day of his death.

If this be true, any attempt to locate this monument from existing remains will be in vain.

There are many problems yet to be solved more interesting in many respects than the ones mentioned, but they are more complicated and technical than it is wise to discuss in this article. To illustrate a little further: The Pantheon—what is it? Who built it and what mechanical means were employed in its construction? How account for the portico? Again, have we a correct idea of the XIV regions of the city as mapped by Augustus? What is the correct location of the Lupercal, the Tarpeian Rock and the Gardens of Mæcenas? How was Rome buried, when did the Forum cease to be the meeting-place of the *populi Romani*?

We could go on multiplying these *ad infinitum*. All the problems that now confront us must be solved before it is possible to know all about Roman civilization and its influence upon our own civilization.

A work of serious erudition, in an historical field not yet completely covered, has been begun by Camille Jullian, professor at the College de France. The first two volumes of his "*Historie de la Gualie*" are only the beginning. They deal with the Gallic invasion and Greek colonization, and with the independent Gaul. Four other volumes are to follow: The Roman conquest and first Germanic invasions; government by Rome; Gallo-Roman civilization; and the Lower Empire. In the first volume there is a full treatment of two interesting questions—the Greek foundation of Marseilles and Hannibal's crossing of the Alps.

THE ARCHAEOLOGY OF LANGUAGE.

BY CHAS. W. SUPER.

By the term which stands at the head of this article we mean the study and investigation of the laws that govern the expression of the thoughts and feelings of men by spoken or written words. The term "archæology" is usually applied to a systematic examination of all those materials of whatever name or kind that convey to us the data for comprehending civilizations more or less extinct. An archeology of art, for instance, deals with painting and plastic, with architecture, with the modes and materials for writing, and with the domestic handicrafts. Human groups, therefore, that have not advanced beyond the fabrication and construction of those articles that are intended to serve merely an immediate use can have no interest nor furnish any materials for the archæologist. Such peoples as the Patagonians, but especially the Fuegians and Eskimo, the Kaffirs and Hottentots provide for him virtually nothing. They have no history and do not themselves show any interest in their own past; although they have probably been as long on the face of the earth as the Mesopotamians, the Egyptians and the Greeks of ancient times. Moreover, these rude tribes still exist while the Oriental peoples have long since passed away and left to us only the imperishable remains of their handiwork. But the archeology of language has this peculiarity and possesses this advantage that all the human groups on the face of the earth not only have an existence rooted in the far distant past, but they still use the materials that were employed by their remotest ancestors. The speech of the rudest tribes as well as that of the most advanced nations has, indeed, undergone important modifications in the course of time, but no radical changes. From a study of the language of the Innuits or the Papuans now in use we are able to form a fairly correct conception of what it must have been in the beginning, using the term "beginning" in a somewhat restricted sense. If we stand on the banks of the Missouri at St. Louis, or of the Ohio at Cincinnati, and observe the volume of water rolling by, we may form a tolerably just idea of the extent of country drained by these streams. It is true we may be mistaken. The Nile is probably no larger at Cairo than at Assuan or even higher up. But the fact that the river of Egypt is an exception in this regard does not invalidate the principle of reasoning by analogy in matters of this kind.

In the use of analogical reasoning for the study of human speech we are on comparative safe ground, because we have no justification to believe that the human vocal or-

gans were ever different from what they are now; or that the laws of phonetics still operative have undergone a radical transformation. Whether rightly or wrongly, philologists believe that they can deduce the original form of a word by the application of phonetic laws which may be formulated by an examination of a considerable number of examples that exhibit the same phenomena. For example, if we find in Sanskrit a root *pad*, in Zend *padh*, in Greek *pod*, in Latin *ped*, in Lithuanian *pad*, all having some relation to the foot, we may take it for granted that these roots were merged in one whence these words grew forth as branches. If then further we find in the old Norse *fjotur*, in Gothic *fotus*, in Old High German *fezar* and *fuoz*, with the same meaning, there is a strong presumption that these words also belong to the same group, or are descended from the same radical, notwithstanding some differences in their form. If then still further we find in French *pied*, in Spanish *pie*, in Italian *pie*, we have almost a demonstration that this entire series of words is related. If then further we are able to trace a large number of words in this way by observing a regular phonetic law we have evidence stronger than mere probability that all these words sprang from one common source and belonged to some language that was the parent of them all. Besides this, if in the oldest form accessible to our researches we find in a number of words the vowel *a* that recurs in other languages in a less sonorous and weakened form we may take it for granted that this particular word in the primitive language of this stock contained this vowel.

It cannot be said that a normal human being will learn to speak whether taught or not. This only takes place when he hears others speak; he must have some incitement. Deaf persons are, I believe, always mute. I knew two deaf-mute brothers who were good mechanics and more intelligent than some of their brothers and sisters who are said to be "all right." People spoke to them just as they were in the habit of doing to other persons, always, of course, looking them in the face, and had no difficulty in making themselves understood. It seemed hard to realize that they could not talk if they wanted to, or that they were not unhappy in their silence. On the other hand, normal children will invent a language if two or more are together, unless they get one from older persons. Although the study of languages on scientific principles is only about a century old the general subject has sporadically received some attention from remote times. Without taking into account what was done by the Chinese and Hindus it can be said that an answer was sought to the question: "What was the primitive language?" Herodotus

relates that Psammeticus, king of Egypt, was desirous of knowing who were the most primitive people; and not being able to find out devised the following plan: He ordered two children of the common people to be taken from their parents and brought up where they would not hear a word spoken, their attendants having strict orders to remain mute in their presence. After a time the children came running to their keepers with outstretched arms crying *bekos*. Having done this on two or three occasions the king set himself to work to ascertain in what language *bekos* was found and with what signification. He learned eventually that it means "bread" in the Phrygian tongue. Hence he concluded that the Phrygians were more ancient than his own countrymen. Plato, in the *Cratylus*, discusses the question whether words are natural or conventional; in other words, whether there is any reason why an object shall have one name rather than another. He does not inform us what his conclusions are. Aristotle, on the other hand, is clearly of the opinion that the signification of words is purely a matter of convention.

Lucretius, following some Greek predecessor, probably Epicurus, is convinced that nature compels vocal utterance and necessity invented names for things almost in the same way that children use gestures to indicate their wants. He thinks it silly to suppose that one person gave names to things, for if he had done so he would, in the very nature of the case, not have been understood by anybody. He can see nothing remarkable in this, since even the lower animals express feelings and emotions by vocal sounds. He explains at great length how language was gradually developed by association, going into detail as if he had been present and taken part in the proceedings. He is probably as nearly correct as the average newspaper reporter when he sends in an abstract of a scientific lecture. According to Diodorus, men originally roamed about singly; but in order to protect themselves against the attacks of wild beasts, they united into groups. Later, after they had begun to take notice of surrounding objects, they designated some by inarticulate, and later by articulate sounds. Finally they learned to express all their thought by means of words. According to Vitruvius fear drove word. It exhibits a phenomenon common to all languages that have not passed through a period of literary development in its lack of abstract nouns. For example, there are a number of men into groups; but it was the fear of fire produced by the accidental rubbing of branches. According to Lucretius man got his first fire from some object that had been struck by lightning. Subsequently, however, one of the primitive men approaching some burning object and becoming aware of its agreeable effects tried

to communicate his sensations to his fellows by gestures. In this way primitive groups arose. Various objects came to be designated by the same sound, and these sounds eventually developed into articulate speech. The method adopted by Psammeticus for discovering the primitive language was tried by other monarchs. Frederick II, Emperor of Germany, caused two babies to be isolated, but they soon died, it was believed, from a longing for the cradle song. A similar attempt is ascribed to one of the Great Moguls of India, which, however, also remained without results. Robert Henry, in his History of Great Britain, relates, on the testimony of Robert Lindsay (Pitscottie), an experiment made by James IV of Scotland which seems to have been suggested by that of the Egyptian king. As his words are not clear I give the quotation as it stands: "Whether to discover the primitive language of the human race, or to ascertain the first formation of speech, he enclosed two children with a dumb attendant on an uninhabited island of the Forth; and it was believed that the children on arriving at maturity communicated their ideas in pure Hebrew, the language of Paradise."

The three later attempts, each apparently made independently of the others, and of that made in the seventh century, B. C., prove that the belief arose spontaneously in different parts of the world and at widely different times that by means of experiments on very young children it would be possible to discover what was the primitive speech of the human race. Eunomius, bishop of Cyzicus, maintained that God had given names to things which were afterwards revealed to men. Gregory of Nyssa in opposition held that God had merely endowed man with the capacity of speech, but permitted him to invent the individual words according to his needs. Then, growing facetious, he remarks that it would be childish to suppose that God could sit down like a schoolmaster and amuse himself by giving names. He elaborates his general thought at considerable length and with a good deal of acumen. Dante believed that Adam was created with a language, but after the confusion of tongues this was forgotten. Then

"That he speaks

Is nature's prompting: whether thus or thus,
She leaves to you, as ye do most affect it."

The quotation is Adam's answer to a question of the poet regarding this point. Saint Augustine is followed almost verbatim by Saint Thomas Aquinas, whose teaching to the mediæval church summed up in the words: "*Significare conceptus suos est homini naturale, determinare autem est ad placitum.*"

These various opinions are interesting as representing the

views of thoughtful men before the rise of modern science. Within recent times the number of theories has become so great that they may be counted by the score. None of them, however, seems destined to obtain general acceptance. Here is a subject in the investigation of which fifteen hundred years show no advance. It is said that the French Academy of Sciences has a standing resolution to consider no book dealing with the origin of language.

Why does man speak? is a question that has often been asked within the last century, and perhaps as often answered. The general problem is an old one, although it is somewhat differently posited. The reply now generally given is threefold: Because his upright posture made possible for him the use and development of his vocal organs in a different way from other vertebrates; because, in addition, he was endowed with reason, and because, the possession of the proper organs being granted, speech and reason were developed together or *pari passu*. The late Professor Max Muller was the most redoubtable champion of the doctrine expressed in the formula: No language without thought; no thought without language. There is a sense in which this theory is indisputably true. If we include under language all signs and symbols that are intended to convey information, or are used in discursive reasoning, it will hold good. A rude drawing of several soldiers in uniform can be used to tell the same story as if I write: This is an army, or if I put down x plus y , to mean that two unknown quantities are to be added together. It is clearly established that elephants and dogs, to say nothing of less highly organized animals, carry out strains of reasoning in a way that cannot be wholly explained by instinct. Besides, it has been shown that men who have risen a good deal above the lowest stratum upon which the race is known to exist, manifest a conservatism that places them in some respects but little above brutes, in spite of the fact that they speak. When they have become accustomed to seeing their elders do a certain thing in a certain way and have begun to follow this routine, it is almost impossible to get them out of it. It is the observation of this fact that has led some of the foremost of the world's thinkers to deny the immortality of the soul to the great majority of the human race. Can a being have an immortal soul whose stock of ideas and words is completed with the age of mental maturity; who is as impervious to a new idea as a monkey; who seems to have even less intellect than a Newfoundland dog?

Albeit, there is a wide difference between the most intelligent sub-animal and a human being, apart from language. A brute

does perhaps sometimes learn from another brute, but no brute ever taught another of set purpose. The intelligence of the elephant and dog must be developed by man. Among men the individual counts for a great deal. There is usually one man who is wiser or more astute than others and who rises above the common level. It may not be much, but it is something. It is this exceptional ability which in the higher ranks of society is called genius. Genius creates or devises something that had no existence before. This exceptional power gives rise to important modifications of speech just as it creates new institutions. We cannot conceive of a community accomplishing anything of general utility without one or more leaders. History and tradition recognizes this fact by the prominence it gives to such names as Abraham, Moses, Lycurgus, and many others. The culture status of the Australians is usually placed lowest in the scale of progress; yet they have developed a system of writing, or means of intercommunication without the aid of writing, strictly so-called. "They were accustomed to send information, and even describe events, by incising peculiarly formed notches, lines and figures of wood, called 'message sticks.' These would be sent by runners for hundreds of miles, and could be read by the recipient through conventional meanings assigned to the characters." (Brinton.) We need not be surprised that an Australian had intelligence enough to invent such a system of inter-communication and not enough to work out a system of syllabic writing, seeing that this was done but once in the whole history of the human race.

The origin of language has probably been more written about than the origin of man. In fact the latter problem is of comparatively recent date. In earlier times it was no problem at all, since the answer given by myth or revelation was accepted as final. We still have the special creation theory which continues to be accepted by most persons. I have somewhere seen the belief attributed to the late Dr. Brinton that the first man was what we should call a "freak." Some pair of the lower animals by chance produced a being higher than either of the parents. This is special creation by accident. According to the current evolution theory he slowly and painfully, though unconsciously worked his way up from the brute creation, just as all animal life with its infinite complexity was developed from an original cell. When we attempt to answer this question by the ordinary processes of reasoning we realize the utter impotence of the human understanding. We know nothing of new creations; we only know change of form. When, however, we look about us we see on every hand something we are wont to call

matter. It is moved by a force which we may designate as material or as spiritual. But who will tell us whence came this force with its infinite ramifications? Have matter and force always existed? We can only answer in the affirmative, in spite of the fact that such an answer is contrary not only to all our experience, but is absurd, since according to the laws of our minds nothing can come from that which previously had no existence. This law is expressed in the familiar formula: "Ex nihilo nihil fit." It holds good within the entire range of observation and experiment. If then this is true of the smallest grain of sand and the simplest cell, how much more would it seem to be true of the illimitable cosmos that extends on every hand far beyond the bounds of the most vivid imagination? But we are wont to say: With God all things are possible. Whence then came God, accepting the dictum as well taken? Here then is the dilemma between the horns of which we must choose. If the matter is the result of a primal fiat uttered by an omnipotent Being, how came that Being into existence? The answer that he is self-created is also an absurdity according to the laws of our mind. Not only are we unable to conceive of dead matter coming into life or even into existence out of nothing, but it is even more impossible, if the expression be permissible, to conceive of a being endowed with infinite power and intelligence having such an origin.

While it may not be altogether beyond our ability to conceive of matter as being without a beginning, as it is about us on every hand and cognizable by the senses; Deity, on the other hand, is cognizable by the intellect alone; He is a deduction from the orderly arrangement of the macrocosm and the microcosm. We are therefore compelled to choose between the two hypotheses of which we have before spoken.

The primary psychic traits that are common to all human beings probably are: The Social Instincts, Language, Religion, and the Arts of Life. We may define religion in various ways. To make it sufficiently comprehensive it is best to speak of it as the recognition of the Unknown as controlling the affairs of men. Wherever man has become self-conscious his mind postulates a living Creator who is Himself uncreated; a first Great Cause.

The mere fact that persons are born with perfect organs is not proof that they will learn to speak. Nevertheless the fact that two or more normal children, when placed together, will form a language of their own may be accepted as irrefragable evidence that the faculty of speech is a primary one. It is spontaneous under all favorable conditions. It may not be inaptly compared to the electric fluid. We may place together any num-

ber of cells; we nevertheless do not get a current until we unite them. The electric fluid is spontaneously generated under the proper conditions, but the electric current is not produced in this way. To what extent speech is spontaneous may, to some extent, be learned from the history of grammar. A Welsh friend of mine who is a person of considerable intelligence and conversant with English grammar tells me that he can speak his native tongue readily, but cannot write it. Thoughts come into his mind in groups, not as separate words. Language was in use long before grammatical rules were deduced from it. All the grammars of the uncivilized tongues have been constructed by missionaries who first learned the language. Not one of the contributors to the Old Testament knew one part of speech from another. Hebrew grammar dates only from about the tenth century. A similar statement may be made of the Greek.

Dionysius, a Thracian who lived in the first century, B. C., was the pioneer in this field. This was centuries after the Greek language had passed the acme of its glory. The early Greeks studied rhetoric, that is speech in action, but they concerned themselves very little about the morphology of the individual words. The Homeric Poems were to some extent put into their present form nearly a thousand years before the Christian era and are the work of a number of different composers. Except here and there they are what we should call grammatically constructed; but it was done unconsciously. Children whose parents use a language correctly acquire it correctly by imitation without knowing why or how. The late Herbert Spencer thus gives his own experience: "Down to the present hour I remain ignorant of those authoritative directions for writing English which grammars contain. I cannot repeat a single rule of syntax as given in books, and were it not that the context has shown me the interpretation of the word when I have met with it in reading, I should not know what syntax means. Neither directly nor indirectly have I received any of the discipline which is supposed to be an indispensable means of insuring correctness of expression." Yet everybody knows that few writers of English express themselves with more force or greater clearness than Mr. Spencer. He is, however, an exception, and it would be unwise to adopt his method of acquiring a language for general use. But his example is instructive in showing what unusually gifted individuals can accomplish, and how talent and genius work. The great artists in every domain could tell a similar tale. They do not follow laws laid down by others; they are a law to themselves. Genius is a sort of transfigured instinct. Its marvelous and mysterious operation is nowhere more distinctly visible than in speech.

A few lead; the numberless host follows. Our accepted grammatical terminology is often sadly at fault and is wholly unsuited to many languages. But as it is the only one in existence and therefore the only one to which we are accustomed, we use it as best we may. It is not even suited to all inflected languages.

The Basque language is one of the most singular, and to any one but a native, one of the most difficult languages spoken on the face of the earth. There is some justification for the saying that the devil spent seven years trying to learn it, then gave up in despair. The forms now in use seem in a great measure to be remnants of much fuller ones that have in the course of time undergone all sorts of destructive processes, until in many instances only a single letter remains of what was once an entire word. It exhibits a phenomenon common to all languages that have not passed through a period of literary development in its different vocables to designate various plants and animals, but none for animal and plant in the abstract. As there are no ab-lack of abstract nouns. For example, there are a number of stract entities in nature this fact is almost proof positive that language is based on names given to objects that were visible or tangible or both. In some respects the verb is simple; in others it is very complex. Its complexity is caused by the manner of its use. It has only three modes: Imperative, Indicative, and Optative, and two tenses, Present and Imperfect, but an almost infinite number of conjugations. Each of these has four forms according as the speaker addresses an equal, an inferior, a superior, or a woman. In its tenses it agrees with the Semitic tongues; which have likewise a different form for the verb when addressing a man or a woman, and but two tenses. A personal pronoun common to all three genders is a peculiarity of the Germanic tongues. English *they*, German *sie*, Swedish *de* is masculine, feminine and neuter. There is no equivalent to this in Greek or Latin or in the languages derived from the latter. "They," if expressed, must be one of the three genders. In the Romance tongue there is, however, no neuter. The Basque language does not indicate sex; or as the grammars express it, knows no gender. As we have seen, many languages lay a great deal of stress on this feature. The Latin, in passing into the Romance tongues, lost the neuter, but retained the other two genders. When the Norman-French with its two genders came into conflict with the Anglo-Saxon with three, the product was, in the main, a genderless tongue. In their primitive stages the Aryan languages used all three genders in an utterly meaningless fashion. So little correspondence is there between them that knowing the gender of a word in one, rarely helps to recognize it in another. Why this con-

fusion in the primitive mind? We can see that it might personify all objects; but why some and not others? In Greek and Latin "sun" is masculine; in German it is feminine. The Greek has a neuter word for "eye" and another that is masculine. In German there is one word for "woman" that is feminine, and two that are neuter. In Latin and Greek the ending is to a limited extent a guide to the gender of the object it indicates, but it is by no means infallible. In German there are several words that have one gender in one dialect and a different gender in another. In the Slavic tongues the gender is as erratic as in Greek, Latin and German, the endings being about as safe a guide as in the two former. Although in English we have dropped all distinctions of gender even in our possessive pronouns, we still retain them to some extent in the personal pronoun. We can say "my father," "my mother," "my stick," whereas the Roman had to use a different word for each noun, "pater meus," "mater mea," "baculum meum." In the plural there are again three different forms to correspond with the English "my." In the matter of the personal pronoun the Finns and Turks have gone further than we have, for while we employ *they* for all three genders, we still say he, she it, in the singular to correspond with the gender of the object to which the object refers. Conversely, in Finnish *han* means he, she, or it, as does also the Turkish *o*. If we can dispense with the distinction of gender in speaking of an object in the plural there is no logical reason why we should not do likewise in the singular. If then *han* is the third personal pronoun in the singular, its plural might as well be formed regularly as if it were a noun. So we find accordingly a plural *he*, probably abbreviated from an earlier *hane*, just as the plural of *o* is *onler*. This procedure is almost as if we said *hes, shes, its*, instead of *they*. This is just what happens in the Algonquin also and is one of the marks of affinity between these widely separated languages. It may be added in this connection that the Innuït has the same characteristic, so that the third personal pronoun answers indifferently for *him, her* and *it*. It also has but one declension for nouns, pronouns as well as for possessive and participle forms. It will be interesting and instructive to show, in this connection, how the Turkish pronoun is declined. Let us take *bash*, "the head," and the third personal pronoun. We get:

<i>Nom.</i>	bash	o (<i>he, she, it</i>)
<i>Gen.</i>	bashing	aning
<i>Loc.</i>	bashda, <i>at the, etc.</i>	anda
<i>Acc.</i>	bashi	ani
<i>Voc.</i>	ey bash	
<i>Abl.</i>	bashdan	andan
<i>Instrum.</i>	bashla	aningla

The variations are probably due to the laws of euphony in regard to which every language follows its own course. Although the Turkish plural is uniformly constructed, it sometimes takes the form *-lar* and at others *-ler*.

In view of the wide and radical divergences, the fundamental differences among languages, and in view of the further fact that they fall into about three general groups, it is very improbable that they are all descended from one primeval source. Several books have been written in defense of this position; but none of them has received even a qualified acceptance among competent judges. While then a majority of competent anthropologists hold to the monogenetic theory of the origin of the human race, only a handful profess a belief in the monogenetic origin of speech. Even in historic times peoples have given up their native languages entirely and substituted another. Both Hayti and Peru are examples. The modern Greeks have such an infiltration of Slavic blood that their national identity has been in a measure destroyed. Ethnologically the Bulgarians are closely akin to the Finns, but they have completely forgotten their original speech and adopted that of the Slavs whom they conquered about a thousand years ago. It may easily have happened that in the long prehistoric ages a similar substitution of languages took place frequently. At any rate, not much stress can be laid on the speech of a people in determining their ethnic affinity.

It is probable that if a language could be found anywhere on the face of the earth that had been permitted to go the even tenor of its way from generation to generation it would vary very little from its original form. The fact, however, is that from time immemorial there has gone on among men conflict upon conflict to such an extent that one is strongly inclined to believe that man's natural state is one of war rather than of peace. When two peoples or two groups come together in whatever spirit it may be they try to understand each other. One result is that the language of both is more or less changed. R. N. Cust finds that the original language spoken by the great Bantu family of South Africa has been split up into one hundred and sixty-eight dialects. The Algonquin stock is said to be represented by thirty-five dialects that are spread equally wide. We know what happened to the Latin in comparatively recent times. The fact that out of the same original were developed languages differing so widely from each other as the Portuguese, the Italian, and the Roumanian can be accounted for only on the supposition that each one is the result of the contact of the speech of the Romans with a different language spoken by the natives of these provinces.

We see much the same results growing out of the conflict of the Anglo-Saxon with the Norman French. This conflict not only produced the comparatively wide divergence existing between the English and lowland Scotch, but likewise the various dialects spoken in the different English counties, where the older language already exhibited marked differences as the effect of the earlier Teutonic conquest of the island. We can easily imagine what the result would be if two persons, one having an imperfect knowledge of English, the other of German, were to be placed together by themselves and be compelled to get along the best they could.

In 1886 Horatio Hale, a son of the well known authoress, Sara Josepha Hale, and himself a distinguished anthropologist, delivered an address before the Anthropological Section of the American Association for the Advancement of Science, on the Origin of Language, and the Antiquity of Speaking Man, that throws a good deal of light on the former problem. Among other evidence adduced he cites the case of two boys born in a suburb of Boston in 1860 who were constantly together and who not only invented a language of their own, but for a long time refused to learn any other. "They had a language of their own, and no pains could induce them to speak anything else." It was finally concluded to send them to school, they now being six or seven years of age. "For a week," as the lady teacher described to whom they were sent, "they were perfectly mute; not a sound could be heard from them, but they sat with their eyes intently fixed upon the children, seeming to be watching their every motion—and no doubt listening to every sound. At the end of that time they were induced to utter some words, and gradually and naturally they began, for the first time, to learn their native English." A certain Dr. Hun, of Albany, N. Y., thus relates a similar case. "The subject of this observation is a girl four and a half years, sprightly, intelligent, and in good health. The mother observed when she was two years old, that she was backward in speaking, and only used the words 'papa' and 'mama.' After that she began to use words of her own invention, and though she understood readily what was said, never employed the words used by others. Gradually she enlarged her vocabulary until it has reached the extent described below. She has a brother eighteen months younger than herself who has learned her language, so that they talk freely together. He, however, seems to have adopted it only because he has more intercourse with her than with others; and in some instances he will use a proper word with his mother, and his sister's word with her. She however persists in using only her own words, though her parents, who are un-

easy about her peculiarity of speech, make great effort to induce her to use proper words." Some of the words, we are told farther on, had a wide range of meaning, "gummigar," for instance, signifying "all the substantials of the table, such as bread, meat, vegetables and the like; the same word was also used to designate the cook."

About thirty years ago I had an opportunity to observe the first efforts of a child in learning to speak. He was in his thirteenth month, bright, healthy and vivacious, but not precocious. He chattered incessantly and seemed to find great satisfaction in the exercise of his vocal organs. Sometimes he would pick up a bit of newspaper and pretend to read aloud from it, although one could not distinguish any separate words. He was then summering at a farm house and took intense delight in the domestic animals, all of which he designated by the comprehensive name "chign," or "chikn," probably a first attempt to say "chicken," a creature with which he was most familiar. From this and many similar examples it is safe to infer that children make certain terms answer for a large number of objects that seem to them to belong to a general class; and from this as a starting point, gradually learn to differentiate and particularize. This same child showed in many ways that his intellect developed faster than his power of expression. So much was this the case that his aunt frequently remarked that he understood everything said to him.

Another case from the address of Mr. Hale. It refers to two boys resident in Toronto. "Their ages were about five or six, one being somewhat more than a year older than the other. The younger, however, was slightly the taller of the two. They were fine, intelligent boys, and were always together both at home and in the school. Although there were in the family five boys and a girl these children were left much to themselves, and had a language of their own in which they always conversed. The other children in the school used to listen to them as they chattered together, and laugh heartily at the strange speech of which they could not understand a word. The boys spoke English with difficulty, and very imperfectly, like persons struggling to express their ideas in a foreign language. In speaking it they had to eke out their words with many gestures and signs to make themselves understood; but in talking together in their own language, they used no gestures, and spoke very fluently." From these and other observations the author concludes that "it becomes evident that, to insure the creation of speech which shall be the parent of a new linguistic stock, all that is needed is that two or more young children should be placed by themselves in a condition where they will be entirely, or in a large degree, free from the presence

and influence of their elders. They must, of course, continue long enough in this condition to grow up, to form a household, and to have descendants to whom they can communicate their new speech. We have only to inquire under what circumstances an occurrence of this nature can be expected to take place." It is hardly too much to say that these facts, and others of a similar nature that are brought to light from time to time, come as near solving the problem of the origin of speech as it will ever be possible to get. The different children here instanced are clearly cases of atavism of a particular kind such as are now and then see in the domain of biology. Both in the lower animals and in man organs still exist in a rudimentary state that have ceased to serve any purpose, while others sporadically appear that are explicable only on the supposition that they are a recrudescence of the primitive type. It is not too much to say that the most refined man has something of the beast in him. A highly developed moral sense and a strong will keep it under perfect control.

Athens, Ohio.

THE INDIANS OF PARAGUAY.

The Indians of South America resemble those of North America, but there are differences enough to raise many questions as to the origin of the two races or classes of people. An article in the *Journal of the Anthropological Institute*, Dec. 10, 1901, by Seymour H. C. Hawley, gives a number of plates which show the general features, forms and modes of dress of the people. The country is extremely flat, and several rivers flow from the Andes Mountains and into the Paraguay River. From the plates we may conclude that the people were in a state of savagery, but perhaps in a somewhat advanced condition, inasmuch as the women wear long skirts and the men have blankets which they fastened about the waist, leaving the shoulders bare.

Their habitations were very rude, but were constructed out of upright poles or timbers, with gabled roofs. In this respect they were unlike the tepees or wigwams of the North American Indians. They make pottery by hand. They use the bow and arrow, but have hoes which resemble modern ones. They have two kinds of spears, the blunt-headed or iron-headed, and the tipped or wooden-headed resembling a harpoon.

Their clay pipes are of primitive form. Their clay water jars are globular in shape with no ornament, but projecting knobs at the side with preparations through which cords are passed and used for carrying the jars of water.

The tobacco pipes are carved in the shape of the human head,

with an opening at the top for the tobacco. They have clay vessels which are pointed on the outside. Their musical instruments are of various kinds—wind instruments with reed mouth-pieces, wooden whistles, fiddles and bows, both of these with only one string.

The headdress of the Lingua Indians is very graceful and supposed to be quite an ornament to the head. Generally there hang from it scalplocks, tassels, and embroidered towels. The natives are well clothed, wearing blankets made of wool and dyed. A beadwork bracelet shows much interest and skill on the part of the natives. The pipes are generally made of wood.

Their religious beliefs are peculiar. They persuade themselves that they see the shades of dead people or ghosts. When a person dies his spirit is supposed to hunt his old home, and as a result the survivalists tear down the house and build a new one. Their story of the creation is that from a hole in the ground a witch doctor commanded that a man and a woman should come forth, and they came.

The people have a peculiar way of fishing. They make a fence or dam in the river with the trunks of trees and turn the water into a channel, into which the fish are passed and caught.

There is a pygmy tribe living in forests to the west which is shy and easily frightened. They practice magic and witchcraft, witch doctors being common among them. They have a peculiar way of visiting. They wind their way toward the village along a narrow path, while the friends in the village prepare to welcome them. The chief goes forward, and the leading women go out and relieve the men of their bows and arrows and place them in the open longhouse where strangers sit. The so-called chief resembles the father of the family; he is expected to provide for his followers and work for their welfare. They are unmusical, but have droning chants and use a flute made of bamboo or horn. The bow and arrow are the principal weapons.

The game of hockey is common among them, a sort of battle-dore and shuttlecock played by the children, and dancing is the chief amusement. The women have a dance of their own, where they seem to protect a young girl from the evil spirits. Their standard of morality is higher than with most tribes.

A new part of J. A. Almquist's "Sveriges Bibliografiska Litteratur" has appeared, issued in the *Handlinger* of the Royal Library of Stockholm, and also separately (Norstedt); it covers the history of public libraries in Sweden proper.

THE TREE OF LIFE.

BY HENRY PROCTOR, F. R. S. L., M. R. A. S.

Among all the nations of antiquity there are traditions of the Tree of Life. Among the Accadians it was called the "Tin-tir" or Life Tree. One of the earliest names of Babylon was "Tin-tir-ki," or Life Tree place. The tree of Life is represented as guarded by griffins, cherubs, or by eagle-headed deities. It was apparently called "Sakh" (Holy), which in Assyrian is "Asher"—the "Asherah" of the Amorites, sometimes translated "Groves" in the Bible. "The conventional form of tree so often found on the Assyrian tablets was that of a vine growing on a trellis. The vine was called in Akkadian "Iztin," or Wood of Life. The jeweled Tree of Life is found among the Chinese, Hindus, and many other nations. The Chaldæan Hercules ("Irgalla," Akkadian for the Sun) failed to gather the fruit of this tree, which was guarded by a serpent.

All these traditions point back to the garden of Eden, which, in the Septuagint and Vulgate versions, means: "Tree of Lives" (*Ets-khayyim*) and the "Tree of Knowledge of Good and Evil," or, as it might be translated by hendiadys, "the knowledge of pleasant evil."

While we may believe the story of the literal Adam, we see a far deeper esoteric meaning when we take the Garden as representing the body of flesh, into which the male-female Psyche descended, and from which the female or mother portion—the Eve or "living mother" was afterwards separated.

We learn from Genesis iv. 1, that the Tree of Knowledge symbolized carnal knowledge, for by the Fall they first discovered their nakedness, and it would seem that by continuing in the blindness engendered by carnal knowledge the way to the Tree of Life was barred.

Christ promises to the overcomer that "to him will I give to eat of the Tree of Life which is in the Garden of Eden of God" (Rev. ii. 7). To continue under the law of generation is to eat of the Tree of Knowledge; to escape from the seduction of the serpent and to come under the law of regeneration is to eat of the Tree of Life.

If the power of life is poured out in generation or wasted in lustful passions, it is evident that the body must suffer; must

be on the road to destruction. Even our scientific men begin to teach this fact very positively. In a great work on "Evolution in Sex," it is said that: "The temporary exhausting effect of even moderate intercourse is well known, as well as the increased liability to all kinds of disease, while the individual energies are lowered."

But higher than any other considerations do we place the teachings of the Master on this point in Matt. xix. 10-12: "All men cannot receive this saying but they to whom it is given. He that is able to receive it, let him receive it."

"It is good for a man," says the greatest of the Apostles, "not to touch a woman." It is only those who are thus "eunuchs for the kingdom of heaven's sake" who can possibly realize what it means to "Follow the Lamb whithersoever he goeth." "These are they who are not defiled with women; for they are virgins" —purchased from among men; first-fruits unto God and the Lamb (Rev. xiv. 4).

In the "age to come" the "nations of the saved" on the earth will have access to the tree of life, by eating of the fruit of which they will be enabled to "live forever" (Gen. iii. 22), as Adam would have done if he had continued to eat of it. But during the present age it is only to the overcomer that the promise is made that he should "eat of the Tree of Life" (Rev. ii. 7).

The Septuagint makes it very clear, in Isaiah lxxv. 22, that a continuance of life in the body is insured by eating of the Tree of Life, for it reads thus: "They shall not build and another inhabit; they shall not plant and others eat; for as the days of the Tree of Life shall the days of my people be." "The period of youth shall be an hundred years." Only the sinners shall be cut off at an hundred years old.

So that it is clear that disease and death are the direct result of the fall into carnal generation, but those who follow the lamb "whithersoever he goeth" are "virgins" "not defiled with women," "eunuchs for the kingdom of heaven's sake."

We are taught in the Sermon on the Mount (Matt. v. 8) that carnal lust is equivalent to the act of adultery. This being so, it shows that without perfect purity of thought it is impossible to keep the law of Christ, which holds us responsible for our desires. What force this gives to the injunction:

"Guard well thy thoughts;
Thy thoughts are heard in heaven,"

And how it illustrates the fact that "as a man thinketh in his heart so is he."

Everyone who is willing may have mastery over the body if he will give attention to diet, as the Apostle Paul says: "Every

man that so striveth for the mastery is temperate in all things," so "I keep under my body and bring it into subjection." By following this course we are kept free from evil desires during our waking consciousness, and we find by experience that by retaining all the powers of life a much less quantity of food will serve all the needs of the body. So that instead of eating of the Tree of Knowledge, we are eating of a Tree of Life—forsaking a way which has from the beginning always led eventually to the death of the body, by preserving all the life in the body.

There is every indication in the Bible that sins against the body were the curse which ruined the Antediluvian World (Gen. vi. 2-8). But on the other hand Noah was said to be "perfect in his generations" (*tamim be-doroth-av*).

It is evident from I. Cor. vii. ff., that the Apostle Paul advised Christians to abstain from marriage: "I say to the unmarried and the widows that it is good for them to remain even as I." Only to those who could not gain the mastery and take control of the body he advises marriage (vv. 8, 9).

He no doubt practiced what he taught, and Philipians iii. 10-16 seems to indicate that he longed with intense longing for the immortality of the body. "That I may know Him and the fellowship of His suffering, becoming conformed to His death, if by any means I might attain to the "*exanastasis*"* or the out-resurrection—that is, from among the rest of the dead. This cannot mean the first resurrection, in which all the "blessed and holy" take part, of Rev. xx. 5; but must denote a special or extra resurrection; as he says also in II. Cor. v. 2: "Not that we would be unclothed, but that we would be clothed upon with our habitation which is from heaven. Not that we wish to die, but to be clothed upon now with our spiritual bodies, so that what is mortal may be swallowed up of life."

Of course the mere abstinence from carnal intercourse, and even the perfect conservation of all the life forces, is not sufficient to secure eternal life in the body, although the duration of life may be greatly extended by this means. But at present immortality such as the Apostle Paul longed for can only be secured by the highest spiritual attainment and perfection, for he himself declares that he had not then attained it. "Not as though I had already attained, or were already perfect, but I press on toward the goal unto the prize of the high calling of God in Christ Jesus." "They which run in a race, run all, but one receiveth the prize. So run that ye may obtain."

**Exanastasis ek ton nekron*. The only occurrence of this word "*exanastasis*" in the N. T.

SOME NATIVE LANGUAGES OF WESTERN AUSTRALIA.

BY R. H. MATHEWS.

PART I.

Like the aboriginal languages of all the Australian States the speech of the natives of Western Australia has been very much neglected. In 1842 Mr. Charles Simmons, Protector of the Aborigines, prepared an elementary grammar of the language spoken in the neighborhood of Perth, the capital of Western Australia. This language was practically the same as far south as King George's Sound. It also extended north from Perth about 150 miles or further. The grammar referred to was published in the *Western Australian Almanac* for 1842, which is quite out of print, and can be found now only in a few large libraries.

It is very much to be regretted that no author since 1842 has attempted the preparation of a grammar of any of the languages of Western Australia. With the view of placing the structure of the native tongue before the people of that State in the hope of inducing some of them to do further useful work in this wide field, I have rearranged Mr. Simmons' grammar, with additions which will make it more valuable.

ARTICLES.

The place of the English article is supplied by the various forms of the demonstratives representing "this" and "that." The English adverb "here," in its several native forms, is frequently treated as a demonstrative.

NOUNS.

Nouns have number, gender, and case.

NUMBER.—There are three numbers, the singular, dual and plural. *Yago*, a woman; *yago-gurdar*, a pair of women; *yagoman*, several women. The suffix *man* is a contraction of *manda*, all. Words ending in a consonant are said to take *arra* or *garra*, meaning "again" or "others," as, *gulang*, a child; *gulangarra*, several children.

GENDER.—Different words are used to distinguish the sex of the human subject, as, *yago*, a woman; *mamarap*, a man; *gulang*, a child of either sex. For animals, words meaning "male" and "female" are employed as postfixes to the animal's name.

CASE.—The cases are indicated by inflexions. The principal cases are the nominative, causative, genitive, instrumental, dative, and ablative. The *Nominative* merely names the subject at rest; as, *durda*, a dog; *yangor*, a kangaroo.

Causative.—This represents the subject in action, and is connected with a transitive verb, as, *yago-al budyor bianaga*, a woman the ground dug.

Instrumental.—This case takes the same affix as the *Causative*. *Ngadjo boat-al perthak bardaga*, I in-a-boat Perth-to went. *Durda gun-al bumaga*, a dog the gun-by was killed, or a dog was killed by the gun.

Genitive.—The genitive takes the suffix *ak*, as, *yago-ak wunna*, a woman's yamstick; *mamarap-ak giddyi*, a man's spear; *kumal-ak garrab*, an opossum's hole or nest.

There are inflexions denoting the dative and ablative cases, but the examples to hand are not sufficiently definite.

ADJECTIVES.

Adjectives follow the qualified nouns and are similarly declined. Comparison is generally effected by a reduplication, and the superlative is formed by the addition of the intensive particle *dyil*: *gwabba*, good; *gwabba-gwabba*, very good; *gwabba-dyil*, best.

PRONOUNS.

Pronouns are inflected for number and case, but are without gender. There are two distinctive forms of the first person of the dual and plural, depending upon whether the individual addressed is included or excluded. Again, there is a set of nominative pronouns for use with transitive verbs, and another set for use with intransitive verbs. These sets, however, are confined to the singular number of the first and second person; in the dual and plural the pronouns are the same for intransitive as for transitive verbs.

Singular	{ I	<i>Ngadjo</i>	<i>Nganya</i>
	{ Thou	<i>Nyundo</i>	<i>Nyinni</i>
	{ He	<i>Bal</i>	<i>Bal</i>

Ngadjo and *nyundo* have their terminations changed to *jul* in the future tense: *Ngadjul yonga*, I shall give. *Nyundjul watta*. Thou shalt go away.

I have omitted the pronouns of the dual and plural because the information yet to hand is not sufficiently definite for publication.

There are forms of the pronoun signifying "with me," "for me," "towards me," and other modifications to meet different shades of meaning. The pronouns of the third person frequently

take the place of demonstratives in all the numbers, a circumstance which accounts for the great diversity of the third personal pronouns, which have little or no etymological connection with the others. There are possessive forms of the pronouns in all the persons and numbers.

DEMONSTRATIVES.—The demonstratives in this language, by the combination of simple root words, can be made to indicate position, distance, number, etc. That, *nyagga*; this, *niddya*; that (is it), *alli*; belonging to that, *alluk*; this way, *wunno*; here, *yual*; just there, *alganya nyerung*; here, *inyene*; there, *inyanyellung*; that very one, *nyagabal*.

INTERROGATIVES.—Who, *nganni?* Who (did it), *ngando?* Who (will do it), *ngandyul?* Whose, *ngannong?* What (did it), *yanman?* What for, *yannung?* Where, *winjee* or *winjal?* Is it so, *kanna?* Which way, *injal ngwarros?* Why, *na-it-jak*.

VERBS.

Verbs have the singular, dual and plural numbers.

There is a form for each tense of the verb, as *bumawin*, beats; *bumaga*, did beat; *bumadjul*, will beat. Any person and number can be expressed by using the proper pronoun from the table given in an earlier page. The following is a short conjugation of the verb *buma*, to beat or kill. An example in the first person of each tense in the indicative mood will be sufficient:

<i>Present.</i>	<i>Ngadyo bumawin</i> , I beat now, or am beating.
	{ <i>Ngadjo bumaga</i> , I did beat.
<i>Past.</i>	{ <i>Ngadjo gori bumaga</i> , I beat just now.
	{ <i>Ngadjo karamb bumaga</i> , I beat a short time ago.
	{ <i>Ngadjul bumadjul</i> , I shall beat.
<i>Future.</i>	{ <i>Ngadjul burda bumadjul</i> , I shall beat presently.
	{ <i>Ngadjul mila bumadjul</i> , I shall beat by and by.

There are conditional, reflexive, and reciprocal moods, similar to those shown in my grammar of the Wiraidyuri language.*

ADVERBS.

The following are a few of the most commonly used adverbs of time: Now or today, *yai-i*; tomorrow, *binang*; yesterday, *mar-rok*; day before yesterday, *maira-jain*; immediately, *ilak* or *gwai-titch*; formerly, *karamb*; soon, *burda*; lately, *gori*; long ago, *gorah*.

Of place: Here, *inyone*, *yual* and *nyal*; there, *yellinya*; there, farther, *boko*; yonder, *bokoja*; where, *winyi*; before or first, *gor-*

**Journ. Anthropol. Inst.*, xxxiv, pp. 284—.

ijat; behind, *ngolanga*; last, *yuttok*; near or close, *bardak*; that way, *wunno*; here (in this place), *nidjak*.

Of quantity: How many, *ngamman*; more, *ngatti ngatti*; enough, *belak*; so many, *winnir*.

Of affirmation and negation: Yes, *kwa* or *kai-a*; no, *yuada*; never, *yuatjil*; not, *bart* or *bru*; nothing, *arda*.

Perhaps, *gabbain*; then, *garro*; indeed, *bundojil*; always, *do-wir*; between, *kardagor*; together, *danjo*; apart or separate, *wallak-wallak*; below, *ngardagan*; above, *yiragan*.

PREPOSITIONS.

These are always placed after the noun or pronoun. Without, *bru*; with, *gambarn*; among, *manda*; within or in, *bura*; on or upon, *ngadja*; after, *ngolang*.

CONJUNCTIONS AND INTERJECTIONS.

And or also, *gudyir* or *wen*; if, *minning*; or, *ka*; alas! *nyon*.

NUMERALS.

One, *gain*; two, *gudyal*; five, *marjinbangga* (meaning a hand); ten, *belli-belli marjinbangga* (the hand on either side, or both hands).

SURVIVAL OF OLD SEMITIC CUSTOMS.

BY MRS. GHOSU EL HOWIE.

A few years ago whooping cough was epidemic in Shweir (Mount Lebanon) and neighboring villages, and I remember being not a little surprised at being asked to contribute a trifle toward girdling the church. Naturally I wanted to know what was meant by "girdling the church," and I soon learned that certain good souls were going around collecting skeins of thread (or their equivalent, a few cents) in order to knot them together and thus form a girdle, which they fastened to the outside walls of the church in the belief that the patron saint, Our Lady, St. Theckla, St. Peter, or St. George, would take their devotees under their special protection and ward off the disease from the community. I asked the women why they did such things, since there was no authority for it in the Bible, nor in the teaching of their church. They replied: "Our fathers have told us it is an old custom. We don't know how it originated, but as we hear so we do."

Then I asked how the thing worked, and they said: "We leave the thread bound round the church all night. If in the morning it is light, dry and stiff, that shows that God is going to tighten His hold and deal severely with us, but if the thread is slack, loose or falls to the ground, then God will deal lightly

with us." This extraordinary consulting of the oracles reminds me forcibly of the action of Gideon in testing God by means of the fleece. *Judges* vi. 37-40.

Surely this custom is an interesting illustration of the old Semitic principle of solidarity between gods and their worshippers. Each skein represents an individual or family, and by uniting them in a circle the whole community thus encircled the local divinity and sought protection by putting itself in contact with the shrine.

Few people, however, nowadays see anything more in the custom than a mere charm. The making of things sacred by bringing them into contact with holy places is still a living factor in their belief. This ancient principle was put to practical use by Pindarus, the grandson of Alyattes, who in the year 562 B. C., when Cræsus was besieging the city of Ephesus, ordered it to be united by cords to the temple of Diana, which was seven stadia distant. Cræsus, seeing that the city and its inhabitants were thus protected, had respect unto the stratagem and granted the citizens their liberty.

I made a photograph of Mae Butros (St. Peter's), showing the skeins twisted together above the door and window. The fact that none of the churches were completely girdled shows that the original idea is being lost, although there are some who will tell you that according to old tradition it should be completed. When the skeins have served their purpose they are taken down and sold by the priest for the benefit of Our Lady or St. Theckla, as the case may be, and the people use them for knitting stockings or wicks for their lamps, or keep them as charms. But the utilitarian is rapidly supplanting the sentimental or religious idea in the minds of the people, and I heard that the priest had been asked to take down the thread "before it got rotten" from exposure to the sun and unfit for use.

Shweir, Mt. Lebanon, Syria.

Kristian Settervall's "Svensk Historisk Bibliografi, 1875-1900" (Stockholm: Norstedt), is a valuable contribution to bibliographical literature. Not less than 4,636 books and articles are here enumerated, dealing with Swedish history in its broadest aspects, including such contributory sciences as numismatics, heraldry, church history, history of education, law and literature, topography and biography; territories that at one time or another belonged to the Swedish realm are also included as far as those periods are concerned. The book has a full author index, but unfortunately there is no index of topics.

ORIENTAL DEPARTMENT.

EDITED BY
DR. CHAS. H. S. DAVIS.

As the result of the work of the German Archæological Institute in Jerusalem, which is under the direction of Prof. Gustav Dalman of the University of Leipzig, there have been issued two small volumes: "Volksleben im Lande der Bibel," by M. Lohr, and "Palastinische Kulturbilder," the joint product of R. Eckhardt, F. Zickermann, and F. Fenner. These writers worked independently of the dragoman and guide. Lohr describes the life and doings of the modern inhabitants of Palestine. The other three take the reader through the country, describing the life of the people, and giving attention to the historical sites and the field for archæological research.

An expedition, sent out by the Russian Imperial Geographical Society under the leadership of Prof. P. Koslow, will investigate the national characteristics and languages of Central Asia.

The Vienna Akademie der Wissenschaften has granted 25,000 kroner to Dr. Rudolph Poech for an expedition to the Kalahari desert in South Africa, to study the Bushmen, who are dying out, and to make phonographic records of their language, and especially of their songs, similar to those made by him in New Guinea.

Prof. Charles Clermont-Ganneau, of the College de France, has recently published a lengthy description of the striking results of recent excavations in the island Elephantine. They prove the existence of a Jewish temple of Jehovah in that place under the twenty-seventh dynasty (from Persia), with remains from the reigns of Xerxes, Artaxerxes, Darius Nothus, and the second Artaxerxes. They furnish names already known from the Bible, and one mentioned by Josephus. Says Prof. Ganneau: "Who knows? Our picks may yet discover, laid away in some secret 'geniza,' a copy of the sacred book which was used in the ceremonies of worship—a Bible anterior by five centuries to Jesus Christ."

Among the ruins of the ancient Greek city of Pagasæ, in Thessaly, a rare find has been made in the form of a grave monument decorated not, as usual, with reliefs, but with paintings. The fortunate excavator, H. Orwanitopoulos, distinguishes four colors, all of which are in excellent preservation. In view of the scanty materials at our command for a proper estimation of Greek painting and use of color, each new find of this kind is of great value. The stele is also decorated with ten interesting inscriptions.

Under the title "Altababylonische Rechtsurkunden aus der Zeit der I. Babylonischen Dynastie," Dr. Moses Schorr contributes a valuable monograph to the Proceedings of the Royal Academy of Vienna. In it the author gives a careful and exhaustive study of some eighty-five legal and commercial inscriptions, belonging to the period of the First Dynasty of Babylon, which he has selected from the large number of these documents published by the Trustees of the British Museum in their well-known series of "Cuneiform Texts." Dr. Schorr gives each text in transliteration and translation, with full explanatory notes, and he has furnished his collection with a useful series of indices giving the texts in chronological order, their classification according to the subjects with which they deal, lists of common and uncommon ideograms which they contain, a list of place names, and a very full vocabulary.

In *Die Schrift und Sprache der alten Aegypter*, which forms one of the parts of *Der Alte Orient*, Prof. Spiegelberg gives within the space of thirty-two pages, a sketch of the principal characteristics of the writing and language of the ancient Egyptians. He illustrates the writings of the earliest periods from an ivory tablet dating from the beginning of the First Dynasty, on which are engraved the rude forms of the earliest hieroglyphics. He then explains the ideographic and phonetic employment of the different signs, and shows how both language and writing underwent changes in the course of time. The later hieratic writing he illustrates by examples to each of which he appends a transliteration into hieroglyphic characters, an exact transliteration of the signs, a transliteration showing the probable pronunciation, and a translation.

The new periodical entitled "*Memnon*," edited by Dr. Von Lichtenberg, and devoted to the history of the art and civilization of the ancient East, presents a very favorable appearance. The introductory article is by J. Strzygowski, and is entitled "Bilende Kunst und Orientalistik."

Students of Sumerian philology have been quite busy during the past year, and a number of important works on the subject have been presented. Says Luzac's "Oriental List," apart from the scholarly discussion on the Sumerian problem continued by Professor Brunow and Halevy in the recent issues of the *Revue Semitique*, we mention here Professor Eduard Meyer's masterly work on the Sumerian Art, which throws a flood of light on a number of difficult questions connected with the chronology of the earliest inhabitants of Babylonia. Dr. Pierce has succeeded in preparing a second part of his serviceable "Materials for a Sumerian Lexicon, with a Grammatical Introduction," and Professor Fossey has brought to conclusion his important "Supplement" to Brunow's "Classified List," chiefly based on the recent editions of cuneiform syllabaries by the authorities of the British Museum, while Dr. Meissner has been able to bring out the third part of his "Seltene Ideogramme," practically covering the same ground and reaching as far as the cuneiform character for *Mar*. Assyrian scholars are thus obtaining a number of excellent textbooks for further investigation into the oldest tongue spoken in Western Asia in the third millenium B. C. As a first and most successful attempt at solving the intricate problem of the meaning of the infixes found in the Sumerian verb, we may mention here Dr. Thureau-Dangin's excellent article on this subject, which will shortly appear in the forthcoming number of Professor Bezold's *Zeitschrift fur Assyriologie*.

One of the most interesting and important questions concerning Biblical sites perpetually invites research and persistently evades solution: "Where is the land of Ophir?" Dr. Karl Peters at a recent public meeting in Berlin declared emphatically that this famous Biblical region is located between the Zambesi and Limpopo rivers. He told his German audience how he has discovered many shafts of ancient gold mines, five hundred temples, fortifications and other ruins of Phœnician origin. Dr. Peters affirms that the coins recently unearthed in Mashonaland belong undoubtedly to the time of King Solomon. His opinion is that no other part of Africa could have exported the ivory, silver and precious stones which are recorded in the Bible as coming from Ophir.

Against this theory, founded as it undoubtedly is on very plausible evidence, Bible students are still likely to maintain, on the testimony of *Gen. x. 29*, that Ophir was a section of South Arabia. Here down to the time of Ezekiel the Phœnicians still landed to procure gold and gems with which those famous sailors

and merchants of the ancient world traded in many countries distant from the Syrian shores.

Many erudite writers have attempted to identify Sofala, on the east coast of Africa, with Ophir, while yet others have located it in India. One of the most learned essays written on the subject is from the pen of Prof. Hommel, who argued that the ancient land of gold was Arabia Felix.

A hundred specimens of the silver Tetradrachm of Alexander the Great, part of a find of 500 pieces, made recently in Lower Egypt, have been brought to New York. They were found in an earthen jar hidden in the side of an ancient well, where they had lain undisturbed over 2,200 years. These pieces are very thick, and the silver is of great purity. They correspond in weight to the half-dollar. The obverse bears the head of Hercules in a lion's skin. The reverse shows Zeus seated in a chair, and all bear the name of Alexander in Greek. Many interesting monograms and mint marks were found in this lot, and some of the pieces bore the Greek word for the mint marks, designating the towns or cities where they were struck, such as the forepart of a ram, a bow, a warrior, a plow, a helmet, and so on. The coins are all struck in very high relief, so high that the modern bank teller would have trouble in stacking more than three or four pieces without their tumbling over. They were found at Luxor.

For the first time since its foundation in 1893 the Egypt Exploration Fund is permitting a year to go by without sending out an expedition. The treasurer's report, read at the recent annual meeting, indicated that if any new enterprise should be undertaken at present considerable encroachment upon the capital of the fund would be necessary.

As a special feature of the annual meeting Dr. Bernard P. Greenfell gave an account of the important papyri discovered by himself and Dr. Hunt during their recent research at Oxyrhynchus, where they previously found the Logia of Christ. The new finds include an ode by Pindar celebrating the simple life, and 800 lines of the work of an unknown Greek writer who, Dr. Greenfell believes, was a fourth century historian. The magnum opus of the findings, however, is 300 lines of a lost tragedy by Euripides called "Hypsipolis."

Discoveries of considerable importance to students of ancient Hebraic history are communicated to the German Palestine Society by Prof. Ernest Sellin; the period concerned lying between 2,300 and 4,300 years B. C. Excavations conducted by Prof.

Sellin near Eriha (Jericho) seem to confirm the theory first mooted by Flavius Josephus that the site of the original city of Jericho destroyed by Joshua at the sound of the trumpets is to be found a mile beyond the Mountain of Elisha, spoken of in II *Kings*, xi. 19-22. After the clearing away of a huge mound of debris, the remains of an ancient stronghold were laid bare, measuring some 1,200 feet long by 600 wide, surrounded by a wall of burnt clay, ten feet high. These, Prof. Sellin declares, are the best preserved relics of those remote times ever found in Palestine. In the seventeen apartments or chambers of this fortress interesting household objects were found, such as cooking ovens and stone knives. The most important finds are a hitherto unknown kind of ceramics, consisting of jars and lamps, many of exquisite workmanship and ornamented with images of animals, which remind experts of the best examples of Babylonian art. Among other objects brought to light are plates, mortars, grindstones and weights. Of special interest, according to Prof. Sellin, is a stone image eight inches high and a jar, unfortunately damaged, bearing ancient Hebraic characters, which are held to furnish proof that the Canaanites were well acquainted with these peculiar inscriptions at an earlier period than previous researches indicated.

An important archæological expedition is going to the oasis of Siwa on the western frontier of Egypt in the course of this winter. It will be under French auspices, and the leader of the undertaking will be the Viscomte de Mathuisieult, whose investigations into the hinterland of Triopolis a few years ago aroused considerable interest. This oasis, the site of the world-famous oracle of Jupiter Ammon, is expected to yield important results.

The new and first really substantial fragments of Menander, which have excited great interest from the description of Professor Croiset, have been published in plates from the original papyrus at the price of 25 francs. (Paris: Lefebvre.)

H. Poignon, French consul, begins at the Imprimerie Nationale the important publication of the Semitic Inscriptions of Syria, Mesopotamia, and the Regions of Mossul. The first part, a quarto volume, contains 42 inset plates. The second part will appear in 1908. The price of the two is 60 francs.

At the last general meeting of the Egypt Exploration Society, reports were read of the work during last year's campaign. Deir-el-Bahari, which is one of the most interesting sites in the area

of ancient Thebes, has now been completely cleared. In the temple of the Queen the most important discoveries have been the great altar—the first known in Egypt at that time—and the “birth-terrace,” the inscription of which gave the legend of the divine nativity of the Queen, and the description of her education and coronation as associate to her father. In the lower part was found the unique representation of the transportation of the two obelisks erected at Karnak, one of which is still *in situ*. Inside this temple were found also the ebony panel of a shrine and its door. The discovery of the funerary temple of Mentuhetep II is one of the most important discoveries made lately in Egypt. It is in a ruined state, but is the most ancient temple which we possess at Thebes, revealing, as it does, the art of the Eleventh Dynasty. M. Naville, in the course of his address, strongly recommended taking up another large and important work which might last several years, rather than change the site of excavations every year. He thought a worthy undertaking would be the clearing of Abydos, which already had been conceded to the Egypt Exploration Fund. Though several explorers already had worked there, a great deal still remained to be done. It was a field of research which extended from the first dynasties to the Ptolemaic times. Another important work of the year was the complete clearance of the remaining mounds which contained Greek papyri at Oxyrhynchus. These nearly all belonged to the fifth and sixth centuries A. D. In one mound were a number of literary fragments, beoing to a library largely composed of Greek lyric poets. A Gospel fragment gave an account of a conversation on the nature of purity between Christ and a Pharisee, which was supposed to take place in the temple at Jerusalem. It is probably to be regarded as an elaboration of *Matthew xv. 1-20*, composed between 150 and 200 A. D. The most important of the new classical texts consisted of the fragments of the lost “Hypsipyle” of Euripides. Another long papyrus contained a commentary on Thucydides, Book II, apparently written in the first century, but the authorship has not yet been determined.

The new volume (Part V) of the Oxyrhynchus Papyri contains only literary texts, including a fragment of an uncanonical gospel, the new Pæans of Pindar, and the portions of a new Greek historical work, which Drs. Grenfell and Hunt are now disposed to identify with the “Hellenica” of Theopompus. A cheap edition of the Gospel fragment by itself, uniform with the “Sayings of Jesus,” will be published simultaneously by Henry Frowde. It gives an account of the conversation between Jesus and a Pharisee, on the nature of purity.

None of the recent archæological discoveries in Egypt is more interesting than the recent one reported by Prof. Clermont Ganneau, who tells how the German scientific mission, working on the Island of Elephanta in the Nile, has dug up some papyri which, translated, turn out to be an authentic page to be added to the Scriptural book of Nehemiah. The document is long and interesting, but its inestimable value lies in the fact that it calls up historical figures familiar in the Bible, such as Johanan, high priest of Jerusalem, and Sanballat, the governor of Samaria. This papyrus, which has been deciphered by Prof. Sachau of Berlin, is a petition addressed by the Jewish inhabitants of the island of Elephanta, speaking through the priest Jeduyah and his colleagues, to the Lord Bagohi, the Persian governor of Samaria, in the seventeenth year of the reign of King Darius.

This goes to prove that the Jews were at Elephanta long before the destruction of Jerusalem, since the Darius mentioned has been identified as Darius II, whose seventeenth year would be 407 B. C. The Temple of Jerusalem was destroyed about 380 years before this time, and it is pointed out that this is not a very long time for a large and wealthy building to be built, to be destroyed, and for a petition for its rebuilding, as this document requests. The temple, therefore, must have been standing certainly during the period of the Babylonian captivity, and very possibly before the time of Nebuchadnezzar. Apropos of Biblical history, the papyrus seems to throw light on *Isaiah* xix. 19, the text of which runs as follows: "In that day shall there be an altar to the Lord in the midst of the land of Egypt and a pillar at the border thereof to the Lord." The papyrus would appear to show that the temple and pillar referred to were at Elephantine and not at Syene, as has hitherto, for the most part, been considered more probable.

The inestimable value of these new discoveries lies in their corroboration of the Biblical story, and, besides the names of Jehohanan and Sanballat mentioned in the Old Testament, the governor Bagohi is to be found in the historian Josephus in the Greek form Bagoas. Prof. Clermont-Ganneau, who gives the above details, has especial reason to be congratulated on this discovery, although not actually made by himself, since it seems to place beyond all doubt the correctness of the belief that the old temple of Jehovah was on the island of Elephanta—the belief that he was almost alone for a long time in holding against the majority, who located it at Syene, on the opposite shores of the Nile. At present he is in charge of a French mission subventioned by the Academy, by the Ministry, and also by M. Edmond Rothschild, which is excavating on the island side by side with

the German explorer, and the keenest rivalry naturally exists between the two groups, who are working literally shoulder to shoulder within a few yards of each other, each, however, with a radius exactly defined and marked out by wire fences.

The second edition of the "Hebraische Archæologie," by Dr. I. Benzinger, which, since its original publication in 1894, has been a great authority in its field, is to all intents and purposes a new work. While the former edition was largely under the spell of Wellhausen, the present work, on the basis of the best of modern "Panbabylonism," systematically arranges the wealth of data, old and new, to explain the antiquities of the Hebrews in their relation to the whole civilization of Western Asia, particularly of Babylonia. Benzinger is particularly qualified for this work, having for years been engaged in archæological investigations in Bible lands with headquarters in Jerusalem. A feature of this work is the 253 illustrations and the plan of Jerusalem. The work is published by Mohr of Tübingen, and the price is 10 marks.

In accordance with its announced plans to provide for the development of the Egyptian collection, the New York Metropolitan Museum of Art has placed on exhibition the first consignment of Egyptian works of art. It has also announced that the museum ultimately will receive from its expedition to the Pyramids of Lisht the great red granite altar of King Amenemhat I, and a number of other discoveries. From the Egypt Exploration Fund has been received also an important consignment of objects found in the excavation of the Eleventh Dynasty temple at Deir-el-Bahari, on the west bank at Thebes. The work was carried on by Prof. Edouard Naville. There is also some material sent over by Prof. Flinders Petrie from Gizeh, which is just south of the pyramid belt, and some from Rifeh, near Assiut.

Professor Francis Brown of the Union Theological Seminary has become a member of the general committee of the Palestine Exploration Fund, which has now ten American members. Dr. Brown will be in charge the coming year of the American School at Jerusalem, and this, it is thought, will promote the co-operation of England and America in the work of verifying and illustrating the Bible.

L. Bygden's "Svenski-Anonym-och Pseudonym-Lekicon," published at the expense of Svenska Litteratursällskapet in Upsala, has reached the letter O. It is a mine of information, not merely for Swedish literature, but for other literatures as well.

BABYLONIAN ASTRONOMY.

Dr. Kurt Lavis of the University of Chicago has an interesting article in a late number of *Popular Astronomy* on the Babylonian Calendar. Our knowledge, Dr. Lavis says, of Babylonian Astronomy, and Babylonian mode of calendar keeping, has until recently been extremely limited and inadequate. Beyond the fact that the Babylonians watched the stars and planets with great care, and that they were familiar with the *Saros Cycle*, our average textbooks on astronomy had very little to add. But it is not known to very many that during the last twenty years great strides have been made in this province of learning, and that modern authors who write on General Astronomy will do well not to dismiss this interesting chapter with a few words, as heretofore. The student who wants to inform himself adequately along these lines will find a wealth of information contained in the eighteen volumes of *Assyriologische Zeitschrift*, to which many authors on Assyriology and Calendography have contributed. He will do well to peruse with attention the articles written by Epping and Strassmayer, to whom, in the first place, is due the credit for a new understanding of the astronomy of those very remote ages. Furthermore, he is invited to read the conclusions which Edward Mahler has been able to arrive at, starting as he did from the foundations established on the one side by Epping, and on the other side by the world famous school of Chronology of Von Oppolzer.

The Calendar of the Babylonians was not clearly understood by scientists till Edward Mahler, the assistant of the geodetic survey of Austria, unriddled its mysterious construction, and revealed a system of great symmetry and comparative simplicity. It will suffice here to say that two kinds of year were used, a common year of 354 days, and a year of intercalation, which had a length of 383 or 384 days, divided into 13 months. Since it happens that the year of the tablet is a common year, we need but consider its beginning and record the length of the individual month. The beginning falls on the 21st of April, the average length of the month being 29.5 days. In the average length of the month we recognize the synodic month, which, as shown by Mahler, was known to the Babylonians with unusual accuracy. Since the month had to contain an integer number of days, the Babylonians alternated with months of 29 and 30 days, so that the length of the year was equal to 12 synodic revolutions of the moon. We are used to the universal custom of beginning the day at midnight, but this was not the usage of the Babylonians. They began the day at 6 p. m., and this custom likewise prevailed among the Hebrews. The reason for this peculiar

mode is evidently to be found in the fact that the Babylonians originally obtained the beginning from the light of the new moon, which becomes visible in the evening. After their system of accurate observation had furnished them a very precise determination of the length of the synodic month, it proved not to be necessary to have reference at the beginning of each month to the observations of the first light of the moon.

EGYPTIANS' VIEW OF DEATH.

The question is often asked why is it that the Egyptian tombs have yielded so large a number of model figures, single or in groups? The answer is an interesting one, especially to those who are visiting Egypt this season. There was no race of people who kept death so constantly before them as the Egyptians. It was before them all through their lives. The pious Egyptian built his tomb during his lifetime, he superintended its construction or its cutting out of the rock with all or even more attention than he paid to the erection of his earthly dwelling. He painted its walls with the happiest scenes in his life, or the most important events in his official career. His coffin was certainly, in the case of rich men, made before his death, and scribes often wrote themselves the copy of the Book of the Dead, which was to act as their guidebook in the next world. The tomb was furnished with models of various kinds—figures of servants, groups of men in various domestic occupations, brewing beer, baking bread, storing corn in the granaries, or slaying oxen for the feast. Models of ships and boats were placed in the tombs.

Of all of these there are fine examples exhibited in the Egyptian room of the British Museum. What was the secret of this great preparation? It lay in one belief that dominated everything in Egypt. That of magic. There is an old saying in the Talmud that ten parts of the magic were assigned to Egypt. To the Egyptian death presented no terrors, because of the belief that not only he, but all about him, would live in a land of eternity and everlastingness. No doubt of this can be admitted, in the face of the evidence from the tombs. The prehistoric inhabitants, as shown by the tombs in the British Museum, buried food-vessels or jars, and weapons with the dead. This implied a belief that he would require nourishment and protection in the next world. The ground work of this custom lay in the belief that every figure of an object, animate or inanimate, possessed a life or soul or double similar to the object itself; copies of the Book of the Dead, or other religious works buried with the dead or painted on the side of his coffin or the walls of his tomb pos-

essed a vitality which enabled them to repeat themselves, to instruct the deceased, and enable him to pass further through the under world. Were this not the case, what would be the use of burying them in dark tombs closed forever, or at least until opened by the tomb robber or explorer? This belief in magic figures is best illustrated by a class which is the most numerous, and of which there are thousands in the museums and private collections of the world. These are small stone, wood and faience figures of human beings, sometimes in the Osirian form—that is, of the deceased as identified with Osiris. These figures in the best period, from the eighteenth to the twenty-sixth dynasty, are clad generally in robes of common life, and carry a hoe, mattock, and basket over the shoulder like a field laborer. This costume exactly explains their position. They represent servants.

According to the Egyptian teaching, the deceased was compelled in the next world to labor as on earth in the fields of the great Osirian estate of the Fields of Peace. His work was that of the ordinary fellaheen—to hoe and sow the fields, to fill the canals with water, and to carry the sand of the West to the East—that is, Dr. Bridges suggests, to top dress the fields. No doubt in ancient times the custom was to slay at the tomb of the deceased certain servants, who would go with their master in the spirit to the next world, and there relieve him of these menial duties. Later the more humane custom was to make small figures of these workmen, the more according to the deceased's rank, and place them in the tomb, so that these doubles might perform the work. These little figures are inscribed with the Sixth Chapter of the Book of the Dead. Here we find that their name was Ushabtiu, or Answerers, a name of which the origin is explained. In the chapter the master tells them to watch the work, and when he is called to answer: "Behold! I am him whom ye call." He then says: "Watch ye at every moment, every hour. All work there, to plow the fields, to fill the canals with water, and carry sand from the West to the East." Again (answer), "Here am I when ye call." In these little figures we have the real solution of the custom of depositing these figures in the tombs and of painting domestic scenes on the walls. The laborers deposited in the granaries the "red and white" grain from "the Fields of Peace." The bakers baked "the bread that goeth not stale," the brewers made "the beer that goeth not sour." The butchers killed the oxen, the double of the funeral offerings. In the model boats he sailed on the Celestial Nile, or along the rivers and canals of his estate. So that really these figures enabled him to live a life as on earth. These figures,

by the unlearned, have been called Teraphs, or by many Egyptian toys, but a little research has proved them to be objects of much religious and scientific interest.—*W. St. C. Boscawen in The London Globe.*

THE PREHISTORIC HORSE AND ELEPHANT.

Advices received at the American Museum of Natural History indicate that the expedition of Professor Henry Osborn to the desert of Fayoum, Egypt, in search of the extinct ancestors of elephants, rhinoceroses and horses has been successful and that the party will return next month with tons of valuable material.

The most remarkable of the monsters unearthed by Professor Osborn is the *arsinoitherium*, named in honor of the Queen. This animal had a huge pair of horns projecting forward above the nostrils and a smaller pair of horns lying farther back. Its nearest allies, strange to say, are the extinct animals discovered in Wyoming and named the *dinoceras*, or *amblypoda*, in sands having the same geological age as those of Fayoum. Although as large as the *arsinoitherium*, and some of them endowed with three pairs of horns, none of them had a front pair of horns as large and as singular as those of the beast of Fayoum.

These specimens, so widely separated geographically, are considered as representatives of a great group of mammals which sprung from common ancestors. The huge horns of the *arsinoitherium*, set in a skull three feet long, with powerful jaws two feet long, having a complete series of most remarkable teeth, emphasize the present scientific view, that horns of animals were primarily not so much for defence as to enable the males to fight for supremacy in their own herds and to lord it over the females.

Another extinct wonder which Professor Osborn will bring here from Egypt is the *meritherium*, somewhat smaller than the last, which is undoubtedly an elephant, yet with little resemblance to one, as it was apparently trunkless and had only small, tooth-like tusks. That it was an elephant at all is shown by the teeth, undoubtedly mastodonlike. This animal is regarded as closely related to the ancestors of all elephants, if not the actual ancestor. From this piglike *megatherium* surely sprang the huge latter day elephant. The world was younger when the *megatherium* was evolved and animals were small. The ancestors of the huge dinosaurs were then little lizards; the ancestors of the horse were no bigger than lambs, and the ancestors of rhinoceroses were not much larger than pigs.

Professor Lull of Yale declares the first horses came to America two million years ago.

How North America was like a great stock farm, in which the horse was developed from a five-toed animal, eleven inches in height, to practically its present proportions, is graphically told in the March number of the American Journal of Science, which is soon to appear. The article was written by Professor Richard S. Lull, primarily as a guide to the paleontological collections in the Peabody Museum at Yale University, but is of great popular interest, as it contains a complete account of the evolution of the horse family.

Professor Lull says that nearly two million years have elapsed since the first diminutive horse appeared in North America. The animal was of both Asiatic and European origin, and must have come to the western hemisphere by traveling over land now covered by Behring Strait.

"First of the undoubted horselike animals appearing in the rocks of North America is a little creature not more than eleven inches high, known to science as *Eohippus*," he says. "This interesting animal had already made a long stride in the direction of the modern horse, as the number of toes were reduced to four in front and three behind."

Professor Lull then describes how the toes were gradually converted into the hoofs. Even in the living horses there are occasionally seen traces of the five toes in the forefeet.

DRUID CIRCLES ARE ASTRONOMICAL.

A fascinating mystery surrounds the Druids. Glimpses are given in the works of Latin authors of strange Hyperboreans living "beyond the sources of the north wind," ruled by priests who worked with incantations by means of mistletoe cut with a golden knife and offered human sacrifices on lonely stone altars under the stars.

Beyond this the researches of antiquarians and students of folk lore show that the tradition of these same Druids still survives in remoter parts of Great Britain, as local superstitions and festivals, sacred wells, and more than all, in peculiar rows and circles of roughly shaped stones. Such blocks are often of gigantic size, while it is not uncommon for a pair of stones each the size of a man to be capped with another as large, neatly mortised in place across the uprights.

The great circle at Stonehenge is one hundred feet across. One of the avenues at Dartmoor is more than one thousand feet

in length. Such monuments of a vanished faith occur all over the British Isles from Cornwall to the Orkneys.

Oddly enough, it happens that the most important of recent contributions to the knowledge of these mysterious priests and their temples has been made not by an archæologist but by an astronomer—Sir Norman Lockyer. For twenty years and more Lockyer has been studying ancient temples and other buildings, in Egypt and Greece as well as nearer home, endeavoring to make out their precise use as astronomical observatories.

It has long been known that ancient priests have generally been astronomers as well. It has been known also in a general way that most ancient temples have been placed to look toward the rising or setting point of some particular heavenly body. In fact, early peoples are prone to "worship the host of heaven," and many early religious cults are based on the adoration of some particular star.

It is, however, a new thing for a modern astronomer, aided by the resources of modern science, to put himself in the place of one of these old astronomer-priests and by refined methods of measurement make out exactly what the ancient worthy was looking at, and just when he did it.

Lockyer reasoned that the old astronomer-priests would be sure to mix up their religion with their science, and having built a temple for the worship of some heavenly body, would in addition make the deity useful as an almanac. Star gods can be utilized to tell the time by night. From the morning adoration of the sun god it is but a step to fixing the calendar by the successive points on the horizon where the divinity appears.

Lockyer's studies go back to that obscure source of religion and science, the land of Egypt. As a matter of religion the Egyptians worshipped the sun. As a matter of science they were especially interested in determining the summer solstice, because at that time began the annual rise of the Nile. In fact, the Egyptians were the only early people who had any particular interest in determining the longest day in the year.

But the early astronomers had no telescopes with spider web sight lines and micrometer eye-pieces. All they could do was to fix some sort of stone monument in line with the point of the horizon where the sun shone on a particular day.

Many Egyptian temples built between 2200 and 1500 B. C. have their long axes so placed that on the longest day of the year the light of the rising sun comes through a long line of narrow doorways and illumines a dark chamber at the further end. Thus the Egyptians knew when it was midsummer. Wherever, there-

fore, one discovers temples or other monuments oriented with regard to the rising sun on June 21st there one may suspect the influence of the Egyptian sun-worship.

Now it has long been known that the horseshoe line of blocks at Stonehenge looks toward this point of the horizon, and that other parts of the structure and one especially prominent sight line have also this direction. Lockyer made a careful determination of the position of this sunrise point at various past epochs, as it has changed slightly in the course of years.

Correcting his observations for the height of the horizon where the ancient sight line pointed, allowing for the refraction of the air and the apparent distortion of the sun's disc near the horizon, he computed that Stonehenge was built to face the precise spot where the sun rose on June 21 about 1680 B. C. The Druids, then, from about the year 1700 B. C. appear to have been priests of a religion which originated in Egypt some thousand or more years before, and spread along the coast as the early seamen made their way from cape to cape until it reached Greece on the one side and England on the other.

Stonehenge is therefore a monument to the religion of the pyramids. This same religion of the pyramids, moreover, has given us our own legal year, whose cardinal points are the solstices and the equinoxes.

GOLD LINED TOMB OF QUEEN TEIE OF EGYPT.

Theodore M. Davis, who discovered the tomb of the parents of the Egyptian Queen Teie, has just made another sensational discovery of the tomb and mummy of Teie herself at Thebes.

The London *Times*, in a long article describing the tomb, says it is a plain square sepulcher cut out of rock. It is approached by a descent of twenty steps and adjoins the tomb of Rameses IX. It was covered with about twenty feet of debris. Unfortunately the tomb lay in the bed of a water course, and the percolation of water has severely damaged such perishable objects as wood and the mummy itself. Apart from this, however, the tomb is in the same condition as when it was left by the priests amid the throes of a religious revolution which had spent its force before Moses was born. The tomb bears witness to the blind rage of the victorious priesthood at Thebes and the intensity of their hatred toward the heretic king, whose mother and inspirer was Teie.

After describing the work of desecration, the *Times* adds that nevertheless the queen's jewelry and the sheets of solid gold with which the sepulcher was literally filled were left untouched.

Wherever the excavators walked they trod upon fragments of gold plate and gold leaf. There was no sarcophagus, but a huge catafalque, which had been torn to pieces by the priests, had been erected over the mummy of the queen.

It was thickly plated with gold inside and outside, and engraved with the names and titles of Teie and her son, as well as with representations of their adoration of the solar disc. It is curious that the whole figure of the king had been destroyed while that of his mother had been allowed to remain unharmed. The coffin, with the mummy within it, had been carried to the south side of the tomb, where it lay upon a bier encrusted with gold and supported by four lion's claws, also of gold.

The woodwork of the bier, unhappily, had been converted into touchwood by the action of the water. The coffin, however, was intact, and it is a superb example of the jeweler's work. The wood of which it is composed is entirely covered with a frame of gold, inlaid with lapis lazuli, cornelian and green glass. The inlay represents for the most part a pattern of scales, but down the middle runs an inscription from which it is learned that the coffin was made for Teie by her son.

The mummy itself was wrapped from head to feet in sheets of gold. The water, which for so many years had been draining through it, had reduced it to little more than pulp, and it fell to pieces when it was examined in the presence of several Egyptologists on January 26. There were bracelets on the arms and a necklace of gold beads and ornaments of gold inlaid with precious stones round the neck, while the head was still encircled by an object priceless and unique, the imperial crown of the queens of Egypt.

ARCHAEOLOGICAL WORK IN WYOMING.

Harlan I. Smith recently returned from a superficial archæological reconnoissance of the southern half of the state of Wyoming. This region is near the center of a vast neglected field for archeological research to which Mr. Smith called attention in his contribution to the Boas Anniversary Volume of 1907.

The neglected area extends from the arctic region on the north to the Mandan remains of Dakota and the well known archeological remains of the Mississippi Valley on the east; to the Cliff Dwellings on the South and the rich archeological finds of the Santa Catalina Islands, the Sacramento Valley of California and the plateau culture of Washington, and British Columbia on the west.

The region is so vast and the problems are so numerous, that no one institution, much less any individual, might hope to more

than begin the work. The Museum has done this through Mr. Smith's preliminary trip. He endeavored to interest not only the local educational institutions, but all the great museums in the country to co-operate in the work.

Among the problems to be solved, the following may be mentioned: When did man first appear in the region? Judging from the results of exploration in other places, it may take many years of the combined efforts of all who are interested before extensive evidence on this point is discovered. What was the culture of these first inhabitants? Was there more than one culture in the area, either at various places or during different periods? How was the culture affected by the introduction of the horse? No doubt the coming of the horse to a people whose only beast of burden was the dog, caused a great advance in their culture, as it would enable them to travel further in search of food, to possess and transport more property and to become somewhat more independent of the scant water supply.

The larger part of the territory was inhabited by Indians belonging to the Athabaskan, Algonkin, Siouan and Shoshonean groups. An examination of the archeological remains will throw light upon the early history of these people and their migrations.

The central portion of the area was the home of the American bison, upon which the Indians, when first met by the whites, depended not only for their food, but for the material for their clothing, moccasins, covers for their tepees and ferry boats or rafts, backgrounds, upon which to paint their calendars, and other things of a like character. The horns and bones furnished them with material for various articles and implements, among which may be mentioned spoons, bowls, skin scrapers, etc.

After all the vaunted superiority of the white race, our people to-day are holding the cattle much as the Indian held the Buffalo. For instance, the Indians held the herds on the North Platte river in order that the tribes living north of the river might be able to get the buffalo all through the year, for if left to themselves, the herds would have traveled further to the south in the winter. Our round-up and general treatment of the cattle of the plains, resembles today and always has in wildness and cruelty the buffalo hunt of the Indians.

In the eastern part of Wyoming, some extensive quarries, where the prehistoric people found quartzite and jasper, out of which to make chipped implements, have been known for some years. Mr. Smith visited these, securing specimens and photographs, and also discovered other extensive quarries, some of them covering acres, in the same general region. Beside these,

notes were taken of still other quarries known to the local ranchers. Nearly everywhere in Wyoming, but more in the eastern part, circles of stones marking the sites of ancient tipis were found. They may be counted by the hundred in the southern part of Converse County. These stones were no doubt used to hold down the skin covering of the tipi. Stones are still employed for this purpose by the Blackfeet Indians in Montana, only a short distance to the north.

Pictographs painted in red and black, and petroglyphs cut or pecked on the cliffs were noticed, especially in the vicinity of the Wind River Mountains. A number of these were photographed; some of them represent horses, proving them to have been made since the white man brought the horse to America; others represented the buffalo.

Steatite pots in the form of an egg, with the tip of the largest end cut off, and apparently of a type unknown in other parts of America, were noticed, especially in western Wyoming. True pottery was rare. Less than a dozen sites where it occurred were found to have been located, and these were all well toward the southern part of the state. They probably mark the northern limits of the pottery in this portion of the area.

In the vicinity of Hammond in the Algonkin area, caves into which the wolves had dragged bones of cattle, sheep and other animals, and in front of which is much village debris, and a large number of tipi circles, as well as some petroglyphs, probably contain many remains, and this vicinity as well as the eastern slope of the Wind River Mountains, would probably repay detailed exploration. Several months' work in the latter region would be sure to enable the explorer to secure a collection of photographs, illustrating the art of the vicinity, as executed in the form of petroglyphs.

It would seem to be the duty of the students of the Cliff Dwelling and Pueblo region to explore northward into this vast neglected area, in an attempt at finding the northern limit of that culture. The students of the archæology of the Mississippi Valley have a similar duty to perform in determining the western limits of the agricultural culture of that valley, while the students of California owe it to the world to investigate the eastern portion of California and Nevada. The eastern limits of the plateau culture of southern British Columbia and Washington should also be defined.

DR. TYLOR ON THE STONE AGE.

The track or trail left by our ancestors of the stone age has for thousands of years attracted curious minds. Hesiod had his theory of progress and of successive races, beginning with the gods, followed by heroes, and passing through the age of bronze, "when as yet black iron was not." Moschion touches on cave-dwellers, whom he regards as cannibals; and Lucretius traces religion to the belief in spirits, or "animism," bred of reflection on the phenomena of breath, dreams and shadows. The Greek geographers, and Herodotus and Aristotle, were curious about the institutions of savage and barbaric races; while, in the eighteenth century, Goguet, Fontenelle, Boulanger, des Brosses, Professor Millar of Glasgow, and others, explained the rise of mythology and the origin of rank, on the lines of modern anthropological science. The idea of evolution, for all that we know, is as early a conception of thinking men as the idea of creation; both exist among the most primitive savage races; and, in short, all that the speculators of the last and the present age can do is to bring wider study, and more precise methods, into the investigation of human development. In the middle of the nineteenth century the advance of philological science, with the theory that mythology is the result of "decay of language;" and the other theory that degeneration has more to answer for than we can admit, caused a temporary diversion from the ideas of Lucretius and Fontenelle. Fortunately these notions did not distract Mr. Tylor from the track which he was born to follow.

On re-perusing the long familiar pages of *Primitive Culture* one is constantly impressed anew by their readableness. Never sinking to the popular, Dr. Tylor never ceases to be interesting, so vast and varied are his stores of learning, so abundant his wealth of apposite and accurate illustration. Ten years was this work in the writing, and it may be said that *le temps n'y mord*; that though much has been learned in the last thirty years, no book can ever supersede *Primitive Culture*. It teaches us that, in examining the strangest institutions and beliefs, we are not condemned *a chercher raison ou il n'y en a pas*, as Dr. Johnson supposed. The most irrational-seeming customs were the product of reason like our own, working on materials imperfectly apprehended, and under stress of needs which it is our business to discover, though they have faded from the memories of the advanced savages of to-day. We must ever make allowance for the savage habit of pushing ideas to their logical conclusions, a habit which our English characteristics make us find it difficult to understand. We are also made to see that man is, and will continue to be, a religious animal. As Dean Swift acutely observed,

“the abolishment of the *Christian* Religion will be the readiest Course we can take to introduce Popery. . . and supposing Christianity to be extinguished, the People will never be at ease until they find out some other Method of Worship, which will as infallibly produce Superstition, as this will end in Popery.” Mankind, deprived of religion, would begin at the beginning,

For ghosts will walk, and in their train,
Bring old religion back again.

While *Primitive Culture* is the basis of “Mr. Tylor’s Science,” as Mr. Max Muller called it, he has made other valuable additions to knowledge.

ISRAEL PUTNAM’S EPITAPH.

Epitaph written for the tomb of Gen. Israel Putnam, who was buried at Brooklyn, Connecticut, in 1790:

If thou art a Soldier,
Drop a tear over the dust of a Hero,
Who,
Ever attentive
To the lives and happiness of his men,
Dared to lead
Where any dared to follow;
If a patriot,
Remember the distinguished and gallant services
Rendered thy country
By the Patriot who sleeps beneath this Marble.
If thou art honest, generous and worthy,
Render a cheerful tribute of respect
To a Man
Whose generosity was singular,
Whose honesty was proverbial,
Who
Raised himself to universal esteem
And offices of Eminent Distinction
By a personal worth
And a
Useful Life.

LITERARY NOTES.

"*The Science of Man*" has long been on our exchange list, but we have not given it as frequent notices as it deserves. The March number 1907 contains a description of the Easter Islands. The editor says: "The visit to Easter Islands gives me a general impression of the sudden collapse of all work of art on the island, owing to some great catastrophe. The number of statues left in the quarries, in all stages of preparation, imply a great activity suddenly come to an end. Tools abandoned in all directions, images in all possible positions, ready to be transported, images scattered over the island on the way to their destinations. The nations of today are more closely allied to the inhabitants of the Society Islands than to others.

"In 1860, previous to the time of the kidnapping of the natives by the Peruvians, there were said to be 3,000 inhabitants, and ten years later there were only 900, and at present there are about 150. The traditions indicate one body of immigrants from South America, another from the Galapagos, and a third from the Paumotus.

"At the crater of Rana-Roroka are the quarries, from which were cut the great images now scattered over the island. A number of stone houses, built by the people who made the images, are found, also sculptured rocks. The fitting of the cyclopean rocks into the faces of the platforms indicate excellent workmanship. One platform is 450 feet long, and contained the remains of fifteen images which have fallen. The plain in the rear is crowded with stone houses, mostly in ruins. Nearby is a large burying place."

It is a theory of some that there may have been an ancient continent which, besides supplying the people who constituted the Australian race, furnished the root words to the Australian dialects. This, however, does not seem to be confirmed by the investigations of our contributors in Australia, such as Mr. Howitt and Mr. Matthews.

The Philippine Journal of Science, Vol. I, No. 8, contains an account of the pagan tribes in Luzon by Dean C. Worcester, with sixty-seven full page plates. These show the natives following their various pursuits, some of them turning the handmill; others pounding stone; women weaving garments; specimens of art, statues, idols and vases; mining slaves at work; musicians with their tom-toms, flutes and drums; fisherman with a spear; their

peculiar weapons, their houses, and burial places. The plates are as instructive as the letter press.

In "*The Science of Man*" for March for 1907 we find an article showing the changes and progress from glacial times on, through the quaternary period up to the early historic times. The following quotation is suggestive: "The glacial age had the effect of killing off the animals, plants and man, and only those that escaped to tropical lands or regions beyond the ice lived to perpetuate their kinds, to reoccupy the land when the warmer times had melted the glaciers. Very few of the people using Eolithic implements survived, but the people using Paleolithic weapons and tools are found to have spread over the earth. As to the time that elapsed between the Pliocene times and the Tertiary, the conjecture is that it was about 2,500 years. The glacial portion of the quaternary continued about 10,000 years. This was followed by alternations of cold and heat for a period then the last glacial age caused by the greater eccentricity of the orbit came and after 10,000 years the quaternary period with about 80,000 years age, after which the Neolithic people spread over the earth.

"During the last avancé of the glaciers at the end of the quaternary period, many species of animals and man were killed by the frigidity of the climate. Owing to the greater eccentricity of the earth's orbit and the 10,000 years of the equinoctial nodes, when the winter came into aphelion the climate became warmer, the elevated continent sank down to lower levels, pools became more abundant, and men had better opportunity to invent stone and horn tools, from which epoch the different races introduced the copper, bronze and iron, invented dugout canoes and stone structures. The ruling chiefs were the most powerful men. They began the practice of burial rites and then the erection of caisons, menhirs, cromlechs, and tumuli. Gradually the means of living by hunting, fishing, and gathering wild fruits were superseded by the taming of animals and crude agriculture. After that the pile dwellings were erected in Switzerland, Italy and Greece. Migrations of men and animals were shown by the shell heaps of Scandinavia by the kitchen middens."

Then the horse appeared. Over 40,000 skeletons of the horse have been found. This writer imagines the horse to have appeared first in America, and passed over the connecting land and appeared in Europe. This is a bird's-eye view as given by one as far away as Australasia, though the archæologists and geologists of America are not quite prepared to make the same state-

ments as to the time of each appearance, nor quite as confident in their positions. The dates and length of the periods must be taken as matters of conjecture, and yet it is gratifying to know that those who dwell in the Southern zone are interested and informed about the growth of the Northern continent.

The committee on the Nomenclature of Indian Linguistic families, appointed in 1905, presented in 1906 its report, which has come to hand. Three or four suggestions are made: First, each name should be chosen on its own merit as determined by philologic correctness and historical and geographic usage, but with the ending *an* or *ian*. In the opinion of the Editor, who has heard many of the Indians belonging to different tribes, this plan, which is proposed by Major Powell, is completely destructive and not constructive. There was a peculiar pronunciation which was partly labial and partly racial and sometimes guttural, which was characteristic and was easily recognized.

The editor of this journal when a boy caught the pronunciation, and could speak words from various languages without fully understanding their meaning. An Indian of any tribe on the continent never would recognize his mother tongue in these artificial inventions of the white men. If the monuments are to be preserved the words and the languages should be also, and no artificial additions and inventions should be substituted for them.

The *Bulletin of the American Geographical Society*, December, 1907, contains articles on the desert basins of the Colorado delta, by D. T. McDougal, with maps and cuts; another on the Letchworth Park, a park of a thousand acres situated in Wyoming and Livingston counties, New York, with full page plates; also many notes on Africa, America, Australia, Asia, Europe, and the Polar Regions; besides book reviews. This journal is among the most valuable of our exchanges. We prize it highly.

In *The Nation* for January 2d there is a notice of a report of the Archæological Institute of America, by Prof. H. A. Sanders, of the University of Michigan, of manuscripts of the Bible, recently bought in Egypt by Charles L. Freer, supposed to belong to a date as early as 639 A. D. The manuscripts are in large Uncial letters, with variations showing that they were written on different dates, from the third to the sixth century. Manuscript I contains Deuteronomy, Joshua, and Numbers, and an accurate text of this portion of the Septuagint. Manuscript II contains the Psalms, and is the oldest manuscript of the Psalms in exist-

ence. Where the Vatican fails it is the very best. Manuscript III contains the four gospels, entire with many interesting variant readings. A new paragraph known to St. Jerome is in this manuscript, but not in the usual version. Manuscript IV is badly decayed and represents the Acts and Epistles, but not Revelation. This find is valuable, for it shows the antiquity of the New Testament and its genuineness as a book which has come down to us from the apostolic times. The pretensions of Bob Ingersoll to an acquaintance with the early versions of the New Testament are exposed by this find.

The manuscripts, which were certainly written out long before the art of printing, are at least as important as any assertions which may be made by those who read but do not believe the Bible as a genuine inheritance. We maintain that the antiquity of the Bible is an argument in its favor. It shows the religious thoughts which have come down to us from the prophets and the apostles. As connecting links between the apostolic age and the age of the revival of learning these manuscripts are of great value.

TWINS IN THE MYTHOLOGY OF ALL NATIONS.

It is well known that in the mythology of Greece the story of Castor and Pollux was very conspicuous and served an important part in the early history. The twin brothers Romulus and Remus were the founders of Rome. They quarreled while building the wall and Remus was slain by his brother, very much as Abel was by Cain. Henquist and Horsa, twins, served an important part in the early history of Europe. The story of the twins appears in America, especially in the Navajo mythology. Pasjelto and Hostjoghan were supernatural beings who dwelt on the mountain tops where the storms meet. They were regarded as the guardian divinities of the people. There is a story of a hero who had died, but his soul was led by these two divinities through the clouds and over the mountains into a valley where the body lay and into which the spirit entered and was led back the twin gods, one in front and one behind. This is another parallel between the early stories of the Bible and the myths of all nations.

In Babylonian mythology we have the story of Marduk and Tiamat, who were the personifications of the nature powers but represented the contest between the elements of earth and sky, storm and sunshine, light and darkness, and even good and evil. The moral character was affected by the natural, and corresponds to the contest between the twins, though there was no such pre-

natal contest as existed between Esau and Jacob, according to the Bible story. The contest between the creator and the serpent, which is recorded in the first chapter of Genesis, does not appear, though the serpent was the offspring of the land of death, or the creature of the house of death, while the creator dwelt in light, which was full of glory. The association of the beguiler and enchanter and death is borne out by an inscription in which the magician is called the man whose mouth is death, and the bite of the serpent is called the touch of death. Merodach was the god of light. He became the good one, the opponent of darkness. Tiamat was provided with a mysterious pouch whose name means "the maker of darkness," but the serpent of darkness became the evil one.

In Egypt instead of the twins we have the triad. Osiris was the father of the household, the chief divinity; Isis was his sister and wife; Horus was the child. There comes into this myth the story of redemption, for Horus was slain and his body was hidden in the tree, but it was recovered, the pieces were brought together, life was imparted to them, and he became the restorer and the god of life.

ABANDONED SHORE LINES.

The late glacial and post-glacial history of the Great Lakes has been more thoroughly and accurately pursued in recent years than ever before. Mr. James W. Goldthwaite gives a resume of the development of the extinct lakes of the Great Lake region and of the changes in them while the ice sheet was disappearing. Previous studies of the extinct lakes, Algonquin, Nipissing, and Chicago, are then reviewed and attention is called to problems concerning their history, some of which are not yet solved.

BOOK REVIEWS.

ORIGINAL NARRATIVES OF EARLY AMERICAN HISTORY. Charles Scribner's Sons, New York.

THE VOYAGES OF SAMUEL CHAMPLAIN. Edited by *W. L. Grant*, Beit Lecturer on Colonial History in the University of Oxford.

These two volumes have been newly added to the series. The first contains the voyages of Samuel de Champlain, 1604-1618. Mr. Grant's work as editor has been well done. The text is that of Slafter, and many of the notes of that admirable investigator have been taken over in part or in whole. The editor, however, has made many annotations of his own. He calls especial attention to the value of Champlain's description of New England as furnishing what Winsor has called the first "intelligent cartography of the shore line of Nova Scotia and New England;" and Mr. Grant considers that Champlain did more than any other of the early seamen to bring order out of confusion. The connection of Champlain with the history of the United States is not generally recognized today, most textbooks referring to him solely in connection with Quebec. The trials of the settlements at Plymouth and Massachusetts are known to every schoolboy, but who knows of Champlain's work along the Maine coast? "The exclusive attention paid to the English colonists has glorified Massachusetts at the expense of Maine, and one of the noblest names in the history of exploration has been passed over."

NARRATIVES OF EARLY VIRGINIA. Edited by *President L. G. Tyler* of the College of William and Mary.

President Tyler's volume contains thirteen narratives, all familiar to students of early Virginia history: Percy's "Observations;" Smith's "True Relation," "Description of Virginia," and "General History" (fourth book); De-la-Warr's "Relation;" the letters of De Molina, Father Biard, John Rolfe, and John Pory; the Proceedings of the Virginia Assembly (1619); the Virginia Planters' Plea in answer to Butler's Unmasking; and, lastly, the Relation of the Assembly in 1624 and the Discourse of the Old Company. Nothing except a facsimile is given from the Records of the Virginia Company, and nothing at all from Strachey.

ANNUAL REPORT OF THE BOARD OF REGENTS OF THE SMITHSONIAN INSTITUTION, showing the operations, expenditures and condition of the Institution for the year ending June 30, 1906. Printed at the Government Printing Office, Washington, 1907.

The topics treated in this volume are varied, including Astronomy on Mt. Blanc, the eruption of Mt. Vesuvius in 1906, the mammoth, and the elephant primigenus, quaternary human remains in Central Europe, etc.

THE PULSE OF ASIA: A journey in Central Asia, illustrating the Geographic Basis of History. By *Elsworth Huntington*. Boston and New York: Houghton, Mifflin & Co.: 1907.

This title hardly gives an idea of the contents of the book. A better title would have been "The Roof of Asia," for the Himalayas and high places really constitute the roof of the world. There is one title which is significant, "The Land of Withering Rivers;" another is the "Unexplored Salt Desert," another the "Dry Rivers and the Dry Mountains." The illustrations are numerous. They represent the lamaseries, the lakes and mountains, the people, the camels and horses, the natural arches and the sacred ruins. It is a region that in ancient times had a trade with China in one direction and India in the other.

A HISTORY OF ASTRONOMY. By *Walter W. Bryant*, B. A., F. R. A. S., F. R. Met Soc., Superintendent of the Magnetical and Meteorological Department of the Royal Observatory, Greenwich. New York: E. P. Dutton & Co.: 1907.

This book contains portraits of Copernicus, Tycho Brahe, Newton, Laplace, Herschel, and a number of views of observatories and other engravings. The history of Astronomy began with the Greeks, but soon passed over to Galileo and the modern astronomers. The Copernican theory came in like a new revelation, but solar spectroscopy has proved instructive. The velocity of stars equals twenty miles per second. The variable stars and nebulae are described. The book is instructive and easily understood, and ought certainly to reach a good sale. It is free from technicalities.

THE ELEVENTH DYNASTY TEMPLE AT DEIR EL-BAHARI. Part I. By *Edouard Naville*, Hon. D. C. L., LL. D., Ph. D.; Litt. D., Hon. F. S. A.; Correspondent of the Institute of France; Foreign Member of the Hungarian Academy of Science; Fellow of King's College, London; Professor of Egyptology at the University of Geneva. With chapters by *H. R. Hall*, M.

A., and E. R. Ayrton. Twenty-eighth memoir of The Egypt Exploration Fund. Published by the order of the Committee at London.

Temples have served as quarries from the time of Rameses II until now. It seems strange that with all the havoc that has been made so much should be learned from them. The Egyptologists such as Edouard Naville and H. R. Hall are skillful in deciphering the hieroglyphics, and learn much from the ruins. The plates given in the book show the colonnades, which are still standing and illustrate the styles of architecture which appeared in different periods. The Dynasty tombs furnish also a great deal of information. We have war scenes and hunting scenes depicted on the monuments, as well as views of domestic life. The religious beliefs which prevailed are very important in many ways. The Hathor Shrine is one of the most interesting objects, for it shows how the sacred cow could attract attention and win admiration as well as arouse worship among the people. The engravings in this book are worthy of study, for they reveal the religious beliefs and customs of the people. The Egyptians were given to the worship of animals, especially animals with human heads or sphinxes, though at a later date they worshipped divinities who had the human forms but animal heads. Their religion was influenced by their habitual mode of life as well as by surroundings. Domestic animals were common among them. These seemed to them like household gods or guardians, but were more responsive than any idol or image. The Babylonians worshipped such animals as the lion, eagle and the bull—animals with which they were familiar, though they often gave human heads and birds' wings to the ox and the lion. Sometimes they gave the bird's head to the human form. The Egyptians kept their sacred animals in apartments by themselves and had attendants whose care it was to see that the animals were well fed and at the same time kept in seclusion with an air of mystery about them.

MEMOIRS OF THE AMERICAN ANTHROPOLOGICAL ASSOCIATION,
Vol. II, Part 2. "THE CREEK INDIANS OF TUSKEGEE TOWN."
By *Frank G. Speck*. The New Era Printing Co., Lancaster,
Pa.: 1907.

The impression formed by reading this pamphlet is that the Creek Indians have not been benefited by contact with the whites. In the first place the portraits of the leader or chief of the tribe represents him as careworn and with an expression of anxiety upon his face. The people are supposed to be civilized, but they still preserve some of their old dances and seem to have

adopted one dance from the whites, because it is called a drunken dance or crazy dance. The letter-press shows the habits of the people. The old beliefs seem to have been preserved.

The origin of clans is described. The Master of Breath observed the people or the old-time beings; some began jumping upon trees and running about like panthers; some began leaping and running like deer; some were like birds; others like bears, raccoons, beavers, minks, foxes, etc. The Master of Life said they should be what they appeared to be. The belief was that dogs spoke and were like human beings, and so the clans received their names. The town officials represented the clan groups. The chief was called the Miko, and was chosen from the Bear or Wind clan. Next to the Miko were the warriors who formed the chief's council. A judge appeared who imposed penalties and fines. The clan descent is through the mother as in other tribes in pre-historic times. The Shaman or medicine man had a ceremonial rank. The belief was that animals made diseases, and the remedies were such as would affect animals. Therefore there was a panther medicine, a deer medicine, etc. Songs are repeated in which the animals are mentioned. Birds' nests were used as medicine. The Shamen danced and mumbled their songs and stories.

Their religious beliefs affected their common beliefs. The culture hero, the Master of Breath or of Life, enjoined the harvest ceremony to insure the crops and their subsistence from the earth. Game animals are clan totems. Even the dances are named after animals. The dance songs have been taken by the phonograph. They are divided into stanzas, at the end of which the dancers imitate the cries of the animal invoked by the dance. Most of these old customs and costumes have disappeared, but the buffalo head is still used as a mask, though the buffalo dance is done away with.

THE BIRTH OF THE NATION. By *Mrs. Roger Prior*. Macmillan & Co., New York: 1907.

Mrs. Prior has given a very readable account of the settlement and early years of the English colony at Jamestown, Va. Though her treatment of the subject touches lightly or not at all upon the economic or political problems confronting the nation at its birth, the book has more than an ephemeral value. The story of Pocahontas drops its mythical cloak, and emerges again as a credible story. Next to Pocahontas, Capt. John Smith stands out, notwithstanding all his faults, more admirable than ever. And the debt that the nation owes to his courage and power is marked in comparison with the sloth, incapacity, and jealousy of his fellow colonists.

THE BLUE BOOK OF MISSIONS. By *Henry Ottis Dwight*, LL. D. Funk & Wagnalls Co.: New York and London: 1907.

This book is intended primarily to supply helps to realizing the marvelous success of missions among different races. It takes a broad scope, including Africa, America, Asia, Oceanica, Polynesia, Europe and Australia, and gives the statistics for the different denominations—Adventists, Baptists, Congregational, Christian, Disciples, Methodists, Presbyterian, Episcopal, United Brethren, and others; it also includes Bible Societies, Tract Societies, Moody Institute, Salvation Army, and Young Men's Christian Association. It contains a chronological table of certain events, a list of recent books for missionary libraries; also a list of training schools for missionaries.

CITIES AND SIGHTS OF SPAIN: A Handbook for Tourists. By *Mrs. Aubrey Le Blond (Mrs. Main)*, author of "True Tales of Mountain Adventure," etc. With numerous illustrations from photographs by the Author. London: George Bell and Sons, Portugal Street, Lincoln's Inn Field: 1904.

One of the oldest churches in Spain is at Barcelona. It was constructed in 914. There is an old Basque game which is still continued. There are usually four players, two on each side, resembling somewhat the basket ball, but is played by four men generally.

The Roman aqueduct near Tarragona is an interesting object. A monastery here is worthy of notice. A bust now in the Louvre represents one of the subterranean gods, which is very human in its appearance and dress. Wood carving is highly developed. One group represents the Last Supper, and another the Agony in the Garden. The opportunities for studying architecture are numerous. Gothic buildings with Romanesque characteristics, while neither Spanish nor Gothic in origin, are suggestive and are regarded as among the grandest edifices in the world. The model of the house of Pilate is an attempt to represent Pilate's house at Jerusalem. The Roman bridge at Merida is also represented by an engraving. Among the prehistoric relics are what are called torroo. They represent animals like huge pigs. The Puerta de la Gloria, Santiago, is the most elaborate piece of architecture in Spain, perhaps in all Europe. The Armory at Madrid in the palace contains many specimens of coats of mail which belonged to the Middle Ages.

GEOLOGICAL SURVEY OF LOUISIANA. By *Gilbert D. Harris*, *Geologist*; *W. R. Dodson*, *Director*. Baton Rouge: 1907.

The advantage of a geological survey seems generally to be

greater than that of an archæological survey, and therefore more money is spent upon it. Louisiana as well as Missouri and other states in the Mississippi valley are known to have many pre-historic structures, but they are not made as much of as they were a few years ago. One reason for this is that the spread of population and the increase of agriculture and the cultivation of the soil has taken away the prominence of the earth works. It is well that individuals were so thoughtful as to make a note of these prehistoric works before they were destroyed. In the absence of any appropriation by the state government for mapping the earthworks, it is well that geologists have made a note of these works, and it is hoped that others will continue to do so.

THE MONGOLS: A HISTORY. By *Jeremiah Curtin*, author of "Myths and Folk-Lore in Ireland," "Hero Tales of Ireland," etc., with a foreword by *Theodore Roosevelt*. Boston: Little, Brown & Co.: 1908.

The word Mongol has been made to include immense groups of men, embracing the Chinese, Japanese, Manchus, Coreans, Tibetans, and Tartars. In India nearly all populations are classified with Mongols, and so it is with Persia. Even in Europe the Huns, Turks, and Magyars are Mongols. The Mongols began their career near Lake Baikal, where six rivers rise in the mountain lands, flowing toward the Amoor, where the Mongols began their activity. There they moved about with their cattle. The stealing of cattle, fighting, killing and capturing of women continued for ages.

The career of the Mongols is unique, culminating in their triumph beyond the great walls of China, making the Chinese emperor a vassal to the Katin. In 1223 Jenghis-Khan passed the winter near the Indus. After murdering and slaughtering he took the road toward Tibet, his path marked by deeds of cruelty. At last Jenghis lay helpless in bed, and with death near him he said: "The precious jade has no crust, the polished dagger no dirt on it. Man born to life is not deathless. The glory of a deed is in being finished. Follow not the will of another, and thou wilt have the good will of many."

The condition of Persia in 1254 is the subject of a chapter. The commonwealth and its destruction by the Mongols is the subject of another chapter. Egypt became a refuge from the Mongols who had conquered all lands. A great battle occurred in 1280 A. D., and the Mongols were defeated. They next occupied Damascus. The Moslems were delighted at their deliverance, but they rushed to the houses of Christians and slew all that they could find. The expulsion of the Mongols from China

took place about 1320 A. D., about 170 years before the discovery of America by Columbus.

THE JOURNAL OF THE TRANSACTIONS OF THE VICTORIA INSTITUTE, OR PHILOSOPHICAL SOCIETY OF GREAT BRITAIN. Edited by the Secretary, and published by the Institute in London.

This volume contains a large number of valuable articles, one by Prof. Flinders Petrie on "Researches in Sami;" another on the San Francisco and Valparaiso earthquakes by Warren Upham; another on Primitive Religions among the People of Asia Minor, by Rev. E. G. White; another by Dr. Masterman on recent discoveries in Palestine.

THE RELIGION OF THE INDIANS OF CALIFORNIA. By *A. L. Kroeber*. University Press: Berkeley: 1907. University Publications., Vol. IV, No. 6.

This pamphlet furnishes much information upon the religious practices of the Indians. These are classified into (1) tribal observances; (2) individual practices; (3) ceremonies. The idea was deeply rooted that the deer, when killed and eaten, came to life again, and reported their treatment at the hands of the hunters. The remark is made that the simpler the stage of culture the more important the Shaman. The Shaman acquires his powers by dreams, by initiation. The Shamans assume the forms of bears in order to inflict vengeance on their enemies. Medicine men were common, and the tubular pipe was used by them. There were two classes, those who had visions of the deceased object and those who used plants and other things to cure disease. The public burning ground was owned by the tribe. There were three classes of ceremonies—the mourning, the visiting, the burning of the body with its property. Shamanistic exhibitions of magic were common. The beliefs were the same as in other tribes, in the story of creation and the Creator. The stories came from the South. The Yourks had jumping dances. Maidens had a secret society. The rattlesnake ceremony was common among other tribes. Prof. Kroeber has been diligent in finding out the location of the various tribes and their mythology.

GREECE AND THE AEGEAN ISLANDS. By *Phillip Sandford*. Boston and New York: Houghton, Mifflin & Co.

The first chapter in this book describes traveling in Greece; the fourth describes the modern city; the eighth describes Delphi; the thirteenth, over the hills to Olympia. A chapter on Rhodes and another on Corfu finish the volume. The illustrations are numerous and interesting. An outpost in Arcadia gives the ruins of castles, both modern and ancient. It contains a narrative of excursions which bring the classic land before the eye in a summary way.

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ALTAR AND COURT.



CISTERN AND CHAMBER.

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No. 2

THE VAULTED CHAMBERS OF PETRA'S HIGH PLACES.

- BY REV. GEORGE L. ROBINSON,
Professor in McCormick Theological Seminary.

OF THE several sanctuaries now known to exist at Petra—the ancient capital of the Nabatheans in Mt. Seir—four have what we have designated for want of a better name “Once Roofed-in Chambers.”¹ They are great cavities, hewn out of the mother rock for the most part, which were once vaulted with arches, the sockets of the latter being still traceable in the lateral walls of the ancient structures.

For example, in connection with the “Citadel High Place,” discovered by Messrs. Hoskins and Libbey, there is found a “Partially Roofed-in Cavity,” closely adjacent to the “Grass Court,” and quite near to the entrance of the Sanctuary proper; the roof of which is, in part, still intact, being composed of natural rock. (See Plan: *a.*)

In like manner, leading off from the “Large Grass Court” of the “Southern Section” of the “Triple High Place,” discovered by Mr. Forder,² there is a “Once Roofed-in Chamber,” with niches in the rock walls for the arches which once supported the vaulted roof. (See Plan: *b.*)

One of the principal features of the “Turkmaniyeh High Place,” described by Domaszewski,³ is a “Roofed-in Chamber,” cut deep into a great mass of projecting mountain rock, measuring 33x22 feet, having cuttings for the bases of four distinct

¹See *Biblical World*, Jan., 1908, pp. 15 and 17.

²But described by Mr. Hoskins in *Biblical World*, May 1906, pp. 385-390.

³See Brunnow, *Die Provincia Arabia*, p. 362.

arches which once spanned the cavity, and which probably supported broad flat stones which rested upon them and formed the roof of the Vaulted Chamber. In the center of this rock excavation as may be seen from the Plan (c), there is a deep rectangular cutting with a seat running about it on three sides, as in the Guest Chamber¹ near the entrance of Petra directly north of the Khazne or Treasury. Three steps 9½ feet broad lead up to this lower rectangular court. The leveled shelf of rock (4 feet broad) between the seat which bounds this court and the boundary walls seems to have formed an important part of the structure, and may have been used as a place on which to recline.

Of the "Khubtha High Place," discovered by the writer in May, 1907, one of the most-conspicuous features is the "Once Partly Roofed-in Chamber," which is approached by 16 steps and a passageway 20 feet long, carved through the solid rock. (See Plan—d.) This chamber measures 25x20 feet, and bears the mark of having been at one time at least partially roofed over. As in the cases of the two just described the arches rested in sockets cut into the rock walls.

These are the only high places of all those which we have studied and described which possess chambers of this character, though excavated pools, cooking-ovens, and chambers for sepulchral purposes are frequent accompaniments of these sanctuaries.²

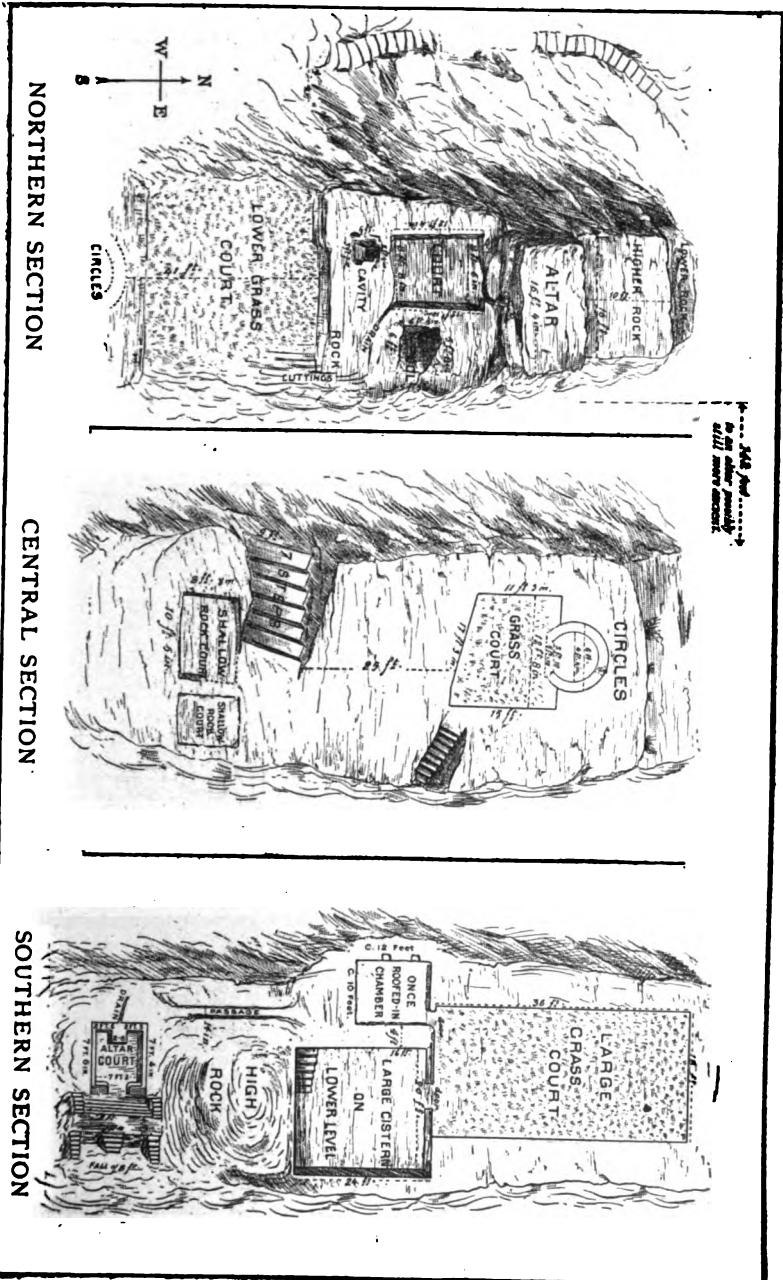
Now the question naturally arises, for what purpose were these arched chambers? Were they an important part of the sanctuaries? And did the people use them for both social and religious purposes? Certain hints toward the solution of these questions are furnished by the Old Testament.

1. In *I Samuel* 9:22 we read: "And Samuel took Saul and his servant and brought them into the *guest-chamber*, and made them sit in the chiefest place among them that were bidden, who were about thirty persons." Here is clearly an allusion to a hall, or guest chamber, in connection with a High Place (*cf.* vv. 19 and 25), which was set apart for the express use of worshippers in the sacrificial feast, into which Samuel received Saul as his guest.

2. In *I Kings* 12:31 we are told that Jeroboam, king of Israel, "made *houses of high places*, and made priests from among all the people that were not of the sons of Levi;" apparently in connection with the altars set up by him at Bethel and Dan (*cf.* vv. 29, 32).

¹Corresponding to "No. 65" of Brunnow.

²See *Biblical World*, January, 1908, pp. 8-21.



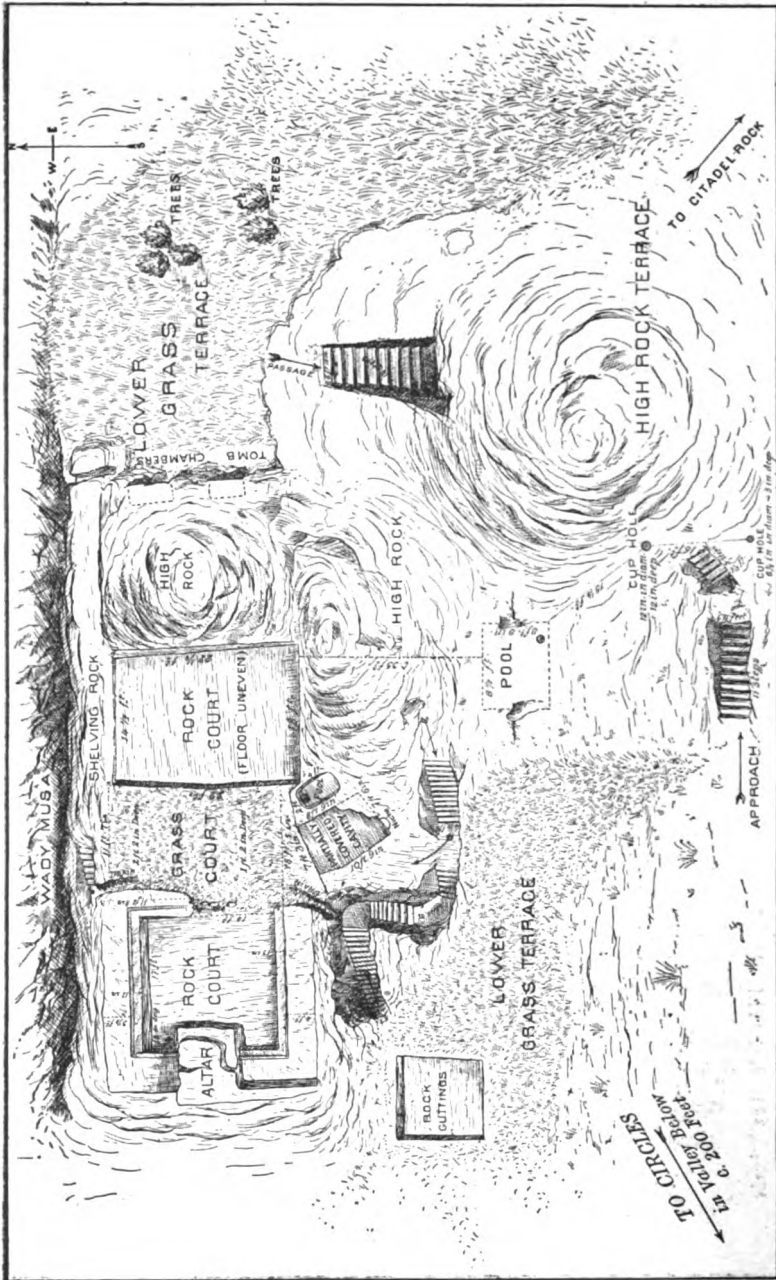
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NORTHERN SECTION

CENTRAL SECTION

SOUTHERN SECTION

TRIPLE HIGH PLACE.



CITADEL AND HIGH PLACE.

3. In *I Kings* 13:32 such sacrificial resorts are denounced by an unnamed prophet, who is quoted by a prophet of Bethel: "For the saying which he cried by the word of Jehovah against the altar in Bethel and against all *the houses of the high places* which are in the cities of Samaria, shall surely come to pass."

4. In *II Kings* 17:29, 32 it is related how "every nation" of those whom Sargon had transported from Assyria to Samaria to fill the places of those carried into captivity in 722 B. C., "made gods of their own and put them in the high places which the Samaritans had made . . ." and "the priests of the high places sacrificed for them in *the house of the high places*." From this passage it is quite obvious that these "houses of the high places" were the depositories of the images of the people's gods, and that they were used as places of sacrifice, most probably as places of sacrificial feasting.

5. Again in *II Kings* 23:19, Josiah, King of Judah, is said to have taken away "all *the houses also of the high places* that were in the cities of Samaria, which the kings of Israel had made to provoke Jehovah to anger . . . , and did to them according to all the acts that he had done in Bethel."

6. In Ezekiel's allegory of the "Foundling Child" who became the faithless wife (*Ch.* 16), much additional light is thrown upon the religious practices at such shrines; which, according to the prophet's description, eclipsed in sensuality and lewdness the practices of Samaria and even of Sodom: (a) "And it came to pass after all thy wickedness . . . that thou has built unto thee *a vaulted place*, and hast made unto thee a lofty place in every street. Thou hast built thy lofty place at the head of every way, and hast made thy beauty an abomination, and hast opened thy feet to every one that passed by and multiplied thy whoredom" (16:23-25). (b) "How weak is thy heart, saith the Lord Jehovah, seeing thou doest all these things, the work of an impudent harlot; in that thou buildest thy *vaulted place* at the head of every way and makest thy lofty place in every street" (16:30, 31). (c) "And I will judge thee as women that break wedlock and shed blood are judged; and I will bring upon thee the blood of wrath and jealousy. I will also give thee into their hand, and they shall throw down thy *vaulted place*, and break down thy lofty places." (16:38, 39).

Ezekiel's picture is of course an allegory; but the language used in his description of Judah as an unfaithful wife, guilty of the most horrible whoredoms, is obviously drawn from the actual practices of his time. The word in Hebrew translated "vaulted place" is *gabh*, which means anything convex or covered. It

seems to convey the idea of an arched hall, or brothel house for literal prostitution in connection with the illegitimate worship of Jehovah on high places. This is in keeping with the prophet's repeated statements that Judah in her latter days outdid Samaria and even Sodom in wickedness (vv. 46-52). Judah's worship at high places unquestionably was rotten, and her "lewdness" was literal unchastity (vv. 43-45). She even decked her high places with rugs of divers colors and played the harlot upon them; and made "male images"—a possible allusion to "phallic worship" (vv. 16, 17). Among the earliest forms of worship of the human race which can be traced is the custom of sacred prostitution in the name of religion.¹ Accordingly, at Petra, these "Roofed-in Chambers" were probably intended and actually used for feasting and prostitution, as well as a depository of idols.

BOOKS ON CHINA.—The flood of books on the missionary work in China shows how effective the work has been in that country in modifying and molding society and really changing the old into the new, thus making a new world to the west of that which we ourselves have been occupying,

THE SILVER MAP.—A medal given by the American Numismatic Society of New York is a copy of the "silver map" in the British Museum. This "Map of the World" was made shortly after Drake's return from his voyage around the world in 1580 or forty years before the landing of the Pilgrim Fathers. The silver map antedates the map of Hondius fifteen years. It represents the prevailing ideas of the geography of the world one hundred years after the discovery of America.

ASIATIC MUSEUMS.—An article by Prof. Bashford Dean, of Columbia University, was published in *Popular Science Monthly*, December, 1907. Collections in Japan were referred to by Prof. Morse years ago. Little interest is taken in China. The best museum is at Hong Kong, though one will soon be opened at Peking. The museum and library at Singapore is a new and fine building, as is the one at Colombo. That at Madras represents archæology and art, especially prehistoric art such as pottery. The plates in the *Monthly* represent these. The museum at Lahore is foremost for the study of art. The cuts represent these. One shows bacterian sculpture, another metal work, much of which is from family treasures. The museum here is an imposing building and quite modern in style.

¹Cf. Dr. H. Clay Trumbull, *The Threshold Covenant*, 1896, p. 229.

RECENT EXCAVATIONS IN EGYPT.

PERSONS interested in Egypt, ancient or modern, will read with much pleasure the following account of the work of the Egypt Exploration Fund for the year, prepared by Miss Grace I. Gay, American Secretary of the Fund, from advance copies of the official reports of the officers:

“During the past season of 1906-7 we have had our usual expeditions to Egypt. Dr. Naville has continued and completed his long and arduous labors at Deir-el-Bahari; Mr. N. de G. Davies has continued his work in surveying the tombs at Tel-el-Amarna, and Dr. Grenfell and Dr. Hunt have brought their task at Behnesa to an end. After an association extending over so many years, one can scarcely realize that the work at Deir-el-Bahari has come to a termination. It has been a stupendous task, but it is one with which the name of the Egypt Exploration Fund will in the future forever be associated. The completion of the clearing of this site is due to the munificent donation of \$5,000 from Mr. W. M. Laffan of New York, which was announced in the report of last year. The work at Behnesa also has been completed, and Dr. Grenfell and Dr. Hunt are of opinion that they have thoroughly explored that district, and that what may be still left, if anything, need not further engage the attention of our Society.”

Dr. Grenfell's report contains much that is of interest to the general reader:

“With the able assistance of Mr. A. M. Blackman, who, I am glad to say, has now joined the excavations of the Egyptian government in Nubia under Dr. Reisner, Dr. Hunt and I were able without difficulty to complete the clearance of the few remaining mounds which contain Greek papyri. These nearly all belonged to the fifth or sixth century, and several of them were not specially productive. In one mound, however, which for the most part had been dug in the preceding season, we made a good find of literary fragments, belonging to the library largely composed of Greek lyric poets—Sappho, Bacchylides, Cercidas, and others—of whom I spoke last year. The bulk and value of that find are substantially increased by the new additions, but the task of sorting and combining the enormous number of pieces which compose it is rendered more formidable than ever, and some time necessarily must elapse before we are in a position to publish any of the more important texts.

“Part V of the Oxyrhynchus Papyri is now being printed and will be published during December. Besides the Pindar and the historian, it contains three other texts—the velum fragment of an uncanonical gospel, which also will be issued in a cheap edition uniform with the “Sayings of Jesus;” a papyrus containing about half the “Symposium” of Plato; and another containing considerable portions of the “Panegyricus” of Isocrates. The text of the last named is not very good; but that of the Plato, though written by a rather careless scribe, is decidedly interesting—firstly, on account of its eclectic character, since it does not show a decided affinity with any of the existing Mss. of Plato against the others; secondly, because it confirms a certain number of conjectures, although as usual the papyrus proves the antiquity of many readings which modern criticism rejects or suspects.

“The Gospel fragment gives an account of a conversation on the nature of purity between our Lord and a Pharisee, which is supposed to take place in the temple at Jerusalem. It does not possess the antiquity or the importance of the “Sayings of Jesus,” and is probably to be regarded as an elaboration of *Matthew* xv. 1-20, composed between 150 and 200 A. D. But the author is more successful than many writers of apocryphal gospels in catching something of the genuine ring, and the fragment in any case is an interesting and valuable addition to the scanty remnant of the numerous uncanonical traditions concerning Christ’s teaching, which were current in many Christian communities, especially in Egypt, during the third and fourth centuries.

“The central idea of poem of Pindar is the virtue of contentment with a simple life like than of the Ceans in their rocky island, illustrated by the stories of Melampus, who refused to leave his home at Pylos to rule at Argos, and the local hero Euxantius, who would not forsake Ceos to share in the kingdom of Minos in Crete. The passage runs as follows (the personified island of Ceos is speaking):

“Verily, though I live on a rock I am known for prowess in Hellenic contests, and known for some display of the Muse’s art; verily, too, my acres bear a measure of Bacchus’ life-giving cure in extremity. I have not horses nor share in the pasturage of kine; but neither would Melampus leave his fatherland to lord it in Argos, nor lay aside his gift of divination. Hail, hail, O Pæan! The city and comrades of a man’s home and his kinsmen are dear, and bring contentment. In happiness remote from foolish men I praise the words of Lord Euxantius, who, when his fellows were eager, refused to rule or to take the seventh share of a hundred cities along with the sons of Pasiphæ; and he spake

to them his prophecy: "I fear war with Zeus, I fear the crashing Shaker of Earth. With thunderbolt and trident sent they once the land and its whole host to the depths of Tartarus, but left my mother and all her well-fenced house. Then shall I, in pursuit of wealth and thrusting aside into utter neglect the decree of the blessed ones for our country, have elsewhere a great possession? How could this be quite secure for me? Dwell not, my heart, on the cypress-grove, dwell not on the pastures of Ida! To me little is given, a mere shrub of oak, but I have no lot in trouble or strife."

"A detailed examination of the work of the historian in its relation to the other evidence for the period with which the papyrus deals, 396-395 B. C., has caused us to form a still higher opinion of the value and importance of the discovery, and made us more disposed to identify the author with the celebrated fourth century B. C. historian Theopompus. To summarize briefly the chief characteristics of our author, we have in this papyrus an elaborate and detailed work of a writer who shows himself equally well informed whether dealing with events in Greece, the campaigns of Agesilaus in Asia, or the naval war. In the arrangement of his material he has adopted an annalistic method, evidently imitated from Thucydides. Hence there are abrupt transitions to and from different parts of the world. On the other hand he is extremely fond of digressions, whether excursions into earlier history—*e. g.*, the rise of Theban prosperity in the forty years preceding 395, or general descriptions which serve to illustrate the background of the events which he is recording—*e. g.*, a most valuable sketch of the constitution of Bœotia. With regard to the scope of his work, it is clear that it included, besides the events of 396 and 395, the history of the seven years between 396 and the close of the Peloponnesian War, the year 403-2 being taken by him as marking a kind of epoch.

"The most important of the new classical texts consists of the fragments of the lost "Hypsipyle" of Euripides. These are scattered rather widely over the play, which contained more than 1,700 lines. The identification is made certain by two coincidences with extant quotations from the play, and the remains agree closely with the story of Hypsipyle as given, for instance, by Apollodorus.

"Besides the Euripides, there is another long literary papyrus, containing a commentary on Thucydides, Book II, apparently written in the first century, but of which we have not yet determined the authorship. Among the shorter classical pieces I may mention part of a speech of a Philo-Macedonian orator directed against Demosthenes, and of an unknown comedy, perhaps by

Menander, while extant authors are represented by pieces of Sophocles' 'Antigone,' Euripides' 'Hecuba,' Appolonius Rhodius, Thucydides, Plato, Demosthenes, and the "Cataline" of Sallust. In the theological section, besides several early biblical fragments, there are portions of the lost Greek original of the 'Acts of Peter,' which is extant only in Latin, and of an unknown version of the 'Acts of John.' This recounts an attempt to prevent the apostle from crossing a bridge, the miraculous disappearance of the obstructor, and the subsequent prayer offered up by St. John. Among the non-literary papyri are several important official documents of the third and fourth centuries."

M. Manville's report is quite as interesting. In part he says: "The campaign of last winter at Deir-el-Bahari has entirely completed the work on that spot, which had begun in February, 1893, when the Fund sent me out to dig in the temple which had been partly uncovered by Mariette. I readily admit that on the day when I set to work the first gang of eighty-five workmen I had no idea of the size which the work would assume, nor of the considerable expense which it would entail. Therefore I feel bound today to thank heartily the Committee for having gone on to the end, and for having entrusted me with the direction of these excavations. I also express my gratitude to my numerous fellow workers, without whose valuable and devoted assistance it would have been impossible for me to accomplish that long and sometimes arduous task.

"I believe I can safely appeal to those who have seen Deir-el-Bahari in its present state to testify that the money has not been spent in vain, and that the final result is worthy of the labor and expense it has cost. Deir-el-Bahari is now completely cleared. It is one of the most interesting sites in the area of ancient Thebes, and one of the chief attractions for the numerous travelers who visit the ruins of the capital of the Pharaohs.

"In the temple of Queen Hatshepsu, the most important discoveries have been the great altar—the first known in Egypt at that time—and what we called the birth-terrace, the inscription of which, unfortunately very much erased, gives us the legend of the divine nativity of the queen, and the description of her education and her coronation as associate to her father. In the lower part we found the unique representation of the transportation of the two obelisks erected at Karnak, one of which is still *in situ*. The ebony panel of a shrine and its door are the finest portable monuments discovered in that temple. The *tout ensemble* of the edifice showed the peculiar terraced style adopted by the architect Senmut; it was then believed to be the only specimen of that style to which a foreign origin has sometimes been attributed.

" This idea was proved to be erroneous by the finding of the second temple, a thousand years earlier than the construction of the queen, and even more peculiar in its style. The funerary temple of Mentuhetep II is one of the most important discoveries made lately in Egypt. It is much ruined, but it is the most ancient temple which we possess at Thebes, and it has revealed to us the art of the XIth Dynasty—an art hardly known before, and of which numerous specimens are now in various collections. This temple presents some startling and unexpected features—the huge basement in the middle of the platform which is supposed to have supported a pyramid, the subterranean sanctuary, the columned hall at the end. Altogether it is a building in a style which is new for us, and which raises several questions, which have not yet been solved completely.

" We have now the concession of a most important and interesting site—Abydos. Several explorers after Mariette have worked there, but a great deal remains to be done. It is a field of research which extends from the first dynasties to the Ptolemaic times. For instance, the part of the site which contains the so-called royal tombs has not yet been excavated completely, and the remarkable monument called the Osireion has been only partially cleared. The work may occupy several seasons, but its results certainly will be worth the time and the money, and I have no doubt that if the Fund undertakes it the subscribers, after a few years, will look at Abydos with the same pleasure as they feel now at the sight of Deir-el-Bahari. And we may be certain, from the success that attended last year's excavations at Abydos by Professor Garstang for the University of Liverpool, that this inexhaustible necropolis will still yield a supply of interesting and important smaller antiquities; we may, indeed, reasonably hope for more relics of the time of the earliest dynasties."

OCEANIC LANGUAGES.—Dr. D. Macdonald, who has written much on Polynesian languages, is about to publish a book entitled "The Oceanic Languages." The grammatical construction, vocabulary, and origin, make up its contents. It is to be a companion to Tregar's "Maori Polynesian Dictionary." To it is prefixed a comparative grammar of the Malayan and Polynesian dialects. The author thinks they are of Arabian origin and are Semitic in character. He bases his theory on the identities of the Polynesian tongues, and undertakes to show that the Oceanic languages have tri-literal stems and employ common Semitic prefixes with Semitic meanings. A writer in *Nation* says: "The facts do not sustain the hypothesis. The Polynesian tongues are polysyllabic but not tri-literal in the Semitic sense.

HILPRECHT'S RECENT RESEARCHES.

A DISCUSSION.

CONSIDERABLE discussion has arisen about the discoveries which Professor Hilprecht claims to have made at Nippur and vicinity. The members of the Oriental Society, to which he belongs and which is one of the most learned societies in the world, and the friends of Professor Hilprecht have taken the discoveries at their full value, and there is no discount made in reference to the facts. With others the reports are regarded as unreliable and exaggerated. Professor R. W. Rogers, Ph. D., LL. D., has an article in the *Sunday School Times*, the substance of which is given below. On the other hand, however, the Oriental Society has published at length a recent report which would invalidate nearly all Prof. Hilprecht has written, and throw doubt upon nearly all the reports he has made and which have been published. The most interesting part of the discussion is that Prof. Rogers seems to endorse the speculations of Plato in reference to immense periods of time. Professor Rogers says:

"Few institutions in America have a nobler record of original research into the secrets of nature and the secrets of the past than the University of Pennsylvania. Today I am reminded afresh of the University's contribution to the historical sciences as I turn over the learned pages of a new book on the 'Mathematical, Metrological, and Chronological Tablets from the Temple Library of Nippur,' edited by Hermann Volrath Hilprecht, Ph. D., D. D., whose honor it is to occupy the Clark Research Professorship of Assyriology in the University. No other university the world over has a professorship entirely devoted to *research* in this great field. The chair has richly justified its existence and is likely yet more to increase in influence and results. The volume mentioned is the first part of Volume XX of the publications of the Babylonian Expedition of the University. Professor Hilprecht, in the preface of this part, announces that Volume XIX, part I, containing 'Model Texts and Exercises from the Temple School of Nippur,' is in press.

"In the volume under consideration Professor Hilprecht has presented thirty pages of autographs of old Babylonian documents, and fifteen plates of phototype illustrations of these same texts. The phototypes are superbly executed; they are in considerable part distinctly legible. Hilprecht's autographs, it need only be said, are done in his own incomparable style. He has reproduced the tablets in the *exact* size of the originals, copying

not only every sign, but also every blur, or crack, or spot, or unevenness. It is a *tour de force*. The documents themselves are of appealing interest, and in Hilprecht's skillful hands they have gained and not lost in interest. I have read the introduction and have fallen under its spell. If I reproduce here some observations taken from it and some reflections occasioned by them, the reader will have the opportunity of trying for himself their interest.

"There are some things in this great world which make a more appealing claim upon my interest than the noble science of mathematics, yet am I both interested and amazed at this display of ancient mathematics which Hilprecht has published here. Here, to start at the beginning, are some multiplication tables which were written in the neighborhood of 1700 B. C.

"He has found a number of multiplication tables in which every number multiplied is either a divisor or a quotient of 12,960,000. And now, dear reader, prepare to be astonished. And as the introduction to this thy astonishment, let me quote Hilprecht:

"The question arises, what is the meaning of all this? What in particular is the meaning of the number 12,960,000 (60^4 or 3600^2), which underlies all the mathematical tests here treated? The answer, as it seems to me, is partly given by Plato in his 'Republic,' Book VIII, 546, B-D, which contains the famous "Number of Plato," "notoriously the most difficult passage in his writings." Here is some fun for the classical scholars. Plato's geometrical number, which he calls the "lord of better and worse births," is the arithmetical expression of a great law controlling the universe.'

"Hilprecht goes on to speak of the Babylonian ideas of the relationship existing between heaven and earth, according to which the same powers and principles . . . which rule in the world at large, the macrocosm, are valid in the life of man, the microcosm.' 'The number 12,960,000 governs the universe, for 12,960,000 days . . . are equal to 36,000 years, which forms a Babylonian cycle, or constitute an æon in the life of the universe. As man is controlled by the same mathematical laws as the universe, of which he forms a part or fraction, the same number 12,960,000, or one of its fractions (expressed by its divisors) must control the life of man. Now we know, from another passage of the "Republic" (Book X, 615 B), that Plato reckoned the duration of life as 100 years, or $100 \times 360 = 360$ days. Hence it follows that a day in the life of man corresponds to a year in the life of the universe. In other words, the duration of a human lifetime forms the 360th part of an æon of the universe (or the 360th degree of a corresponding circle).' It seems to me

that Hilprecht, with the assistance of Professor Crawley in mathematics and Professor Lambertson in the Greek of Plato, has made out the case, and shed most welcome light upon the great philosopher.

"The remainder of the mathematical and metrological tests are somewhat tamer; but it is rather surprising to find that these ancient tests prove 'that in the middle of the second pre-Christian millenium the Babylonians were able to determine the contents or volume of a certain vessel, called *adapu*, from its three dimensions.'"

ICELAND.—L. P. Gratacap, a former contributor to THE AMERICAN ANTIQUARIAN, now connected with the American Museum, New York, has an article entitled "A Trip Around Iceland" in a recent number of *Popular Science*. He says there are two museums in Reykjavik, one on natural history, the other on antiquities, such as old vestments, church printings, buckles, girdles of brass, silver and gold, carved boxes, swords, poigniers, stone vessels and mortars, and antique lamps. There are cairns in Iceland which are shown in the illustrations.

ARCHAEOLOGICAL SURVEY OF WALES.—The University of Liverpool is making arrangements for the systematic survey and excavation of Wales under the direction of such eminent scholars as Dr. Arthur J. Evans and Sir John Rhys. They expect to receive valuable aid from the University of Wales, the Cambrian Archæological Association, and country societies. The actual operations will be conducted by Profs. Robert C. Bosanquet, P. E. Newberry, and F. J. Haverfield of Oxford. The expectation is that the exploration will throw light upon the pre-Celtic inhabitants, and the relation of the Silures to the Roman invaders.

CHINESE CURIOS AS SPOILS OF WAR.—William E. Curtis has described the various articles which were secured by Mrs. Conger at the time that the soldiers entered the palace of the emperor at Peking, China, during the siege. Mrs. Conger was able to secure them and to bring them into this country without the payment of duty. Among the articles are many pieces of carved ivory and nearly a hundred pieces of jade, several of carved rock crystal and agate, thirty lacquered boxes and trays, an antique gold watch encrusted with diamonds and pearls, fans, slippers, mirrors and scrolls, fourteen rolls of gold brocade made for the imperial household, mandarins' robes, and women's garments. Mr. and Mrs. Conger went through a terrible ordeal, suffered hardships, fatigue, horrors, and financial loss. Mr. Conger served the country with great ability and was useful and influential while in office.

THE NATIVE TRIBES OF SOUTHEAST AUSTRALIA.

A. W. HOWITT, C. M. G., D. SC.

TWO communications from Mr. R. H. Mathews, which appeared in the *AMERICAN ANTIQUARIAN*, entitled respectively "Sociology of Australian Tribes," and "Totemic System in Australia," have attracted my attention.

In making this communication I shall endeavor to show that the inferences which Mr. Mathews has drawn from his investigations are erroneous in some most important points.

At page 81 Mr. Mathews says: "It has now fallen to my lot to be the first writer to report that exogamy has no existence in any of the Australian tribes which have been studied by me."

He then describes the rules of marriage and descent in three groups of tribes—namely: the Kurnu and the Kamilaroi in New South Wales and the tribes in Western Victoria. After referring to the system of marriage and the rules that govern it in the Kurnu tribe, Mr. Mathews says (p. 85): "The above statements disclose the fact that the men of the section Murruri, taken in the aggregate, can marry into any of the whole four sections of women, noted in Table I."

Under the head of the Kamilaroi Tribes, Mr. Mathews tabulates the well known names of the subclasses, or sections, as he terms them—Ipai, Kumbo, Murri, and Kubbi, with their feminine forms. These were first reported by the Rev. W. Ridley in the "Journal of the Anthropological Institute of Great Britain and Ireland" in the year 1873 (Vol. 2, p. 263.) In the years 1880-2 I worked out these subclasses, and the totems attached to them, as they occurred in the tribes of the Gwyder River valley, with the aid of my valued correspondent, Mr. Cyrus E. Doyle. I had long suspected that the four subclasses of the Kamilaroi and similar tribes must have arisen from the segmentation of two original classes. Through the careful inquiries of Mr. Doyle we discovered the two class names "Dilbi" and "Kupathin," by the segmentation of which the four sub-classes were formed.

These particulars will be found on reference to the "Journal of the Anthropological Institute" of May, 1883. I note that Mr. Mathews now gives these class names, termed by him "phratries," as "Dilbhai" and "Kuppathin."

The Table II given by Mr. Mathews at page 86 shows precisely the old rule of marriage and descent which I described twenty-four years ago, but he adds that Murri of a certain lin-

eage can marry a Matha or a Kubbitha, and Kubbi has marital rights over the same two women. This passage concludes as follows: "The foregoing statements prove beyond question that there cannot be any exogamy in the Kamilaroi community."

This is a wide statement. The Kamilaroi "community," as Mr. Mathews terms it, consisted of tribes which extended for some three hundred miles to west of north and the south of east, with a width of some hundred miles in places. The organization of these tribes extends into Queensland, but these tribes speak a different language and therefore are not Kamilaroi. It would have been satisfactory if Mr. Mathews had told us how many of the Kamilaroi tribes he investigated, which they were, and when.

Mr. Mathews adds to this section: "The same complete absence of exogamy is found among the tribes known as the Wiradjuri, Neemla, Wongaibon, Wailwan, Barkinjie, and others in New South Wales." I shall deal with this statement later on.

Mr. Mathews' heading of "Tribes of Western Victoria" is rather misleading, as there were a large number of people living on the left bank of the Murray, from Swan Hill to the South Australian border, who were akin to the Darling River tribes and not to those which Mr. Mathews describes.

Mr. Mathews gives tables of marriage and the descent of many offspring, showing that at the present time these rules differ materially from those which I found in force when I made my investigations nearly twenty-five years ago, and at page 87, referring to Table III, he says: "It is needless to add that these facts altogether disprove the existence of exogamy in Victorian tribes."

This surprising statement is likely to mislead the reader, because the larger part of Victoria was occupied by other tribes, of which Mr. Mathews takes no notice, and which were: (a) Tribes having a matrilineal descent like that of the Barkinjie tribes of the Darling River, with descent by the female line (Native Tribes,* 50-51); (b) tribes organized in two classes with descent in the male line (Native Tribes, pp. 70-73); (c) the Kurnai of Gippsland, who differed essentially in many points from all other tribes (Native Tribes, pp. 73-272).

Mr. Mathews summarizes his conclusions on the tribes of Western Victoria in his concluding communication (page 145), as follows: "The men of a phratry may marry the women of the opposite one, according to their pedigree. These facts are tantamount to the statement that the aggregate of men in the one phratry can marry all the women of the tribe."

*The words "Native Tribes" will be used for "Native Tribes of South-East Australia."

Before dealing with these statements I must give some consideration to three others, which I think cast a sidelight upon the position Mr. Mathews has assumed.

The first is at page 85, where, in speaking of the Kurnu rules of marriage, he gives an instance of what he calls a "normal or direct rule" of marriage, where "a brother's daughter's son mates with a sister's daughter's daughter." This is the rule of marriage which I have recorded in my "Native Tribes of South-East Australia," for instance at page 177, where I describe the Dieri marriage rule of the "noa" relationship.

Mr. Mathews then gives another instance, which may be stated as follows: "A brother's daughter's son mates with a sister's son's daughter," and he goes on to say (page 85): "In the former case a Murruri man marries a woman of the opposite phratry, but in the latter case he takes a wife from his own phratry, which exhibits the fallacy of all the old school theories respecting exogamy among the Australian tribes."

At page 88 Mr. Mathews gives two rules of marriage as being observed—the one, for instance, by which a Murri man may marry a Butha woman, who is described as the "tabular wife," the other by which he can marry Ipathia. The former is the old time rule, and is the result of the exogamous character of the segmentation of the tribe into two divisions and then into four. This is described in my "Native Tribes of South-East Australia," pp. 199-202.

Although Mr. Mathews refers to my work, he overlooks what I say at page 207, as to the saying of the Kamilaroi of the Gwydir River, that "a Dilbi could not marry a Dilbi, nor a Kupathin marry a Kupathin." This contradicts Mr. Mathew's statement, so far as the past is concerned, that "the men of any and every given section, taken collectively, can marry into the whole four sections of women set down in Table II."

Mr. Mathews also mentions two rules of marriage in the tribes of Western Victoria, one which he says is the "normal or tabular" custom, and the other "the irregular custom of a Gamutch marrying a Gamutch-gurk." This, I think, gives away Mr. Mathews' argument, because according to him, in this statement, the "normal" marriage is in fact exogamous, and the irregular custom is the marriage within the "phratry."

In the above quoted passages, I think that Mr. Mathews might have seen that the one which he terms the "normal or direct" rule of the Kurnu and the "normal or direct custom" of the tribes of Western Victoria, is the old exogamous rule of marriage, which investigators, from Ridley down to Spencer and Gillen and myself, have found in all tribes in one form or another.

The second rule on which he relies to prove that there is not any exogamy in Australian tribes, is an innovation, introduced since the tribes were broken down by the advent of the white race.

Before giving my reasons for this statement, I must demonstrate what the position was, from a "marriage rule" point of view, of an aboriginal man in the old times. To do this I take the case of a man of one of the tribes which have the Kamilaroi organization, because some of the evidence which I shall adduce comes from the Murrawari tribe, which occupied the banks of the Darling River above the town of Bourke, and was the next to the Kurnu tribe.

To explain clearly I must begin with the social organization of the Kamilaroi tribes shown on the subjoined table. This will serve also for the Murrawari tribe, although they have only the four sub-classes:

A. Kupathin	{ Ipai (a)	B. Dilbi	{ Murri (c)
	{ Kumbo (b)		{ Kubbi (d)

In this I have only taken, as essential, the male names and shall use the letters prefixed to them instead of the names themselves. The above represents the two classes, or moieties, into which the tribe is divided, and it also shows the further segmentation into four sub-classes or, as Mr. Mathews terms them, "sections." The marriages and descents are given in the subjoined diagrams:

(1)	(2)	(3)	(4)
m.Aa	m.Ab	m.Bc	m.Bd
<hr style="width: 50%; margin: 0 auto;"/>	<hr style="width: 50%; margin: 0 auto;"/>	<hr style="width: 50%; margin: 0 auto;"/>	<hr style="width: 50%; margin: 0 auto;"/>
f.Bd	f.Bc	f.Ab	f.Aa
m & f.Bc	m. & f.Bd	m. & f.Aa	m. & f.Ab

In these diagrams "m" means "male" and "f" means "female."

It will suffice to explain the position of man in the old times, as to the marriage rule, if I take one instance, and I take as my example the individual Kupathin-*Ipai*, that is, m.Aa, whose wife must be a *Dilbi-Kubbitha*, that is, f.Bd, and their children would be m. & f.Bc—*Dilbi-Murri* and *Matha*.

There are a number of restrictions which limit the choice of a wife, and therefore "taboo" certain women of the tribe. By an exhaustive process of elimination we may arrive finally at the group of *Kubbitha* women among whom his "lawful wife" will be found.

(1) The segmentation of the tribe into two moieties, which are intermarrying and exogamous, restricts him to half the women of the tribe. (2) The division of the classes into four sub-classes, and the rule of marriage and descent attached to them, permits him to obtain a wife only from among the women of one of the sub-classes—namely, Kubbittha—and causes his children to belong to the other sub-class, which with it represent the class Dilbi. Thus his wife must be found in one-quarter of the tribe. (3) The final limitation is to a certain group of the Kubbittha women, which will be indicated by considering which of them may be lawfully the wife of this particular Ipai man. The custom of “betrothal” indicates the manner in which the particular woman is discovered who can be the lawful wife of a certain man. I fully explained this in my “Native Tribes” (pp. 177-178), in speaking of the “noa” system of relationship, but may briefly indicate the main points here. In the Dieri tribe a boy is born into the relation of “noa” to the children of his mother’s mother’s brother’s daughter’s daughter, which is Mr. Mathews’ “direct rule of marriage.” Such a child is one of a group of males who are mutually in the relation of brother, own or tribal. Similarly the girls to whom he is in the relation of “noa” are a group of sisters, own or tribal. I think that what Mr. Mathews speaks of as the “pedigree,” which determines whom the man may marry, is in one sense the equivalent of the “noa” relationship. But in the marriage rules which Mr. Mathews relies on there must have been some difference to fit in with the departure from the “old time” exogamous law.

To understand the application of Mr. Mathews’ second or indirect rule of marriage, I think we should take into consideration the history of those tribes since the advent of the whites.

The Kurnu Tribe.—This tribe was the subject of a communication by Mr. Greville N. Toulon to Mr. E. M. Curr, who published it in his work, “The Australian Race” (vol. II, p. 189). This communication contains some facts which have a bearing on the questions I am considering as to the Kurnu, or, as Mr. Toulon calls them, the Bahkunjy. This name properly belongs to all the tribes on the river Darling from the town of Bourke to its junction with the River Murray, a distance of some four hundred miles.

The country about Bourke was occupied for pastoral purposes about the year 1845, and the number of aborigines forming the tribe, for a length of some one hundred miles of the river down stream, was probably about 3,000. In the year 1863 it was not less than 1,000, but Mr. Toulon says that in 1884, the date of his communication, the tribe had probably not more than 80—

namely: 25 men, 35 women, and 10 boys and girls. This decrease, which was scarcely short of annihilation, was due in part to diseases that accompanied the white man, in part to other causes. Mr. Toulon says, writing in 1884, that the dialect spoken by the tribe, was then not spoken unmixed anywhere, due to the number of what they would formerly have regarded as Tanqui, that is, hostile persons in the tribe.

Some interesting particulars have reached me from an intelligent woman of the before-mentioned Murawari tribe, who is an Ipatha. Being nearly sixty years of age she remembers the time when the tribes were still living under the old customs, when the town of Bourke consisted of three houses. The Murawari, as would be inferred from the name of Ipatha, were organized like the Kamilaroi, but spoke a different language. They adjoined the Kurnu, or, as she calls them, Gurnu* at Bourke, who were one of the tribes friendly to hers. The occupation of the country by white settlers and the introduction of civilized law and order under the Colonial government put an end to the tribal animosities and conflicts, and, as we shall see, also affected materially the tribal customs and rules of marriage.

According to the Ipatha woman there were formerly no such marriages as those at present, between Ipai and Matha, Kombo and Kubbitha, Murri and Ipatha, as they were not allowed in her tribe in the old times. If a man took the "wrong woman" for a wife, all her kindred and all his followed and if possible killed and burned them, having skinned their bodies. The Ipatha woman says that they became careless about these matters some seventeen years ago, being afraid of the white people and of the Mounted Police, if they inflicted tribal punishment on wrongdoers. Another reason given for the tribe disregarding such "wrong" marriages is that the white people have influenced them, especially since the government has collected the aborigines on reserves and given them their food to live on. They now do as they like as to marrying.

The old feeling, however, still exists among the survivors of these tribes, as is shown by what recently occurred on the Culgoa River. A Kombo man fell in love with an Ipatha woman, and in spite of the strong feeling raised by it took her for his wife. The ill feeling thus created was so strong that he was persuaded to go away for a time. When he returned he again took the Ipatha for his wife, although a "lawful wife" had been found for him. Finally the Ipatha woman fell ill and died. It was

*In "Native Tribes," pp. 49-50. The Guerno, one of the tribes composing the Karamundi Nation.

said that "someone had mixed her food with poison," a kind of fungus which had been roasted with the ground-up bones of a dead man. This is clearly a case of "evil magic," such as they believe in, and dread. I have heard before of this practice with "fungus" among the Kamilaroi of the Gwydir River. (Native Tribes," p. 362.)

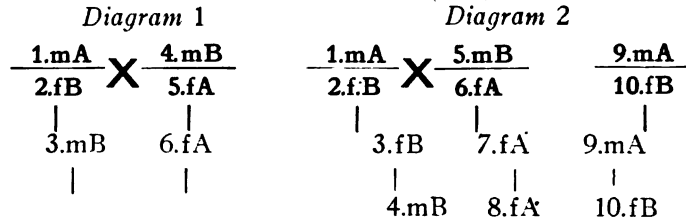
Referring to Mr. Toulon's account of the Kurnu, I find that he gives some information about the terms of relationship used by them. A study of these shows me that in his time the marriage rule was that a man's wife must be his "mother's brother's daughter." This is practically the same as the rule of the Urabunna tribe on the west side of Lake Eyre. ("Native Tribes," p. 189.) Mr. Mathews' statements show that at present the Kurnu tribe has a rule which is that of the Dieri on the east side of Lake Eyre. ("Native Tribes," p. 189.) This change in the marriage rule I should attribute to the constant intermixture of tribes, which Mr. Toulon said in 1844 was occurring, and according to the Ipatha woman intermarriages between the different tribes has been going on since the white people came. This would naturally be the case when the tribes came to live under the enforced peace of the Colonial government, and the more so when the lessening of the tribal population made it difficult to carry out the requirements of the exogamous and totemic class organization.

It is worth while to give a little attention to the marriage rules of the Kurnu, the one which obtained in 1884 and the two which Mr. Mathews reports as being in force now. To explain them I make use of two diagrams, the first showing Mr. Toulon's rule and the second those of Mr. Mathews.

I have studied Mr. Mathews' Table I (p. 83), containing the marriages and the descents in the Kurnu tribe, and compared it with his statements at page 85. I should have made use of the particulars given in the Table, but they do not agree with the letter-press. I therefore use the letter *A* for one moiety of the tribe and *B* to represent the other, which will answer the purpose and be simpler than the aboriginal names which they represent.

Mr. Mathews says that there are two marriage rules, one of which he terms the "normal or direct" and the other the "indirect." The first is as follows: "In such cases, therefore, a brother's daughter's son mates with a sister's daughter's daughter." The second rule is as follows: "But if C's daughter's son be allotted a spouse who is D's son's daughter, this is the union which may be distinguished as 'indirect.' * * *"

These are also shown in the second diagram:



The letter "m" means "male," and the letter "f" means "female" and the capital letters "A" and "B" stand for the two moieties into which the tribe is divided. Each Diagram commences with two men who have married each other's sister. The arrows indicate the fraternal relation. The man 3.mB in the first diagram marries the woman 6.fA, who is the daughter of his mother's brother, or, as will be seen from the Diagram, his father's sister, which is the same thing. The only difference is that in the Urabanna rule it is the "mother's elder brother." Mr. Toulon gives no information as to this. The Urabunna rule and this both carry out the exogamous law of the class divisions.

In the second Diagram the children 3.fB and 7.fA are not marriageable, the lawful marriage being put off to the grandchildren 4.mB and 8.fA. This is precisely the marriage rule of the Dieri on the east side of Lake Eyre ("Native Tribes," pp. 163-177.) Mr. Mathews' "indirect" marriage rule of the Kurnu relates to the individuals 9.mA and 10.fB, the son and granddaughter of 6.fA, who is identical with Mr. Mathews' individual D. The wife of 9.mA is not shown, but must have been of the B moiety.

I think I have shown reasons for the belief that the Kurnu tribe is now a mixture. According to reports made by the Superintendent of Police at Bourke to the Aborigines Board at Sydney, which have been communicated to me, there are now only 25 Kurnu individuals living.

The general condition of the tribes in the Bourke district may be gauged by a remark made by the manager of the Brewarrina Aboriginal Station, that the people in it are the most mixed lot of aborigines he had ever met, and that although there are 200 on the roll there are not more than six that actually belong to the locality.

Through the courtesy of Mr. Beardmore, the Secretary to the Board for Protection of Aborigines in Sydney, I have obtained information from the Superintendent of Police at Bourke as to the numbers of surviving aborigines in the Bourke District.

The following details show the decrease in the number of the

aborigines in the last ten years:

1898. Full blood Aborigines. .828 Half caste Aborigines. .454

1907. Full blood Aborigines. .540 Half caste Aborigines. .425

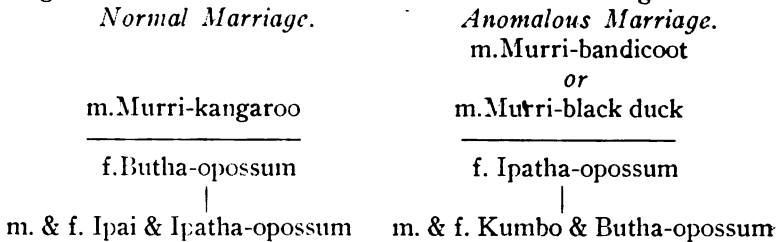
The Bourke District comprises twenty-four counties, being an area of approximately one-fifth of the State of New South Wales, which is 300,700 square miles in extent. The Bourke District may be considered to have been settled in three different portions—the first, being its extreme eastern part, followed the explorations of Sturt and Mitchell, say from 1830; the second along the Darling River and its tributaries above Bourke from 1845, and the northeastern part after 1861.

Mr. Mathews includes the Wonghibon tribe among those which, he says, show a complete absence of exogamy (p. 80). This tribe, whose country lies between the Lachlan and Bogan Rivers, was first brought under the notice of anthropologists, so far as I know, by Mr. A. L. P. Cameron in his "Notes on Some Tribes of New South Wales."* He pointed out that the marriage arrangements were different from those of the Kamilaroi, with which he was well acquainted, and that he suspected a mistake. Upon a further investigation, however, he worked out the full system of marriage and descent for me, which I have given in my "Native Tribes of South-East Australia" (pp. 214-218).

In the table of marriages given there are sixteen "normal," and twenty of what I have called "anomalous" marriages. Fortunately Mr. Cameron recorded the explanations of the latter, as given by the native informants. I regret that the wording of the explanation is obscure and likely to mislead the reader. According to the native informants the people of several totems were nearly extinct; for instance, those of the opossum totem near Mossgiel. It is evident that so many of the tribe had died that the normal marriages could not take place. This tribe has descent in the female line; therefore the woman whose children would be Ipai and Ipatha—opossum must be a Butha—opossum, whose normal husband would be a Murri—kangaroo. But, under the conditions stated, we may assume that there was no Butha—opossum woman available to become the mother of Ipai and Ipatha—opossum children. Such being the case, two new rules were introduced ("Native Tribes," pp. 214-215), by which Kubbi—wild-duck and Kubbi—bandicoot were permitted to marry an Ipatha—opossum woman, whose children would be, in either case, Kombo—and Butha—opossum. The opossum totem at Mossgiel would be reinforced by these children and, as the native informant put it, the opossum boy who under the normal marriage

*Jour. Anthropol. Inst., 1885.

should have been Ipai, now ranked as Kumbo. The subjoined diagrams show the normal and the anomalous marriages:



The important fact which is evident here is that the Wonghibon tribe, which was tending toward extinction, to avoid this and to make up for deaths in the several totems, introduced twenty new rules permitting marriages which hitherto were prevented by the exogamous laws of the sub-classes and totems.

I do not know when the Wonghibon country was first occupied by the white man, but it is evident that in 1835 the usual results of the contact of the aboriginal race with our civilization had brought impending extinction on the Wonghibon tribe.

Mr. Mathews includes the Barkinji with the Wonghibon and other tribes as proving the absence of exogamy, and what I have said will apply to all except the Barkinji. I can speak as to one tribe of the Nation because I have lately seen some of the last survivors of the Wiimbaio tribe, at the junction of the Darling and Murray Rivers. From further investigation I now learn that they have adhered to the old exogamic law of marriage between the classes Mukwara and Kilpara as I found it some thirty years ago. The survivors of this tribe are only nine adults and five children.*

Western Victoria was occupied for pastoral purposes between the years 1837 and 1847. It is difficult to speak with certainty as to the number of aborigines in it at that time, but an approximation may be arrived at from a letter written in 1852 by the Commissioner of Crown Lands, Captain Foster Fyans,* that in 1837 the aborigines in the district "could not exceed 3,000." These numbers were reduced in the next ten years by those killed in combats with the settlers and their men, by intoxication, and by disease. In 1853 the then Commissioner reported as to the district, which seems not to have been quite so large as when Captain Fyans, was in charge, that the aborigines then numbered 325 males, 209 females, and 62 children.

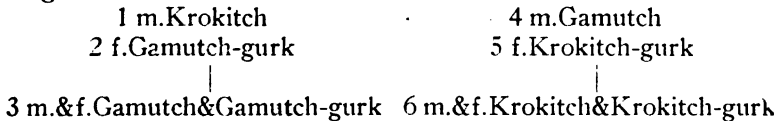
In 1861 there was an Aboriginal station on the Wimmera

*I am indebted for this latest information to Sergeant Percy Fortescue, under whose care they are placed.

River. Another was established at Framlingham in 1865 and a third at Lake Condahin in 1868. These stations were under the authority of the Board for the Protection of Aborigines, and managed by missionaries under the Board. The policy of the Board, I believe, has been to gather all the Aborigines into the stations, and in the course of time this was done with the exception of a few who remained outside. The Board, however, was successful in obtaining possession of the greater number, if not all, of the children, who were educated under the State-school system at each mission. By this the younger generation grew up in comparative ignorance of the old customs and beliefs of the tribes to which their parents belonged.

I understand that the Aborigines in the stations are from different parts of Victoria and also from the neighboring States. All tribal distinctions have disappeared from them. Marriage is conducted "in accordance with our customs, but not without regard to their own rules." As the Secretary explained in a letter to me, "The affinity between cousins is a bar to marriage, and the union of parties in that relation, consequently, would not be sanctioned." The rule against the marriage of cousins requires some remark.

When I was investigating the customs of the aborigines of Western Victoria, twenty-five years ago, I had for informants some old men who were young when their country was taken by the white men. I found that there was an objection to the marriage of those whom we call "first cousins" ("Native Tribes, pp. 241-3). Our term *cousin* includes relationships which to the aborigines are quite distinct. For instance, the children of two or more brothers, or of two or more sisters, are in the relation of brother and sister. But the children of a brother on the one side and of his sister on the other are not so, for they belong to different moieties of the tribe, as will be seen from the subjoined diagrams:



According to our system of relationships the man 3m. is the first cousin of 6f., but in the aboriginal view of the case they are distinct, because, as I have said, they belong respectively to the Gamutch and Krokitch moieties, which are exogamous and intermarrying. In some tribes like the Kurnu, in Mr. Toulon's time,

*Letters from Victorian Pioneers: Trustees Public Library: Melbourne. Page 124.

they would be in the position of "potential" husband and wife, while according to Mr. Mathews it is their children who, like the Dieri "noa," are marriageable.

It is to be noticed that the tribes of Western Victoria have not only diminished in numbers so much that, for many years back, there must have been difficulties if not impossibilities of marriage under the exogamous rule of the old time, which Mr. Mathews speaks of, I think inconsistently, as the normal rule, for the policy of the Board, carried out if not initiated by the missionaries, "in accordance with our customs," has disregarded, as I personally know, the old marriage rules, and would automatically sanction marriages between those who, under the old time customs, might have been punished with death for "mixing too near flesh," as in the Murawari tribe which I have quoted.

I may say here that the estimated number of Aborigines in Victoria at several periods was as follows: 1835, 6,000;* 1861, 1,690; 1871, 1,330; 1881, 780; 1891, 565; 1905, 365; 1906, 275; 1907, 270, including 81 half-castes.

All the authorities who have written on this subject agree that the extinction of the native tribes must be attributed to causes which arose with the advent of the white man. These are principally due to the acquired vice of intoxication, introduced diseases, the change in their mode of life, conflicts between them and the settlers and their men. To this may be added for Queensland the "dispersal" of tribes which became dangerous to the settlers, by the mounted native police, a force established by the government and officered by white men. As a later cause the use of opium may be added, learned from the Chinese employed on the stations. The decrease of the aborigines has been so rapid, especially where the white population is comparatively dense, as in towns and mining centers, that much of my work might be written in the past instead of the present tense.

It may seem strange that the endeavors made by the several governments to rescue the aborigines from extinction should not have been more successful. But the evidence which is to be found in works written in past years, recorded in Parliamentary papers, and reports by the missionaries all show clearly that it is not possible to raise the savage hunters, living in the "stone age," to the level of the intruding white man, in one generation, or perhaps even in several. The half-castes may perhaps survive and become amalgamated with the general population, but to all appearances the "full bloods," as they are called in some reports, appear

*Protector Thomas, quoted by Mr. Turner, "History of Vic-

to be doomed to extinction. The gap between the two races is too wide, and in my opinion it is no more possible to convert the Australian aborigines straight off into the equal of a civilized white man than it is to train a young Dingo to be a sheep dog of high caste and inherited mental powers.

Mr. Mathews makes the following statement at page 147, which requires some remark from me:

“ My researches were not confined to my native state of New South Wales, but were conducted either personally or by means of thoroughly reliable correspondents in Queensland, South Australia, Northern Territory, Victoria, and Western Australia. I had the work so far advanced in 1900 that I was able to prepare a map of Australia,* showing the boundaries of tribes with two divisions, those with four, and those with eight. On that map I likewise showed the boundaries separating the tribes who practice circumcision and subincision from those who do not. Such a map had never been attempted before.”

I am surprised at this, because Mr. Mathews, in a paragraph in the preceding page, shows that apparently he has read my “ Native Tribes of South-East Australia.” He has seen, therefore, the list of my pioneer works in the preface (page viii), the second of which is entitled “ Notes on the Australian Class Systems. Journal Anthropol. Inst., May 1881.” If, then, Mr. Mathews will turn up that paper, he will find that I therewith “ attempted ” a map to localize the class systems described. If he will then look down the list mentioned, he will find the title of another pioneer work: “ Further Notes on the Australian Class Systems. Journal Anthropol. Inst., 1888.” This is also accompanied by a map, showing the approximate boundaries of tribes, to use Mr. Mathews’ own terms, with two divisions, those with four subdivisions, and also an early account of the Waramunga tribe and its class system, with eight subdivisions. Further than this it shows the location of tribes of abnormal type with female descent, abnormal tribes with male descent, and abnormal tribes with no class system.

In the “ Journal of the Anthropological Institute of 1890, page 30, he will find another pioneer paper entitled “ The Dieri and Other Kindred Tribes of Central Australia,” which is accompanied by a map showing the tribes in the Lake Eyre district, which practice circumcision and subincision. Altogether I published thirteen pioneer papers which contain practically the information which I elaborated in my “ Native Tribes of South-East Australia.” I have gone into these details to prevent Mr. Mathews from making such statements in future.

*Proc. Amer. Philos. Soc., vol. XXXIX, pp. 550-578. Map.

In view of the superior position which Mr. Mathews assumes, I think that it will be well to give some further particulars, to enable my readers to form a true estimate of all the questions raised. My investigations commenced in 1861-2, during my two expeditions into Central Australia, where I was on friendly terms with three native tribes, which were in their primitive state of savagery.

I continued my investigations on my return to Victoria, partly in person, partly through the co-operation of local correspondents, who are named in the preface to my work. The greatest part of my information was collected before 1885; later on I resumed investigations into the customs and beliefs of the Lake Eyre tribes, with the assistance of the Rev. Otto Siebert, who had lived many years among the Dieri and spoke their language.

In 1883, when I was preparing my materials for publication, I again communicated with some of my former correspondents, asking for further information on certain points. I then found that in the interval of some ten to fifteen years the old tribal organization had broken down and the aborigines were greatly diminished in numbers, so that trustworthy information no longer was to be obtained. For instance, my correspondent who had supplied information as to the tribes of the Belyando River, in Queensland, told me they were practically annihilated by drink and disease, and especially by the opium habit, contracted by opium being given to them as wages for work done, or purchased at the stores. The remnants of the tribe had been transferred to an island off the coast, by the Queensland government.

To complete what I have to say about Queensland I will add the following: In that part of Queensland south of latitude 22 degrees, which approximately agrees with the northern boundary taken by me for the "Tribes of South-East Australia," there was at one time a large aboriginal population. According to the earliest reliable statistics, there were 8,000 within 50 miles of Brisbane, and 3,300 on Fraser's Island. In 1901 there were only 3,600 south of latitude 22, exclusive of 350 on Fraser's Island and two Reserves.

I feel it my duty to point out to anthropologists that it is not now safe to accept any new information as to native custom from Victoria or New South Wales, without being satisfied that it is from a trustworthy source. The disorganization of the tribes has not gone so far in Central Australia, for some of them, although fewer in number, still live their lives under the old customs. I am at present investigating the subject, and shall make known the results before long.

I have taken notice of Mr. Mathews' statements in the interest

of science. His evidence has been put forward and interpreted in such a manner as to mislead those who do not know the actual facts of the case. He has added something to our knowledge of native custom—for instance, what he terms “the castes of blood and shade,” but his discovery of the new marriage rules is valuable only because it shows how the surviving Aborigines, always a law-abiding people, endeavor to meet the difficulties which beset them socially through the fatal advent of the white race.

At page 146 Mr. Mathews records his opinion that “Mr. A. W. Howitt shows that he is unacquainted with even the elements of Australian sociology.” What is to be said now of his knowledge of that subject?

I must express my indebtedness, in this inquiry, to Mr. R. H. Beardmore, the Secretary to the Board for the Protection of Aborigines in Sydney, and to Mr. Ditchburn, the Secretary to the Board for the Protection of Aborigines in Victoria. Especially must I thank Miss M. Benson of Brenda Station for the great trouble which she has taken to obtain trustworthy information from the survivors of tribes, for instance the Murawari.

SOUTH AMERICA AND HER INSTITUTIONS.

Few North American scholars and men of culture even realize the existence in South American countries of “excellent universities advanced scientific and commercial institutions, literary societies and groups of progressive thinkers, writers, poets, historians, editors, painters, sculptors, architects and professors, as highly gifted and as numerous in proportion to population as those of the United States and Europe.” Nevertheless the society of the great cities of South America certainly does include elements which should save them from the patronizing tone in which too many North Americans speak of them. Buenos Ayres, Rio Janeiro, Valparaiso, and Montevideo are not merely great trade centers, they are centers of light and learning on their continent, and their light is not vastly different from ours. Any one who will study the history of the more prominent South American countries in the same spirit of broad-minded inquiry he would bring to Portugal, Roumania, or any other of the minor European lands will soon realize that all the time of all their people cannot have been devoted to revolution. The Latin blood flows with its great susceptibilities to beauty of sound and of form, and in many fine arts to a pitch of achievement by no means altogether common in North America. Many of the Latin American countries, too, have either a literature or its beginnings. The literature of Mex-

ico has commanded attention beyond Mexican boundaries. If, in the majority of Latin American countries, the literature is local, that is because they have histories and traditions of which they are proud and on which their writers love to dwell. They are sensitive people, whose sensibilities are respected by the Europeans settled among them. Americans who would dwell in Latin American countries and those who would comment on their affairs might do well to profit by this European example. It is true that there have been many revolutions in South America; but a great many American writers seem to think that these countries have had no other product worthy of attention. We Anglo-Saxons are apt to forget that our own advancement was achieved through revolutions, and we are also apt to ignore the fact that South America is a continent still in transition politically, but progressing rapidly toward an era of civic stability.

A ROMAN VILLA.

The site of a Roman villa has been unearthed by the members of the Norfolk Archæological Society, about 12 to 18 inches below the surface. Many fragments of mosaic pavement were found, pieces of window glass of Roman origin, oyster shells, bones of sheep, pigs and ducks were found in an ashpit. Another chamber was paved with red tesserae and running from it a long corridor, also paved. Large quantities of wall plaster, richly painted in pure bright colors, were found in one of the three chambers excavated.

The statue of King Alfred, who died a thousand years ago, was unveiled in London, September 20, and the address was delivered by Lord Rosebery. There is something which thrills the heart of a person of Anglo-Saxon descent in the thought of the great Alfred, who consolidated and founded the English nation a thousand years ago. Attention has been called to the fact that Alfred came nearly a thousand years after Julius Cæsar. Lord Rosebery describes King Alfred as a pioneer of English greatness, and the embodiment of English civilization, and dwelt upon his sterling honesty, his high moral and Christian qualities, and his great love for the people over whom he ruled. His address closed with a description of the immortal work which this monarch accomplished; and with the highest tribute to the United States as her sister nation. The work of King Alfred was done for these two nations, which in supreme moments of distress and sorrow are irresistibly joined "across centuries and across seas."

THE McEVERS MOUNDS, PIKE COUNTY, ILLINOIS.

CLARA KERN BAYLISS.

ON THE west bank of the Illinois River, in Pike County, Illinois, stands the little village of Montezuma on a strip of bottom land 600 feet wide, extending along the river. Running east and west at right angles with this alluvial bottom are ridges from thirty to fifty feet high, which break down abruptly at the eastern end in cliffs of limestone that face the river.

On these ridges, close to the town on land belonging to N. D. McEvers, are 15 mounds, 8 of which have been more or less thoroughly examined. We give their size and the results of the explorations in the order in which the excavations took place:

- No. 1. 24 feet high; 130 feet in diameter.
- No. 2. 9 feet high; 100 feet in diameter.
- No. 3. 6 feet high; 105 feet in diameter.
- No. 4. 8½ feet high; 100 feet in diameter.
- No. 5. 12 feet high; 125 feet in diameter.
- No. 6. 3 feet high; 20 feet in diameter.
- No. 7. 5 feet high; 25 feet in diameter.
- No. 8. 4 feet high; indefinite.

No. 1 is the largest and most conspicuously located of all the mounds, and is situated at the extreme eastern end of a ridge just where it drops down into a perpendicular, shaly cliff overlooking the river. It was covered with a thick sod, and apple trees were growing upon it. Mr. McEvers had long intended to examine it, although an uncle assured him that he had opened it 50 years ago and had found nothing in it. A slight break in the symmetry of the northeastern side marked the place of this excavation. Nevertheless, in the winter of 1905 Mr. McEvers began to tunnel it from the west.

As he proceeded, he found mussel shells, ashes, charcoal, and bones. The earth was soft and there was danger of its caving in; and when, at a distance of thirty-three feet inward, a still softer soil was encountered, the tunnel was abandoned and a trench intended to meet the tunnel was begun on the eastern side. By the time this had been extended fifty feet inward, Drs. Bushnell, Wulging, and Fowke of the Missouri Historical Society had heard of it and were on the spot. With the consent of the owner, they hired four men with scrapers and started a large trench through the mound from east to west.

As the work progressed, ashes, charcoal, animal bones, and flint chippings were unearthed, besides a great number of mussel shells, some of them perforated so that by the attachment of handles they could be used as hoes or scrapers. Lower down were found a flint spear point, flakes of mica, three flakes resembling moss agate but with no moss enclosed, and many small fragments of pottery, mostly of coarse material and crude "finger-nail" decoration, but some with fine polish and beautifully curved rims decorated with criss-cross lines. At a depth of twenty-two feet a layer of decayed wood and bark was found, and beneath this was a vault fifteen feet from north to south, by seven east and west, and twenty inches in height, built of logs chinked with green clay which, when moist, works up in the hand like putty.

This log pen had been built on the original surface of the soil and had been floored with bark. Over the south half of this floor 1,259 leaf-blades of chert had been laid so as to overlap like shingles. The blades are $3\frac{1}{2}$ to 7 inches long and from 3 to $4\frac{1}{2}$ inches in breadth, carefully wrought, and mostly of dull white, although some are red, some black and red, and others a beautiful mixture of pink and white.

On this flooring of leaf-blades, at the southern end of the vault, a body nearly six feet long had been laid, face down, head southwest. A foot north of the head a large lower jaw rested on four pink blades. Human bones indicating promiscuous skeleton burials covered almost the entire bottom of the cyst, and scattered about among them were four perfect, nineteen broken, and several fragmentary needles or perforators made from elk bone. Just north of the center was a disjoined and bundled skeleton, the large leg bones being placed at the bottom, and the skull, which was painted or stained red, being placed in vertical position above the west end of the heap. Near the northern end of the cyst was an extended skeleton, head west. Two feet north was another extended skeleton, head east. Between the head of the latter and the feet of the former was a large shell a foot long which perhaps had been used as a drinking cup, for the columella and whorls had been removed. Near the first bunched skeleton were forty-two pearl beads, one weighing fifty-two grains, but the others small. With them were seventy-two cylindrical and barrel-shaped beads made from salt water shells, all well polished and drilled lengthwise. Among them was an occasional long, pointed tooth of an animal, drilled through the root end. Some flat, disc-shaped shell beads, perforated at the center, fragments of two "pulley rings," and a shell spoon completed the contents of the vault.

The trench was enlarged at the middle so as to extend beyond the pen, and the logs were found to be crossed at the corners and to extend several feet beyond the cyst. Several feet above and to the southwest of the vault, are traces of a log that seems to have sagged from an inclined position, like a weakened roof-timber: and diagonally opposite on the projection of the trench the red dust of decayed wood also was seen. If these are the remains of roofing logs, the roof must have projected far beyond the vault and have been put on the mound after a covering of earth had been laid upon the bark-or wood cover that rested immediately upon the vault.

On the north wall of the trench a thin vein of green clay, like that with which the logs were chinked, indicates that a layer of this was put over the mound at one stage of the building. From the wall of the trench, five feet above the bottom, the writer took a small pink chert flake. On the upper surface of it was what appeared to be a short, branched root; but the supposed root proves to be as hard as iron, and though apparently extraneous can neither be washed away nor broken of. It is possible that much of interest still remains in this mound, but tunneling is unsafe, for the moist loam readily falls, *in slices*, when cut with a knife.

In No. 2, across the gully to the north, were found the decayed bones of three or four persons. No implements or pottery had been buried with them.

Nothing of consequence was found in No. 3.

At the sod line of No. 4, an interesting feature was discovered. The surface had been leveled up by filling in the depressions, and a ridge of red clay twelve by sixteen feet had been built, and within this were three bunched skeletons.

No. 5 was constructed of dumped earth, ashes, rock, and wood. Nine feet under the apex the scrapers struck the north-east corner of a log cyst 14 by 12 feet and 2½ feet high, built on the sod line. Near the south side of this vault was the top of a skull, crown up, and stained red. To the eastward were portions of the skeleton. One whole and several broken needles were found in the cyst. Outside of the vault, thirty feet west of the center, was an extended skeleton, head south. On the east side of the trench were two extended skeletons, headse east; five fragmentary skeletons; one adult and one child's skull. Here were remains of ten bodies outside the cyst. Probably three times that number would be found if the whole mound were removed.

No. 6 had been reduced by cultivation to a height of three feet. At one side of it were found the crumbling bones of two adults and a child which at death had been cutting its second teeth.

No.7. A new feature was discovered in this. All the burials in the other mounds had been on or above the natural surface. In this, a grave 16 inches deep had been dug at the center, and in it had been placed a body, head west. At the outer edge on the south, another grave had been dug a foot into the soil and a body placed in it, head east. This grave had been covered with limestone slabs on which rested mussel shells. West of this grave, on the natural surface, was a skeleton, head toward the center. A foot above this were the bones of a skeleton piled in a heap. Just above the central grave was an extended skeleton, head east. When the mound was two feet high, two bodies had been laid on it with heads together, apparently those of parent and child. Three other bodies were on the east. On the west side was an extended skeleton, and parallel with it the soft fragments of another skeleton. Farther east was a broken skull, and under it the nearly perfect skeleton of a young child. Part of the skull of another infant lay near. Close to the surface was an unusually thick skull, and north of the center a large femur and tibia lying at right angles and a foot apart. Beneath this were the fragments of a child's skull, and three feet away some child's teeth. The slight elevation of the mound, the successive burials, and the position of scattered bones evidently belonging together, render it probable that the sundering of these bones was due to the plow-share or to the depredations of animals.

In this one mound, five feet high and scarcely twenty-five feet in diameter, the remains of eighteen or nineteen persons had been inhumed, in pits, on the surface, inclined on the partly constructed mound; heads east, west, northeast, and southwest, showing that no uniform custom prevailed. Bones were now at a discount and were corded up under a tree near by; and the explorers betook themselves to a pasture lot close to Montezuma and began work on No. 8.

No. 8. This was a mound which had been so reduced by cultivation and by the trampling hoofs of cattle that Mr. McEvers had not recognized it as an Indian burial mound. The first stroke of the spade revealed an earthen pot fairly projecting above the sod; and on the southern slope six skeletons almost protruded from the earth. The pot was the only entire one found in any of the mounds, but was so badly decayed that it fell to pieces on removal from the ground. Directly below the pot was a round fire pit sixteen inches in diameter and eighteen inches deep. North of the pot, close to the surface, was the top of a skull. Three feet east of the center was another, with the face bones wanting. On the natural surface, lying in a curved line as if to mark the

southern circumference of the mound, were two adult skeletons, and near them that of a child, covered with limestone slabs.

Stone cysts, like the two found in these mounds, were common in Illinois, the usual sarcophagus along the east side of the Mississippi being of stone slabs set on edge and floored and covered with slabs of limestone. Log vaults like those found in Nos. 1 and 5 are rare in Illinois, though they are found in other parts of the United States. In Jo Daviess county a vault was made of stone on three sides and of logs on the fourth side. In Whiteside county, east of Sterling, the writer knows of a mound in which a large stone slab was laid on four stone corner posts, and under this canopy several bodies were placed in sitting posture.

The Hurons east of the Great Lakes used to bury their dead separately, and every twelve years they exhumed the bones and the partially decomposed bodies, made a "Feast of the Dead," and reburied them all in one pit. The Dakotas exposed their dead on aerial platforms until the flesh was removed, when they buried the bones. Some such custom probably accounts for the bundle and disconnected remains found in the McEvers mounds.

Macomb, Ill.

THE CYCLOPES.—In Home, the Cyclopes dwelt in caves, each giving laws to his own children and wives. Euripides called them one-eyed. Polyphemus dwelt in solitude and was one-eyed, but this does not prove that all the Cyclopes were. The tradition is that the Cyclopes were wall-builders. It is impossible to account for the story by comparison with any other object of nature.

The abyss of the "Lacus Curtius" is named from the fact that Curtius was supposed to have precipitated himself into the abyss by starting from the Temple of Concord. The marsh called "Caprea," originally was situated in the Roman Forum, where was a wild fig tree, also near the tomb of Romulus.

ORIENTAL DEPARTMENT.

CONDUCTED BY

DR. CHAS. H. S. DAVIS.

Dr. Chantre, head of the department of Anthropology in the University of Lyons, has written a work entitled "Recherches Anthropologiques en gypte." This is an elegant volume, with 159 illustrations, many from photographs. The work is a review of the populations of Ancient and Modern Egypt and its neighboring territory in relation to their history, physical characteristics, and handiwork. The first half of the book is devoted to Ancient Egypt, and an account is given of the man explorations, chiefly German, British, and French. The author traces the results of anthropological research from the First to the Thirtieth Dynasty down through the Grecian, Roman, and Byzantine periods. The author says that the numerous physical measurements made of Egyptians throughout historic times prove that the race has been practically homogenous in every age. No enduring external influence has affected the type of the local population. The very close similarities between the Egyptians and the Beduas and Berbers of Tripoli and Algeria prove their common origin; and Egyptian culture, as well as its populations, is essentially indigenous. The second half of the book is given to the Egyptians of the Middle Ages and modern times. (Lyons: A. Rey & Co.: pp. xviii and 318. Price, 50 francs.)

Prof. Flinders Petrie and Mr. Mackay of Bristol, England, have selected the site of Memphis for their excavations this year. The importance of this undertaking will be realized if we remember that Memphis was the capital of Ancient Egypt, and that her history reaches back to the beginning of Egyptian civilization. Here was the seat of the Memphite school of sculpture, the finest in Egyptian art, and here was the famous temple of Ptah, which was first founded by Menes and enlarged repeatedly by a long succession of kings. The site, which covers an area of more than 100 acres, has never before been excavated. The difficulties in the way of the work will undoubtedly be great, as the land is under cultivation.

Volume IX of the Semitic Study Series, edited by Profs. R. J. H. Gotthek of Columbia University and Morris Jastrow, Jr., of the University of Pennsylvania, is "Selected Babylonian Business and Legal Documents of the Hammurabi Period," by Arthur Ungnad, of the Royal Museum at Berlin. It makes a volume of some sixty pages, giving the cuneiform text of forty-three documents, a list of the 202 signs used in those documents, glossaries of Semitic and Sumerian words, and a list of proper names arranged alphabetically. The introduction includes a brief account of the discovery of the documents and of the literature dealing with them. This is intended as a handbook to introduce the student to the study of these documents, dating from the close of the third and the beginning of the second pre-Christian millenium. The editors announce that three other parts of this Babylonian handbook series will appear soon—one covering the documents of the period of Sargon and Ur-Gur, *i. e.*, the first part of the third millenium; one of the neo-Babylonian; and one of the Persian period, the two latter including between them a considerable part of the first millenium. These parts are to be by Messrs. Lau, Ungnad, and A. T. Clay, respectively. This leaves untouched the Cassite period, the middle of the second millenium, for which no definite arrangements are yet made.

Contents of the "Proceedings of the Society of Biblical Archaeology," Vol. XXIX, Part 7: "Hagiographica from Leipzig Manuscripts" (*con.*), W. E. Crum; Note on "The Chronicle of the First Dynasty of Babylon, Rev. C. H. W. Johns; "Some Egyptian Antiquities in the Soane Museum," Jean Capart; "Some Munich Coptic Fragments, III," E. O. Winstedt; "The Folklore of Mossoul," R. C. Thompson.

Prof. Charles Waldstein protests vigorously against the indifferent attitude of the British government toward Dr. Arthur J. Evans, the well known archæologist, and his work in Crete. Professor Waldstein says in the *London Times*: "It is sad to think that one who has rendered such brilliant service to science with such devoted work and expenditure of thought and talent and his own material means, should have to appeal for support in order to complete a scientific labor which has brought credit to the British nation all over the world. In any other European country the government would have subsidized, if not paid all the expenses of what can in no way be considered a private enterprise. There can be no doubt that Dr. Evans' Cretan excavations rank highest in importance among all the works of archæological exploration in our day. It is well known that he himself has borne

the greater part of the expenses for several years. Those who hitherto have supported him belong chiefly to the academic world or the world of scholars—people who already are overburdened with contributions of a similiar nature out of all proportion to their incomes. Does not a wider public take some interest in the higher research carried on by the scientific representatives of the nation, and can the wealthier classes in England not be brought to give material support to the efforts of those who thus stand for the nation's higher culture? Is it impossible to hope for a government subsidy? If it be not the 'traditions,' good traditions can be inaugurated by those who lead the nation."



In consequence of the recent Franco-Siamese treaty extending the French protectorate over the former Cambodian provinces of Battambang, Siem-Rap, and Sisophon, which had been annexed by Siam, France has come into possession of the temples of Angkor. A committee has been formed of orientalist, archæologists, artists, and public men to take steps to preserve these monuments, and the Societe d'Angkor asks for subscriptions for that purpose.



Prof. Peter Jensen, of Marburg, has issued a volume of one thousand pages on the "Gilgamesh Epic" of the Babylonians, and he finds the hero of it to be the prototype not only of many Old Testament characters, but even of Jesus himself. More recently E. Stucken has issued a work entitled "Astralmythen der Hebraer, Babylonier und Agypter." A second edition has appeared of Jeremias's "Das Alte Testament im Lichte des Alten Orients."



Contents of the *American Journal of Archæology*, Vol. IX, No. 4: "The Temple of Helios at Kanawat," Clarence Wald; "Lysippus as a Worker in Marble," W. W. Hyde; "Three Vases in the Metropolitan Museum, Illustrating Women's Life in Athens," Gisela M. A. Richter; "A Tyrrhenian Amphora in Philadelphia," W. N. Bates; "Greek Ostraka in the Haskell Museum," E. J. Goodspeed; Archæological Discussions.



The publishing house of Hinrich in Leipzig has begun, under the general title of "Vorderasiatische Bibliothek," to issue a series of transliterated and translated texts from the literatures of western Asia that promises to furnish the student of history, theology, and literature with rich material from the ancient Orient. These texts are accompanied chiefly by explanations of their historical importance, the philological data being subordinate. The whole

series is to fill perhaps three hundred sections, octavo, each of sixteen pages, to cost fifty pfennige; and each year to bring out about twenty-five sections. As elaborated so far, the work will furnish inscriptions under six heads, viz.: "Old Babylonian Kings," "Assyrian Kings," "Neo-Babylonian," "The Achaemenides and Later Rulers," "South Arabian," and "North Semitic." There will also be Chronicles, Leases and other Property Documents, Letters, including those of Tel-el-Amarna, Legal Texts, and Mythological Texts. Most of the material naturally is more or less old, but unpublished texts also are promised. The first volume of the series has appeared as a volume of 275 pages, entitled "Die Sumerischen und Akkadischen Königsinschriften," edited by Fr. Thureau-Dangin. These inscriptions are arranged under twenty-one heads, evidently chronologically. An appendix follows, together with lists of abbreviations, signs, and proper names. A second volume is to follow in the near future, "Die Amarna Tafeln," in eleven monthly installments.



Until the excavators of the great pre-Hellenic sites in Crete have given their own comprehensive accounts of their labor and its results, readers must depend upon Professor Burrows' book on the subject, and upon Signor Angelo Mosso's "Excursioni nel Mediterraneo e gli Scavi di Creta," an English translation of which has just appeared. An English commentator says of Mosso's book: "For instance, we learn that the so-called "gesso duro" reliefs of Knossos are rather stucco reliefs, since they contain no sulphate of lime. He notes that, since the supposed "bath rooms" are lined with gypsum, which dissolves in water, they are more probably something else—say, chapels. Apropos of the soluble gypsum and alabaster used in these buildings, he warns us of the impending dissolution of much of the buildings which have been recovered by the spade. And a shower of rain enabled him to observe how, after four thousand years, the drainage system of a pre-Hellenic palace still works perfectly."



The latest number of the *Proceedings of the German Orient Society* contains a striking report of the excavations made in Asia Minor. In the heart of ancient Cappadocia, not far from the town of Angora, a vast number of clay tablets have been unearthed bearing cuneiform inscriptions dating from the fourteenth and fifteenth centuries before Christ. The finders and all scholars who have seen them believe them to be the library of the kings of the Hittite Empire, and expect that when these tablets have

been translated a great contribution will be made to modern knowledge of the ancient Orient.

Dr. Wickler, in charge of the excavations, believes he has likewise discovered the capital city of the Hittite monarchy. The town was built in terraces on the slope of a hill and walled with numerous prominent towers and bastions. The principal wall was once sixteen feet thick, built of wood and clay on stone foundations. Inside the walls were decorated with reliefs of lions. There is also a magnificently rendered figure of a young warrior, probably a Hittite king. The tablets were found in the ruins of what must have been an immense temple, approached from all sides of the city by paved streets. Numerous storehouses in the vicinity of this temple were discovered, containing many vessels of clay.

With regard to the tablets, these appear to be historical archives of the seven Hittite monarchs and the correspondence of these kings with the contemporary rulers of Egypt and Assyria. There is also the text of a treaty of peace between the Hittites and Rameses II of Egypt. An interesting fact that Dr. Winckler makes clear is that woman played an important part in politics in those days. He cites a letter sent from the wife of Rameses to her royal sister of the Hittites commenting on the treaty and expressing her satisfaction at its ratification. The learned doctors seem inclined to the opinion that the Hittites were an Indo-Germanic people, as certain references in the tablets point to their acquaintance with the gods of India, Mitra and Indra.



There is an Institut de Carthage, which is doing its best to safeguard what remains of the famous city. This was second only to Rome in the empire. Then came Vandals and Byzantines, Moors and Moslems. In spite of all, an Arab historian of the twelfth century says the ruins were still a marble quarry for the whole world. By the seventeenth century nothing was left above ground but three cisterns, a broken aqueduct, a few fragments of walls, and scattered stones. Since 1837 various societies and individuals have carted away cases of columns, mosaics, statues by the dozen; and one man loaded a ship with 2,500 stelæ and such like—the ship sank under the weight. All this profited not even museums. More recent collections have gone to England and France; and since the French protectorate in Tunis two local museums receive the finds of Pere Delattre. Meanwhile, Tunis of nowadays is growing, and houses are covering the most promising fields of research. A systematic effort is to be made to bring to light and rescue what still remains in

so interesting a site. A law of Parliament is asked in the interests of history and archæology. The old Roman amphitheater already has been dug out and used for an open-air classical play, Corneille's "Polyeucte."

"Die Literatur der Babylonier und Assyrer," by Dr. Otto Weber, gives an excellent general survey of the literary productions that accompanied the remarkable civilization of the Euphrates Valley thousands of years ago. Dr. Weber, in the case of the many subdivisions of his theme, has given a general survey followed by carefully chosen specimens; while the copious bibliographical references are of value to the special student as well as to the general reader in directing him to the sources for a fuller study of the subject. The literary division in the proper sense is represented by the prayers and hymns, the numerous myths, folk-tales, and more particularly by the famous "Gilgamesh Epic." His treatment of the school texts, which are exceedingly interesting because of the light they throw on the pedagogical methods developed at a very early period, might have been somewhat fuller. Dr. Weber's translations are made in all cases from a renewed study of the texts, and since in addition he has conscientiously consulted the studies made by other scholars, we can be certain to find in his renditions the reflections of the present-day knowledge. In a glowing subject such as Assyriology this is important, for renditions even ten years old become antiquated because of the steady progress in our knowledge of the language spoken in Babylonia.

Remarkable work has been done in the exploration of Asia Minor by Sir William M. Ramsay, of the University of Aberdeen. In his latest book, "The Cities of St. Paul: Their Influence on His Life and Thought," theological inferences that sometimes are rather fanciful are blended with much interesting archæological information. The author's reconstruction of the Tarsus of Paul's time is very interesting. The other cities he deals with are Antioch, Iconium, Derbe, and Lystra; those on the Aegean he omits. Prof. Ramsay joins to these chapters, based on his explorations, two other articles of a more general character on "Paulinism in the Græco-Roman World," and on "St. Paul in the Roman World."

The Cornell expedition to Asia Minor and the Assyro-Babylonian Orient, conducted by Dr. A. J. Olmstead and his associates, B. B. Charles and J. E. Wrench, was made possible by the generous contributions of a number of men of wealth. Its primary

object was to make the members of the expedition familiar by actual observation with the topography, physical geography, natural trade routes, and in general with the lay of all the regions covered by Oriental history. The men spent the entire summer and fall in Asia Minor; they are now in Assyria or Persia. But the hope of the organizer has already been realized in Asia Minor alone, and that, too, along many lines. It has been demonstrated once more that Asia Minor is not the well-known country which some people imagine it to be. Dr. Olmstead declares that the results reached thus far are rather larger than those of any other expedition.



Among the many projects suggested for the celebration of the Festival of Rome in 1911 is the restoration of the Baths of Diocletian, ruins of which are fairly well preserved in the vicinity of the Piazza delle Terme, where, opposite the Church of Santa Maria degli Angeli, the Exedra of the ancient baths may still be seen. The original edifice, which was dedicated in the year 305, covered a square mile, and was capable of accommodating 3,000 bathers. The sudatorium and tepidarium of the baths were converted by Michael Angelo into the Church of Santa Maria degli Angeli, and, owing to the use to which it was assigned, the tepidarium, which forms the body of the church, remains the most splendid hall that has come down to us from ancient times. It measures 336 feet in length by 90 feet in width, and is 84 feet in height, while the vault still bears the great bronze rosettes from which lamps were hung.



King Victor Emmanuel has offered \$40,000 toward the restoration of the facade of this building, in which his marriage of the baths also includes the beautiful National Museum, with its cloisters designed by Michael Angelo, in which are stored all the archaeological treasures discovered by building operations in took place in 1896 to Princess Elena of Montenegro. The site the city of Rome during the last fifty years, and also the famous Ludovici collection of marbles. The rest of the site has been converted into institutions and dwelling houses.



Mr. C. D. Curtis, writing of the "Pre-Roman Antiquities of Spain," in the *American Journal of Archaeology*, says. "In order to become familiar with the pre-Roman antiquities of Spain, it is necessary to visit almost every province of the peninsula. A wealth of material already has been collected in public and private museums, but until one makes a careful study of this mate-

rial it is hard to realize what interesting problems have been suggested concerning the early inhabitants of Iberia. To be sure, the work is still in its infancy, and it is too early to try to answer many questions which naturally arise. Were the Iberians the aboriginal people of Spain? Under what conditions and when did they reach the acme of their civilization? Are the Bacques of today the lineal descendants of the Iberians? These are problems still unsalved, but another question, which ultimately will throw light on the entire subject, can be answered. How far were the Iberians influenced by foreigners, and who were these foreigners? That they were the Phœnicians, as was formerly supposed, can be held no longer in the light of recent investigations. That the Phœnicians were mere traders with only a few stations on the Spanish coast, and that the inhabitants of Tartessus (the Tarshish of the Bible) were not Phœnicians but Iberians has been proved beyond doubt by Eduard Meyet, 'Geschichte des Alterthums,' II, pp. 141-154, 683-694."

The rich Barberini collection of Etruscan antiquities at Florence has been purchased by Sgnor Volpi, an antiquarian, and the question of the collection being kept in Italy or being permitted to be sent abroad has come up for the consideration of the government. The collection contains bronzes, ancient jewelry and gold, ivories, stones and many rich carvings. It is valued at many millions of dollars. Signor Volpi has offered to give the state one-fifth of the collection if it allows him to sell the remainder at public auction, with the right of exportation.

SCIENCE NOTES.

The famous "Giants' Causeway" in the north of Ireland is suffering the fate of the New Jersey Palisades overlooking the Hudson, for it is in the hands of stone merchants. A consignment of 200 tons of the basaltic columns comprising the Causeway has recently been shipped to Philadelphia. It will be asked whether there is no power in Ireland to protect the Causeway. Although at one time it was supposed to be the work of the giants who abounded in Ireland, and to whom a piece of construction about a furlong in length would be child's play, it is not in a legal sense an ancient monument. The Irish courts decided that the stones belonged to a company, and since that time the causeway or pier cannot be seen without payment. It may therefore be assumed that the disposal of the basalt is a legal transaction. America is fast becoming a great museum, and it will be incomplete unless several of the natural as well as the artistic "curiosities" of Europe are to be found here.

THE MOOSE IN AMERICA IN PREHISTORIC AND HISTORIC TIMES.

Hunters who, like President Roosevelt, seek mainly for larger game are aware that the moose was formerly much more abundant than at the present time.

Such archæologists as have explored the state of Wisconsin and examined the animal effigies which were formerly in an excellent state of preservation also realize that the range of this animal was very wide, extending from the coast of Maine to the forests of Wisconsin, and from this point far to the west and northwest.

The protection accorded the animal in recent years has increased its numbers and the signs of moose in the woods are more plentiful now than in the last ten years, although in Maine the animals have gone deeper into the woods, so that a hunter must go far to get a good specimen. The season began in New Brunswick and eastern Quebec on September 15th, in western Quebec on October 1st, and in Maine on October 15th. Maine allows only six weeks for moose hunting, or until December 1st, and only bulls having at least two tines to their horns may be killed. Few fine specimens have yet been brought in, the hunters who go far into the woods for the big bulls not returning usually until near the end of the season. The later a moose is killed the better its condition, and so the veteran hunters are never in a hurry to get the one animal allowed by law.

The beautiful dark coloring so much admired in the heads and skins of the moose becomes more accentuated with the advance of the winter season. This fact, so well known to old moose hunters, is the more remarkable, as almost every woodland neighbor of the moose is provided with a natural disguise in the winter in the shape of a perceptible whitening of its hair or fur, which renders it comparatively indistinguishable from the surrounding snow. The caribou turns nearly white in winter, while the weasel, the ermine and the American hare become the color of snow. But the moose is the monarch of the forest and needs no disguise. He fears no beast of prey that inhabits these northern regions.

While the glossy black of winter in the color of the bull moose is highly prized in the trophies of the chase, it is unsafe for the hunter to leave the selection of his game until too late in the season, for then he may find that the best heads have lost their horns. These are sometimes shed in November, generally in December, and sometimes, though most frequently in the case of the smaller specimens, retained till January. The older bulls

usually are the first to shed their antlers. Some of the enormous horns shed by veteran bulls are picked up occasionally by hunters and others, and often are mounted by expert taxidermists with good effect upon heads from which other sets had been cast.

The life history of the moose is interesting. When the snow has left the ground entirely bare late in April or early in May, the moose migrate from their winter haunts and approach the marshes, ponds and rivers where they search for their summer food, consisting of the various aquatic plants which flourish there. Their favorite diet is the water lily, on which they browse as soon as it makes its appearance on the surface of the water, always wading deep into the water and dragging up the plant by its root, and frequently keeping the head for a minute and more at a time under the water. When they cannot obtain the water lily they feed upon the rushes.

About this time, or a little later, the females go apart, seeking the most impenetrable thickets near or bordering on the water, and there bring forth their young. Animals two years old never produce more than one at a birth. Those of three years old and upward almost always produce two, and occasionally, though rarely, there are three little ones at a birth. As the season advances the moose frequent water more and more, often remaining in it for hours at a time in the heat of midsummer, not only to enjoy its cooling effect, but to escape the plague of flies, from which they are great sufferers. There are huge insects that burrow deep into the flesh of the moose to lay their eggs.

A heavy thunderstorm seems to afford the acme of enjoyment to the moose. They swim back and forth during its continuance, apparently in a high state of delight.

The female during her visits to the water hides her young with great care, to protect them from the ferocity of the old males, who are unnatural parents and would destroy them. The mother generally selects a clump of large bushes, or a spruce thicket, which, from its density, prevents the male from reaching them.

The horns of the bull begin to sprout in April and grow rapidly. Generally by September they have lost their mossy covering, or, in other words, are out of the velvet. At this period the males frequently are fat, and generally fierce and savage, ready to attack man or anything else that stands in their way. In the course of a few weeks they grow thin and poor because of their continual roaming and their many combats, and the fact that at this time they refuse food. At this period the loud bellow of the male is heard frequently, and distinguished by the hunter at a distance of two or three miles, in the stillness of the night.

The bulls make another noise, which, from the nature of its sound, the hunters call chopping. It is produced by forcibly bringing together and separating the jaws in a peculiar manner. This, as the name implies, resembles the sound of an ax used at a great distance.

The call of a cow, which the hunter imitates usually through a horn or trumpet made of birch bark, is a series of grunts or groans, winding up with a prolonged dismal, and rather unearthly roar, which in calm weather can be heard distinctly two or three miles away. One peculiarity of the moose is that he can go straight to the point whence the call proceeds, even after a considerable time has elapsed, and without a repetition of the sound to guide him. Thus, after calling unsuccessfully of an evening, hunters have known a moose to come straight to the place on the following morning from a distance of nearly two miles.

From late September till the early part of November is the season for moose calling, and full of the moon is the best time, for bulls seldom come up to the call before sunset, and if the night be dark the hunter often fails to see the game that has come to his call sufficiently well to be able to take aim. Most of the success in hunting moose by the call is had in the half-hour between sundown and dark. Later than that, even with good moonlight, one cannot make sure of his shot. A still, frosty evening is best, for then there is less opportunity for a good scent. Many a moose is lost by his crossing the tracks of the hunter in his approach. For this reason, whenever practicable, it is best to call from a canoe paddled up to and concealed in a little island or point on a lake or river. Sitting in a spot like this for the greater part of a night is sometimes a severe tax upon the patience of the hunter, who may repeat his calls at intervals of a quarter of an hour or so, and get no response but the more dismal echo of his dismal call, repeated here and there through the woods.

On the other hand, there is nothing more exciting than to hear a moose slowly approaching through the woods. One is kept sometimes on the tiptoe of expectation for half an hour, or even longer. The stillness after sunset is so profound that the slightest movement is distinctly audible.

The sportsman hardly dares to breathe, and when at last the animal comes out on the lake or opening within range, it is a grand moment if he has not delayed his coming till it is too late to see him.

Sometimes the moose answer to the call much more readily

than at other times. A young bull has been brought up by the sound of tearing the birch bark off a tree to make a horn. He heard the noise and came up, doubtless taking it for the noise sometimes made by a moose in tearing bark from a tree with his horns.

The most successful callers of moose are Indians; and it is an education to hear their low, half-suppressed call, which sometimes is needed to bring a wary old bull within range. These low calls, uttered when the moose is pausing, uncertain whether to come or go, close to the caller, yet not within shot, require the greatest skill. A false note and all is lost.

The old bulls are pugnacious at this season and fight desperately and sometimes to the death. Instances are on record in which rival lovers, lured from different directions by the call of a cow moose or the hunter's counterfeit, have charged so violently upon each other that their horns have become interlocked and they have died without getting free.

SACRED GROVES.—The law against digging up olive trees in Athens is well known, but the idea of sacred groves carries one back to the Bible story of the Garden of Eden, and forward to the times when the Scandinavians and Britons held their religious ceremonies in the forests.

THE GRAND LLAMA.—Russia, France, and other powers have recognized Chinese authority over Thibet, which makes the repudiation of the Llama simple. When Col. Younghusband approached Liassa in 1904 the Llama fled from the city to Urga in the northern part of Mongolia not far from Siberia, and has never returned. He is supposed to be at the monastery of Kumbum near Sining, a city of about 60,000 inhabitants, 7,800 feet above the sea near a salt lake called the "Azure Sea" (Tsing Hal). This is a remarkable body of water resembling Lake Titicaca of South America. The Azure Sea is 10,500 feet above the Indian Ocean, and is surrounded by high mountains. In the center of the lake is an island where is a Buddhist monastery or lamasary, in which thirty or forty monks are living in solitude. The Chinese government has no respect for the Grand Llama. In the eighteenth century it deposed a Grand Llama, and denied his claim to be the reincarnation of Buddha, and banished him from Manchuria. The celebrated French explorer, Abbe Huc, spent several months in 1845 near Tsing Hal, the Azure Sea, in the province of Kokonor. Urga is not far from the Siberian capital, Uruktsk, and Lake Balkal, over which the great Siberian trains are ferried.

ARCHAEOLOGICAL NOTES.

BY THE EDITOR.

DIVISIONS OF THE HEAVENS.—Cœlum in 16 parts was common among the Etruscans. Other nations have divided the sky into four parts, others into six; the Navajos into seven parts, the Chinese into nine parts.

THE TALMUD.—The Talmud is one of the books which show the character of the predominant religions of the earth such as Judaism, Christianity, and Mohammedanism. It has been inaccessible to the public on many accounts, but is to be presented in a new edition in such a way that it can be compared with the Bible itself.

WELSH TRIADS.—Mrs. S. Coburn, of Huntingdon, Ind., is well posted on matters of "Welsh Triads." She says that the Welsh triads of ancient sayings and names and events in history, were cast in the form of threes, that they might be better remembered. The triangle was a symbol which suggested the three sides or qualities of human character—the eye to see, the hand to give, the heart to sympathize. Each one is measured by the compass and the square, and is a right angled triangle. The sum of the squares of two sides gives the square of the third. The figures are obtained from the Welsh letters. The words "eluth," "reuan" mean in Cymric the "heavenly charm."

THE RACE QUESTION.—Grave problems have been caused by the immigration of the Asiatics to the English colonies. In the Transvaal several thousand Indians and Chinese were obliged to register and sign obligations or be imprisoned and expelled. There have been race riots at Vancouver. Even the Japanese find that the door is not open everywhere to them. There have been outbreaks in Canada as well as in California. The problem does not end, however, with the Japanese, for there are scattered throughout the length and breadth of Oceanica tribes and races which are likely to be disturbed in their isolation and become mingled with other emigrants. Race movements date back beyond the historic period into the prehistoric age, and there still remains a question whether America was peopled from the Asiatic continent, from Oceanica, or from the European continent, though probably it was from both sides. The prehistoric races have suffered more from the incursions of the historic races from Europe than the historic races of America can possibly suffer from the half-civilized races, whether from one side or the other.

The Tulane University is to erect a memorial building at a cost of about \$200,000.

Henry G. Bryant has presented to the University of Pennsylvania the collections made by him among the Eskimos.

The sum of \$50,000 has been collected for the Illinois College at Jacksonville, which makes available the \$50,000 offered by Andrew Carnegie.

Maurice K. Jessup, by his will, has left an endowment of \$1,000,000 to the American Museum of Natural History, which shall be used for the benefit of the American Museum.

TABULAR VIEWS OF UNIVERSAL HISTORY.—G. P. Putnam's Sons have issued a revised and enlarged edition of this work. The last fifty years receive more space than they deserve, but the book is useful.

John White, who was one of the first settlers in Virginia, and was the governor for some time, has left water color drawings made by himself about 1585, in three volumes, which have been preserved in the British Museum. The king crab is conspicuous.

OLD LATIN BIBLE TEXTS.—An exact print, line for line and column for column, of the Codex Corbeiensis, a gospel codex to which the date 375 to 425 A. D. is assigned, has been published. Old Latin biblical texts are represented in it. The editor is E. S. Buchanan.

Prof. Holmes gives an article on "Pre-Historic Sites in Arizona and New Mexico," in *Science* of February 7, 1908. The pueblos in Chaco canyon, New Mexico, inscription Rock near Zuni, bearing inscriptions by early Spanish explorers, are familiar localities and easily reached, but it is a pity that there could not be more monuments of the past preserved.

IMMIGRATION.—More than a quarter of the immigrants last year came from Austria and Hungary, a fifth from Russia, and another fifth from Italy. Of the 56,196 children born on Manhattan Island in the year 1907, 11,298 or nearly one-fifth were Italians, 11,903 were of American parentage, 16,1613 were Hebrews, while the Irish were but 3,380, Germans were 2,396, and the French were only 121. The contrast between the nationality of the immigrants at present with those which came fifty years ago is striking, and is prophetic of a cosmopolitan population. It is difficult to mold them into our institutions, and will require far more activity on the part of those who are interested in our institutions, and much wisdom on the part of our rulers.

CLIMATE OF EGYPT.—Egypt may be divided into four regions—(1) the north coast and the delta; (2) Middle Egypt down to latitude 27 degrees; (3) Upper Egypt and northern Sudan; (4) the rest of the Sudan, the Red Sea littoral, and the southerly south of latitude 10 degrees.—*Geographical Journal*, 1907.

JAMAICAN NEGROES.—In the West Indies negroes are so far distant from the main body of British whites that there is less hostility between them. Race antipathy exists, but it is not accompanied by friction, because the contact is not close and the climate prevents any competition.—*Geographical Record*, December, 1907.

THE PRAIRIE GRASS FORMATION.—The prairie grass formation of southeast South Dakota is described as transitional. The two groups or elements, during post-glacial migration are one from the southeast and the other from the southwest. The prairie is pre-glacial and descended from the climatic prairie of glacial times. The prairie elements show a marked grouping into layers.

Man is distributed in great belts around the world corresponding roughly to the broad zones of vegetation, desert, steppe, and forest, the limits of which are set by temperature and rainfall, though man is much more dependent on rainfall than temperature. Water he must have. There are certain common conditions of life which affect the people who live in the same zone in a broad and general way. This means, as Ratzel has pointed out, that there is a climatic factor at work to maintain the differences between people of different zones, in spite of the movement which they are constantly making. These differences have the greatest historical significance when marked differences of climate are found close together, as in the case of the Alps or the proximity of lowland plateau and mountain ranges like those of Peru or Mexico. The regions of sparse population are being gradually encroached upon, forests are being cleared and replaced by agricultural lands, wheat and corn are replacing grass. Deserts are being claimed for farming by irrigation. The more civilized man becomes the denser the population which the earth can be made to support. From the wandering, hunting and fishing tribes the farming population of the cleared forest and of the steppe to the crowded industrial centers of the modern city, there is a constant gradation. The largest climatic limitations continue, however, for the Greenland desert of snow and ice and the Sahara desert of sand must remain practically deserted.—*Geographical Bulletin* for 1907.

The Rock Ridge vegetation of Colorado has been studied. The granite hills of the west have scattered a covering of pines, shrubs, and grasses. East of the valley are rock ridges with a dense growth of mountain mahogany and a few pines.

DIAMONDS IN THE UNITED STATES.—Diamonds have been found in about thirty localities in this country, but the only region in which they have originated has also been discovered. Mr. George F. Kunz has examined the find. The diamonds occur in an igneous rock similar to that of South African mines near Murphysboro, Pike county, Arkansas. They are found on the surface as well as in the greenish decomposed rocks resembling the famous blue-ground of Kimberley.

A cave in California, very large and remarkable, according to the *Scientific American*, was recently discovered in the Santa Susana mountains some fifty miles from Los Angeles, California. The cave contains many halls, some of very large extent, and the walls of one are covered with rude drawings. They represent incidents of the chase, showing Indians on foot pursuing bear, deer, and other animals. One shows the bear pursuing the hunter. The work is executed in soft red stone.

THE SOURCE OF THE RHINE.—The heights around St. Gothard contribute water both to the Rhine and Rhone systems. The mountain slope is a part of the hydrographic center of the Alps. This is the reason why the Rhine is the most useful of all the rivers flowing through Germany. Its facilities for navigation, its great wealth of water, and its exceptional depth make it the most important of German rivers. In summer, when other rivers are shrinking greatly in volume, the Rhine is still copiously filled by the melting of Alpine glaciers.

THE BEGINNING OF THE ALPHABET.—The most ancient Phœnician letters were but sixteen in number. They were introduced into Greece by Cadmus. Four more letters were added about the period of the Trojan war by Paleimides. Many years afterward Simonides added four more and so completed the Greek alphabet. The number of the Egyptian letters was twenty-five, and that of the Hebrew 22, but the Sanskrit has no less than 50. Of these, 34 are consonants and 16 are vowels. The four Vedas are the great storehouse of Sanskrit learning. It has been contended that the alphabet originated with Moses, but it is claimed by the best authorities that the Vedas are about 3,000 years old, and the alphabet originated about 1,500 B. C., making the alphabet about 3,400 years old.

A KHASI FOLK-TALE.

C. STANILAND WAKE.

THE Khasis are an extremely interesting people residing in Assam, east of Bengal, who are thought to belong to the Mon-Annam race which formerly extended all over the Ganges basin, including Assam, and throughout Burmah and other parts of Farther India. They are related to the Nagas of Assam, and it is not surprising, therefore, that the serpent superstition is very prevalent among them. They are more noted, however, for the menhirs and other stone monuments erected by them in memory of the dead, a custom which the Naga also formerly observed. There are reasons for believing, moreover, that the Khasis formerly indulged in head hunting, thus associating them with the Nagas and the Garos of Assam, the Was of Burmah, and the Dayaks of Borneo, and also with the Plains Indians of North America, whose scalping custom was a relic of the older practice of head taking.

The Khasis are said to possess many folk-tales, and a selection of these is given in a recent work on this people by Major F. R. T. Gurdon, the government Superintendent of Ethnography in Assam. Many of these tales are connected with the local history and the superstitious beliefs of the Khasis, but one of them is so much in character in some of its incidents with stories current among some of the Plains Indians that we reproduce it here in Major Gurdon's translation from the original Khasi version, which he also gives. The tale is entitled "U* Manik Raitong and His Flute," and is as follows:

"In the northern portion of the Khasi Hills, which borders on the Bhoi country, there lived a man, by name U Manik. The people nicknamed him 'U Manik Raitong,' because he was an orphan, his parents, his brothers and sisters, and the whole of his clansfolk having died. He was very poor in addition. U Manik Raitong was filled with grief night and day. He used to weep and deeply groan on account of his orphanhood and state of beggary. He did not care about going out for a walk, or playing like his fellow youths. He used to smear himself with ashes and dust. He used to pass his days only in weeping and groaning, because he felt the strain of his misery to such an extent. He

*U is the masculine pronominal prefix.

made a flute upon which to play a pathetic and mournful tune. By day he used to work as a ploughman, whenever he was called on to do so. If nobody called him, he used to sit inactive at home, weeping and groaning and smearing his rags with dust and ashes.

“At night he used to bathe and dress himself well, and, after having eaten his food, he used to take his flute and play on it till morning. This was always his practice. He was a very skillful player. He had twelve principal tunes.

“There lived in the same village a queen. Her husband, the Siem,* used to be absent from home for long intervals in connection with his public duties. One night when the queen heard the strains of U Raitong's flute she listened to them with very great pleasure, and she felt so much compassion for him that she arose from her couch at midnight and went to visit him.

“When she reached his house, she asked him to open the door, so that she might pay him a call. U Raitong said: ‘I can't open the door, this is not the time to pay visits,’ and he went on playing his flute and dancing to the music, with tears in his eyes. Then the queen peeped through one of the chinks of the wall and saw him, and she was beside herself, and, breaking open the door, she entered in. Then U Raitong, having stopped playing, was annoyed that, to add to his misfortunes, this woman had come to trouble him thus. When she tried to beguile him U Raitong admonished her and sent her away. She departed just before daybreak. U Raitong then took off his fine clothes, and, putting on his rags, sprinkled himself with dust and ashes, and went to plough as was his wont. The queen, however, ensnared him by another device, and whilst the king was still away in the plains she gave birth to a male child. When the Siem returned, he was much surprised to find that she had borne a child during his absence, and however much he asked her to confess she would not do so. So the king called the elders and young men to judge the case, and when no proof was found concerning this business the king appointed another day, when all the males (in the State) should appear, each man holding a plantain.

“On the appointed day, all the males of the State having appeared, the king told them all to sit down in a circle and to show him their plantains, and said: ‘We will place this child in the midst, and to whomsoever the child goes, he is his father, and the adulterer. We will beat him to death with clubs according to the law.’ Accordingly, when all the people sat in a circle, and the child was placed in the midst, he went to no one, and, although the king called and coaxed him much, he nevertheless refused

*Chief of a Khasi State, and belonging to the Siem family group.

to go. Then the king said: 'Remember! Who is absent?' All replied: 'There is no one else except U Manik Raitong.' The Siem replied: 'Call, then, U Raitong. Some of the people said: 'It is useless to call that unfortunate, who is like a dog or a cat; leave him alone, O king.' The king replied: 'No, go and call him, for every man must come.' So they called him, and when he arrived and the child saw him, the child laughed and followed U Raitong. Then the people shouted that it was U Raitong who had committed adultery with the queen. The king and his ministers then ordered that U Raitong should be put to death outside the village. U Raitong said: 'Be pleased to prepare a funeral pyre, and I will burn myself thereon, wicked man that I am.' They agreed to his request. U Raitong said to those who were preparing the funeral pyre: 'When I arrive near the funeral pyre set fire to it beforehand, and I will throw myself in, and you stand at a distance.' Then U Raitong went and bathed, dressed himself well, and, taking his flute, played on it as he walked backward to the funeral pyre; and when he was arrived close to it, they lighted it as he had told them to do. He walked three times around the pyre, and then planted his flute in the earth and threw himself into the flames. The queen, too, ran quickly and threw herself on the pyre also.

"After U Raitong and the queen had been burned, a pool of water formed in the foundations of the pyre, and a bamboo sprang up whose leaves grew upside down. From U Raitong's time it has become the practice to play the flute at funerals as a sign of mourning for the departed."

ANGELO HEILPRIN.—Died in New York City, July 17, 54 years of age. His grandfather was a recognized authority in Hebrew. His father was an erudite scholar in Biblical interpretation and literary criticism. Angelo Heilprin came to America in 1856, and before he was 20 years of age was assisting on the American Encyclopedia. In 1876 he received the Forbes Medal. In 1886 he led an expedition into the everglades of Florida. In 1890 he visited the Mexican plateau, and in 1898 Alaska. He gave five years to the reconstruction of Lippincott's *Gazetteer of the World*.—*Geographical Journal*, 1907.

THE ALPS A WEATHER DIVIDE.—A recent experience of a traveler when entering the St. Gothard tunnel was remarkable. On the south side there was brilliant sunshine in a cloudless sky. Thirteen minutes later, on the north side, the fog was so dense that it was difficult to believe they had left the tunnel. The fog diminished as they descended.—*Meteorological Journal*, October, 1907.

BOOK REVIEWS.

THE ITINERARY OF BENJAMIN OF TUDELA. Critical Text, Translation, and Commentary, by *Marcus Nathan Adler, M. A.* London: Henry Frowde: 1907.

Benjamin of Tudela was one of the writers of the middle ages. He gives an account of Prester John, the king who reigned over a people coming from Central Asia, and who had inflicted a crushing defeat upon the Moslem army. He dispatched his physician to this mysterious potentate to secure help against the Mohammedans. Benjamin gives an account of how the Knight Templars were overcome, how Jerusalem fell, how the crusades began and were unsuccessful. Under Genghis Khan the Mongols and Tartars overran China, Russia, Persia, and Western Asia. The decline of the Mongol power occurred in the thirteenth century. The Turks conquered Constantinople, and overcame Eastern Europe, but in 1683 their power was checked. It was between the time of the discovery of America and the landing of the Pilgrim Fathers that many of these changes occurred in Asia. The object of Benjamin's journey is uncertain, but it is supposed that it was to trace the communities of Jews as well as the pious wish of making a pilgrimage. The accounts of Benjamin's travels have been examined in Asher's edition, but this volume contains a more perfect account. It is, in fact, a geography of Jerusalem, Bethlehem, and Hebron, and other cities of the Holy Land, including Tiberius, Damascus, Mosul, and Bagdad. During the Middle Ages the reputed sepulcher of Daniel was located—the very tomb which afterward was described by Layard. Benjamin's statement is that Mordecai and Esther are buried at Hamadan. In the Middle Ages the Oxus was known as Gihon. It is said that 50,000 Israelites dwelt at Samarkand. They had cities and large villages in the mountains. They were not under the rule of the Gentiles, but had a prince of their own. Benjamin's statements as to India and China are that the trade route was mainly by sea. Marco Polo describes the gryphon, like an eagle of enormous size, able to seize an elephant in his talons. Benjamin of Tudela is more reliable. Yet he holds that the storehouses of Joseph are to be found in great numbers in Egypt. "They are built of lime and stone, and are exceedingly strong."

SKALPIEREN UND AHNLICHE KRIEGSGEBRAUCHE IN AMERIKA.

By *Georg Friederici*. Braunschweig: Friedrich Vieweg u. Sohn: 1906. 8vo; pp. 172.

DIE SCHIFFFAHRT DER INDIANER. By *Georg Friederici*. Stuttgart: Strecker u. Schroder: 1907. 8vo; pp. 130. Being No. 1 of *Studien und Forschungen zur Menschen und Volker-kunde*, under the general direction of Georg Buschan.

DER TRANENGRUSS DER INDIANER. By *Georg Friederici*. Leipzig: von Dimmel und Co.: 1907. 8vo; pp. 22.

Among the newer group of writers upon American subjects in Europe no one man is contributing more interesting, valuable, and original papers than Dr. Georg Friederici of Kiel, Germany. Three of his recent contributions are at hand. His "Skalpieren" was a dissertation offered for the degree of Ph. D. at the University of Leipzig, and is a paper of exceptional importance. The author first examines the word "scalp" in its etymology and history. It is an English word, drawn from Middle High-German, in which language, however, it had a different meaning, and from which it has disappeared. The English word scalp is used both as a noun and a verb, and has been taken over into various European languages. In these languages the practice of taking a scalp and the scalp itself were at first descriptively named by a combination of words or by a circuitous phrase. These indirect expressions have given way in most European languages to the English word or to forms derived from it. Thus there are now words in Dutch, French, German, Portuguese, Swedish, Danish, and Italian, which have been thus derived. Curiously, there has been no such word developed in Spanish, where "cabellera" (the haired skin of the head) is used for scalp, and the expression "llevar," "quitar," or "arrancar la cabellera" is used for the act.

Though a contrary statement is made frequently, the taking of scalps was not extended over the whole of the American continent. Locally it existed both in North and South America at the white man's coming. The earliest clear reference to it is by Jacques Cartier in 1535. Friederici diligently searches for references to the practice, and attempts to trace its distribution in time and space. He believes that its original development was chiefly in the eastern part of North America, and that it spread from there. It is less widely extended in America than the practice of taking the head itself as a trophy, and he believes that it developed from head-severing. It was most naturally originated among the less settled tribes, who found it difficult to carry the body, or even the separated head, of a slain enemy any great distance to the home camp. As long as the natives were un-

touched by outside influence the custom was limited. Under the white man's contact it made a rapid development and spread over a much larger area. This was due to two causes : (1) The introduction of steel knives, whereby the operation became easier and more rapid; and (2) the offering of a scalp bounty by the whites.

Friederici tells a truly ghastly story. He shows how inter-tribal wars, insignificant and with little bloodshed before the white man's appearance, became far more cruel and sanguinary. He shows that the Puritans, the Dutch, the French, the Americans, turned what had been a trophy, prized simply as showing a man's bravery in a hand-to-hand struggle, became a salable something, that urged the red man on to the bloody massacre of men, women, and children of his own race. Not only so, but the Indian was led by the white man to scalp whites of other nationalities. When the custom was in full flower it was not confined to red men, but white men—and even white women—took scalps. And the practice has but just disappeared. Even well on into the last half of the nineteenth century massacres and scalplings by whites as well as Indians are matters of record.

After tracing the history and development of scalping, the author studies head-trophies generally among American tribes, bringing together a mass of curious information. Returning then, specifically, to the scalp, he carefully describes it, considers its mode of preparation, and states the manner in which it was used. He then investigates its significance to the Indians, discussing the theory of Schurtz that scalps and head-hunting grow out of ancestor worship. He discards this theory—we believe, justly—and considers the original idea to be merely the possession of a trophy. He recognizes that associations were connected with these trophies, and that their possession not only betokened bravery and success, but was magically helpful to the owner, bearer, or wearer. The dissertation closes with a brief comparative study of scalps and scalping outside of the American area. The essay is one of the best recent contributions to American ethnography. We feel that in his discussion of scalping by whites and massacres by our white Americans Friederici is not unjust in his statement of the facts, but he is somewhat prejudiced in his painting of our actual character. Just now there is some prejudice between Germans and English (including their American descendants). It is probable that Germans in New Guinea and in African colonies are relapsing toward barbarism and barbaric customs, as we have done here. But the shade of prejudice that shows itself in the treatise does not destroy its genuine value or its absorbing interest.

In his "Schippahrt der Indianer," Dr. Friederici considers an attractive subject. The book forms the initial number of a series which is to appear under the editorship of Dr. Georg Buschan, with the general title, "Studien und Forpchnungen zur Menschen und Volker-kunde. These studies and investigations are to be monographs, too long for journal and review articles, and too brief for independent books. They are to treat a wide range of topics monographically and, while scientific and scholarly, presenting results of recent travels and investigations, still will appeal to intelligent non-professional readers. The fields to be entered are those of Anthropology, Ethnography, and Prehistoric Archæology, and a notable list of collaborators is already secured. The studies will be issued and sold separately, at moderate prices. Individually and collectively they will be of serious importance to all students of the sciences of mankind. Among the topics announced for treatment are "The Eolithic Problem" and "The Psychology of the Javanese." In the first number Dr. Friederici considers boats and boating among American Indians. It is a thorough study. The author first investigates the Indian in his relation to water generally, a relation which in some tribes begins with the bath of the newborn babe, and in others ends with the burial in a canoe. Bathing, swimming, the getting of food from water, are discussed. Passing then to his actual theme, the author classifies the crafts of the American Indians as the balsa, or float, in its various forms:

- The bull-boat;
- The kanu (canoe of birch or other bark);
- The dalca;
- The skin-boat;
- The canoa (dugout canoe);
- The piraqua—or piragua.

The two highest developments are the *dalca* and *piragua*. The former, extremely local (Chilean coast, etc.), is developed by building up a bark canoe to greater height at sides and ends. The *piragua* is an analogous building up of the dugout; it is finely exemplified in the famous and serviceable great canoes of such northwest coast tribes as the Haida. The different types of water craft are carefully described, and their variations from tribe to tribe and their geographical range are detailed. Such matters as steering, sails, anchors, etc., are given separate treatment, and a series of discussions of the boat in war, the boat in peace, the boat in play and song, etc., bring this suggestive treatise to a close. It is sufficiently high praise to say that this latest

of Dr. Friederici's contributions to American ethnography is a fitting companion to his earlier papers.

In a contribution to *Globus* (Bd. lxxxix), Dr. Friederici called attention to the curious custom, first distinctly observed among American tribes, of greeting with weeping and tears. This greeting was given to strangers on their first appearance; it was also given to friends and relatives, who had returned after a considerable absence. In the latter case, both parties wept. This curious weeping was kept up for some time before words were exchanged. Dr. Friederici's article attracted considerable attention. It was translated into Spanish in Chili, by Schuller, who dissented from some of the author's views. The first part of the present paper by Friederici, "Der Tranangruss der Indianer," is devoted to Schuller's translation and criticism, and is vigorously polemical. The balance is given up to the presentation of newly found material regarding the custom, which proves to be far more common and widely spread than Friederici at first appreciated. He concludes in these words: "The weeping greeting occurred in South America among Charrua, Lengua, Tupi, Guarani, Tapuya, Zaparo, Guianian-Caribs, and apparently among the Araucanians; in Central America among the Island-Caribs; in North America among the Karankawa, Caddo, Sioux, Athapaskans, Algonkinz, and Timucua. Its areal extention was vast; if one takes the doubtful and nearly related cases also into account, he concludes that in the earlier times it may have extended over the greater part of the American continent." F. S.

LES SOCIETES SECRETES AU BAS-CONGO. By *Ed. de Jonghe*. Bruxelles: Joseph Polleunis: 1907. 8vo; pp. 74.

De Jonghe's paper upon Congo secret societies, first printed in the *Revue des Questions Scientifiques* for October, 1907, has been issued in separate form. It presents a summary of what has been written upon the subject. While an extensive bibliography is printed, the articles named in which form a considerable mass of material upon which to draw, much of what has been printed heretofore is worthless. No one has made a profound study of the subject; authors differ strikingly in their details; there are sad gaps in our knowledge. Only the societies of the Lower Congo are considered here. Within that area two societies—the *nkimba* and the *ndembo*—are recognized. De Jonghe synthesizes and correlates the data under the heads: Area of extension, age of the adepts, choice of the adepts, length of the test, place of the test, ceremonies of entrance, artificial deformations, costume, education-instruction, rules and prohibitions, ceremonies of closing after the initiation. Though our knowledge

of it is far from complete, we know much more of the *nkimba* than of the *ndembo*. The *nkimba* is a boys' puberty initiation. The boys withdraw to houses outside of the village, in the woods. There they spend months under direction and tutelage of older men. They are naked or dressed in a peculiar garb, made of leaves or grass. Their bodies and faces are smeared with white chalk or clay. If they have not already been circumcised, the operation is now performed upon them. They are taught a special language and given new names. When they issue from their retirement they are received with rejoicing, and are thereafter men. Some authors assert that the members of *nkimba* are supposed to die and be born again. Much less is definitely known regarding the *ndembo*. It consists of men and women of all ages. It appears to be called together on extraordinary occasions, and de Jonghe attributes magical power to it. In it there is the simulation of death and resurrection. It involves retreat and separation, and a fetich-man conducts its secret rites, whatever they may be. As de Jonghe describes and limits them, the *nkimba* seems rather a secret ceremonial for boys, the *ndembo* an actual secret society with magical power. The girls' seclusion in the "paint house," first touched upon by de Jonghe, appears to correspond in idea and character to the boys' *nkimba* ceremony. De Jonghe has done well in making this synthesis and correlation. He clears the field for some local student to make a thorough-going study.

LA MICOQUE (DORDOGNE). By *O. Hauser*. Erster Tiel: 1906-1907. Square 4vo; pp. 7-26; 16 plates; plan, sections, etc.

Among the most careful investigations into French archæology are these studies of Mr. Hauser at La Micoque, in the classical Dordogne district. Cro-Magnon, Laugerie Basse, Laugerie Haute are in the immediate neighborhood. The recent excavations at La Micoque, here described as a report to the Anthropological Society of Cologne at the opening of the Anthropological Museum in that city, were made in a knoll or hillock that already had yielded archæological specimens to commercial vandals. No serious or careful work was done there, until Dr. Hauser began his investigations. He details his work with care and figures an excellent series of the specimens so far encountered—the objects from which the drawings were made being now in Cologne. The excavations indicate a single, well defined culture—pure Mousterien, but Mousterien near its close. Exceptionally interesting, perhaps unique from a Mousterien deposit, is a fragment of a bone, showing intentional workmanship upon it. For Hauser the Acheuleen of de Mortillet becomes lower Mousterien: La Mi-

coque represents upper Mousterien. The delicate workmanship upon many of the flints and the working of bones anticipate the coming Solutreen. The fauna so far reported comprise only the horse (*Equus caballus*), larger and heavier than those of Solutre, Thayengen, and Schweizersbild, and a species near to, if not, *Bison priscus*. In some respects Mr. Hauser's excavations are unusual. His camp during the season of operation is avowedly a place to which students and investigators are cordially welcomed—for study, for objective illustration, for advice, counsel, and discussion. It is also organized as a local museum, for record and reference. Again his work is made the basis of a report of exceptional accuracy and exactness. Lastly, his exploration supplies an opportunity, rarely offered, for the purchase of typical and authentic series of palæolithic relics. Mr. Hauser's work is a purely individual enterprise, and he is obliged to finance his undertaking by selling the objects. F. S.

ANNUAL REPORT OF ARCHAEOLOGICAL SURVEY, EASTERN CIRCLE.

By *A. H. Longhurst*, Officiating Superintendent. Calcutta's The Bengal Secretariat Press: 1907.

This pamphlet of twenty pages gives a resume of the ancient Hindu temples and mosques with the repairs that have been made in order to preserve them as monuments. It would be well if some pamphlet or book could be published in this country which would recount the efforts made to preserve the monuments which are disappearing so rapidly in America, for they represent styles of architecture and forms of construction which are in great contrast to everything that has belonged to the white race. The patterns and styles can be lost so easily that even the knowledge of them will depart and no specimen be preserved which will show either their style or size. The structures of India were made of stone, and have enduring qualities, but the prehistoric works of America are so varied in shape and so fragile in material that even the patterns of them will be lost and the existence of them forgotten.

LIFE IN THE HOMERIC AGE. By *Thos. D. Seymour*, Professor of Greek Language in Yale University. New York: The Macmillan Co.: 1907.

This book is a summary which will interest every student. At least one who has gone through the various Greek books, beginning with Homer and ending with Euripides, will appreciate the amount of instruction and description contained in it. It commences with the cosmography, goes on to the Homeric age, describes the house and furniture, the food, the property, the trades and crafts, agriculture, plants and trees, the mythology, temples,

worship and divination, and ends with the Trojan war. The book is well printed and splendidly bound, and is very interesting and valuable. It is free from technicalities and is written in an entertaining style.

PRIMITIVE SECRET SOCIETIES: A STUDY IN EARLY POLITICS AND RELIGION. By *Hutton Webster, Ph. D.*, Professor of Sociology and Anthropology in the University of Nebraska. New York: The Macmillan Co.: 1908.

The study of the secret societies which prevailed among the different tribes of America has been followed by this author very patiently and with good effect. He begins with the men's house, which usually is the largest building in a tribal settlement. It serves as council chamber, the town hall, guest house for strangers, and the sleeping resort of men. The religious worship of the community frequently centers in them. Often they form the theater of dramatic representations. Men's houses are numerous in New Guinea. Here the fully initiated native regards the men's house as his Alma Mater. All he knows of the past history of his tribe is learned here. The men's house is found in many of the East Indian islands and in the Philippine archipelago. It is common among the Dravidian tribes, also in Micronesia and Polynesia, even in Africa, among the Bechuanas. Among the aboriginal tribes of Brazil, the interior tribes of Honduras, among the Guatemala Indians. Among the Pueblo Indians, the Kiva serves as a temple and council house. The Kiva formerly existed among the cliff dwellers. The rotunda common in the Gulf States and among the Delaware Indians, the estufas of the Pueblos, the sweat-house on the northwest coast, and the Kawin of the Eskimos all serve the same purpose. This summary is quite instructive, for it shows the great similarity which prevailed in the religious institutions and secret rites of the various nations of the earth. It is singular that there should be a separation of the sexes in all these ceremonies, but such is the case among the Freemasons and other secret societies.

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MT. VESUVIUS—ITS ERUPTIONS—EXPERIENCES OF THE PLINYS.

BY E. R. CLARK.

IT WAS in June of 1905 that we made the ascent of Mt. Vesuvius. We mounted our wiry little ponies at the town of Bosco Trecasse. At that time it was a town of 10,000 people, with the usual narrow and dirty streets and its crowds of dirty, chattering children, young and old, all out on the street to see the "forestieri" start to climb their old friend, the mountain. Even as we wound through the narrow alleys of the town we had begun to climb, and in a few moments had left the town behind, and with it all signs of vegetation, and the ascent had really begun.

Now we are upon the old lava, and though the path is wide and easy our ponies began to zigzag back and forth as they have to do when they get higher up upon the mountain's side. Single file we go with the guide behind, who continually lashes at the faithful beasts until we lose all patience and finally stop and tell him to desist or there will not be one "centesimo" when we get back unless he does. We speak so earnestly that even he believes that we mean it all, and becomes a little less of a nuisance to us and the already foaming ponies.

An hour or less of this easy climbing brings us to the "White house," where the real climb begins. Here we rest a few moments while the keeper of the house tries to sell us wine and other refreshments. The rest over, we are off again. Now we are really climbing, and the ponies must zigzag, for this is the way the path goes. It is steep now, and we have come to the ashes many inches deep, while just off the road, which has been made at great cost, it is all ashes.

Back and forth we go, doubling on our track, looking off into the chasms below, now into the crater of Monte Somma, which blew off in 79 A. D., when Pompeii was destroyed, and as our ponies seem to delight to walk upon the extreme edges of the precipice we shrink back for fear. We seem to be looking down into hell itself, so awful is the view.

After forty minutes of such a steep climb we must dismount. We are not yet at the top, but the ponies can go no further. Now we must go on foot on steep inclines in ashes a foot or more deep.

We take half a dozen steps and stop to pant, when we feel our feet burning, for the ashes are hot. Only three days before this the road was impassable on account of a great eruption, when this and that great rock, some three or four feet in diameter, were thrown out and fell right into the path. They were hot when they fell, and as we turn out to pass them we wonder what would happen to us if such a one should come tumbling down now.

And even as you think these unpleasant thoughts our guide cries out "Ecco!" "Ecco!" and with a great hiss and rumble and roar a mighty cloud of smoke, ashes and cinders is shot out of the mouth of the crater a hundred feet into the air. It is a quiet day, fortunately, and the outpour falls back, for the most part, into the crater. For twenty minutes we struggle upward in this fine ash, and then reach a broad landing place. Here we can walk around to one side of the mountain, that toward Naples, and stand over the orifices from which is pouring the molten lava a few feet below. Right at your feet, with a hiss and a roar like a locomotive's safety valve blowing off, steam and gas rise to the height of ten or fifteen feet. Our feet burn from the heat of the lava upon which we stand, which is hard on top but molten below. We stop but for a moment, but while there another warning from the guide tells us that the great giant in the mountain is again about to turn over and he shows his wrath by sending up again a great shower of stones and ashes. We feel that we are standing upon dangerous ground, and have a thought that we are looking into the very infernal regions themselves.

Not yet are we at the highest point to which we may climb. We do not know that we will ever try this again and we are determined to do it all now. So again up a nearly perpendicular steep some forty or fifty feet high we struggle, each time we step slipping back almost as far as we advance, desiring to stop to breathe, yet the heat of the ashes makes that impossible. When we have reached the top we can look over into the crater itself, and it is a good place to stop a few moments and think.

How long has Vesuvius been active—always? we are asked. How does the eruption of 1906 compare with that of the year 79, when the three cities were buried? A little account of that famous outburst and a comparison with the recent one will be interesting.

Our best and almost only authority on that famous eruption is the Roman writer, Pliny the Younger. In two letters that he writes to the great historian, Cornelius Tacitus (VI-XVI, and XX), he tells of the death of his uncle, the Elder Pliny, who lost his life through the eruption, and the experiences of himself and

mother, who were on the promontory of Misenum, north of Naples.

It was on August 24, at 1 p. m., that a cloud was noticed rising from Vesuvius that seemed larger than usual. It ascended many feet into the air like the trunk of a tree, and then spread out to look like a great rock-pine. The elder Pliny, a naturalist, set out to cross the bay to investigate from near by. When he reached the bay in front of Stabiæ, now Castellamare, ashes were falling so abundantly, together with calcined stones, that it seemed impossible to go further. The sea, too, was retreating, and they were in danger from a sudden shoal and from the enormous rocks that were being thrown from the mountain.

Such was the experience of a ship that was trying to land during the eruption of 1906, near this same place. When a mile out from the shore the ashes became so dense and the gas so thick that it had to put back to Cypri, whence it had come.

Pliny changes his course slightly and makes a landing. Fires were seen in many places on the mountain side, indicating that appeared in many places on the mountain side, indicating many openings from which lava was pouring. He tries to rest a little in the home of a friend, but has to retreat before the fall of cinders, which make that impossible. With pillows tied on their heads for protection, they stagger around and attempt to launch a boat that they may escape by sea; but the waves are running so high that it is impossible. Pliny sits down, feeling great fatigue, and finding it difficult to breathe. A great mass of flame bursts forth bringing a mighty volume of gas. He rises, staggers, and falls suffocated by the poisonous fumes.

Meanwhile at Cape Misenum, twenty miles or so away, the younger Pliny, 18 years of age, and his aged mother were having an awful experience. The afternoon of the 24th and the early part of the night were spent quietly watching the mountain all aflame and enduring the violent shaking of the earth. Early the next morning the quakes became so fearful that they hurriedly left the house and sought an open space away from all buildings. It was morning, but the light was faint. Buildings tottered, and the chariots they had ordered out, though standing on a perfectly level road, were so agitated backward and forward that they could not be kept steady even by supporting them with large stones. The sea rolled back upon itself, and left an entirely new shore with many sea animals stranded upon it. A black and dreadful cloud, broken with rapid, zigzag flashes, revealed behind it variously shaped masses of flame. Soon after the cloud began to descend and to cover the sea.

The island of Capri and even the Cape of Misenum were shut

off from view. Crowds of panic stricken people were fleeing. Ashes fell, and he says: "We had scarcely sat down when night came upon us, not such as we have when the sky is cloudy or when there is no moon, but that of a room when it is shut up and all the lights put out. You might hear the shrieks of women, the screams of children, and the shouts of men; some calling for their children, others for their parents, others for their husbands, and seeking to recognize each other by the voices that replied; one lamenting his own fate, another that of his family; some wishing to die, from the fear of dying; some lifting their hands to the gods; but the greater part convinced that there were now no gods at all, and that the final endless night of which we have heard had come upon the world."

Then he tells of rumors about the fall of Misenum into the sea and other false reports that added to their terror. Again "we were immersed in thick darkness and a heavy shower of ashes rained upon us, which we were obliged every now and then to rise up and shake off, otherwise we should have been crushed and buried in the heap. When at last this darkness was dissipated, little by little day returned, but the light was lurid as when the sun is in eclipse."

Such was the awful eruption of 79, and three cities—Pompeii, Herculaneum, and Stabii—were destroyed forever. Before this eruption we know that there had not been a serious one for many ages, perhaps never. We have but two bits of literary evidence concerning the condition of the mountain before this, but they were emphatic. First is that of Strabo, who, writing in the time of Augustus, says: "Above these places lies Vesuvius, the sides of which are well cultivated, even to the summit. This is level, but quite unproductive. It has a cindery appearance; for the rock is porous and of a sooty color, the appearance suggesting that the whole summit may once have been on fire and have contained craters, the fires of which died out when there was no longer anything left to burn." Evidently nothing was known at that time of any eruption that ever had taken place. The other bit of evidence comes from the poet Martial (IV., 44). He writes first of the mountain as he had known it, and then adds two lines to give its condition after this great outburst. He says:

"Here verdant vines o'erspread Vesuvio's sides:
 The gen'rous grape here pour'd her purple tides.
 This Bacc'us loved beyond his native scæe;
 Here dancing satyrs joy'd to trip the green.
 Far more than Sparta this in Venus' grace,
 And great Alcides once renowned the place;
 Now flaming embers spread dire waste around,
 And gods regret that gods can thus confound."

Since that time there have been many eruptions. For several centuries after Pompeii was destroyed it remained quiet, but in 1631 it burst forth again in awful fury and many thousands were killed and four towns nearly destroyed. Again in 1779, 1794, and 1882 immense quantities of lava poured out and the property loss was large. In 1855 terrific detonations were heard, the cone was rent, and lava poured forth for twenty-seven days, destroying hundreds of homes and covering over a great area of cultivated soil. In 1858, 1868, 1872, and 1900 it was violently active.

In 1872 a party of eight American tourists lost their lives on the mountain, and Professor Palmieri said that the mountain "sweated fire." In 1903 a clear stream of lava estimated at 16 feet in diameter was sent 700 feet into the air, which caused a panic in Naples and in the surrounding cities, but no loss of life occurred.

The last great eruption was that of April, 1906. At this time Bosco Trecasse, where, as I have said, we had taken ponies the preceding May in order to make the ascent, was largely destroyed by lava, while Somma, Ottajana, and other towns on the sides of the volcano were nearly buried in ashes. Many lives were lost in each town, and there was tremendous loss of property. Two great storms of lava headed for Bosco Trecasse and came together within the town. When the inhabitants saw it coming they rushed forth from their homes in a great procession bearing at their head the statue of Saint Anne, the patron saint of the district, and prayed for a miracle. Nothing short of that could stop the awful streams of fire that came on rapidly, devouring everything in their path. The church of the saint was completely surrounded, and in a short time, where before had been splendid gardens and vineyards, again "flaming embers spread dire waste around." Ashes fell in Naples, where much damage was done and many lives were lost; in Casserta, nearly thirty miles away, there was a great fall of ashes and sand, and also in the island of Capri, many miles out in the sea.

One cannot get an adequate idea of what such a downpour of ashes and sand means in a city like Naples unless he knows how the people live. They hardly know the name of home, in the poorer quarters, and from 2 o'clock in the morning till 1 o'clock the next morning they are on the streets. They cook, and eat, and sleep in the streets. Crowds of boys and half-grown men lie all over the sidewalks like the dogs of Constantinople. Their kitchens are on the sidewalks, and public eating places are there, too, where for a penny one may get his fill of macaroni and tomato, or buy a handful of roasted chestnuts. Venders of every-

thing are everywhere, hawking their wares and rending the air with their cries.

Washerwomen take up the entire sidewalk for a block with their tubs, washboards, piles of dirty clothes, and clothes lines. Laundry women have a stove on the sidewalk, and iron and hang the finished dress or shirt on a chair in the middle of the walk to air. Here, too, the macaroni, which alone is "genuine," is made and hung up to dry. Here women may be seen performing their own, or their children's, or their neighbors' toilet; dressing their friend's hair and in the midst of the process stopping to give chase to that which flees from their combs, as do the monkeys in the zoo that you visit. Here and there, on the sidewalk, stands the milk wagon, a big black cow with her half-grown calf tied to her horn. Pea-pods, potato parings, etc., are brought to her and thrown down on the sidewalk that she may feed while waiting for other customers to come with their teacup or glass for their morning's supply of milk. Or, down the walk you see coming a flock of thirty or more goats. These are the milk carts, and as you scurry to get out of their way they stop, one is selected by the driver and taken upsairs, it may be to the fifth floor, to be milked by the customer's own door.

When a people—literally thousands of them—live in this way, imagine what an awful calamity it is to have twelve to fifteen inches of black sand and ashes falling everywhere, endangering roofs by its weight, smothering children and the infirm, blocking all traffic.

Such is what Naples and other cities about the sides of the Great Destroyer have experienced. Such has been the devastation of 1906.

Ripon College, Wis.

THE TOPOGRAPHY OF THE PALATINE.

BY J. O. KINNAMAN, A. M.

WAS there ever a time when the seven hills of Rome were not settled? I wish we had sufficient data with which we might be able to answer the question. If the excavations on the Palatine could be carried to a sufficient depth, undoubtedly a great deal of light would be thrown upon the above question, but unfortunately the spade of the archaeologist stops short of the stratum that might render satisfaction along this line. But let us not lament over spilled milk. There are certain conclusions at which we may arrive by analogy which must suffice our longed for surety until such time as the archaeologist may forget himself and dig deeper than the conventional depth.

According to tradition, the settlement that ultimately developed into the city of Rome was made April 21, 755, B. C. on the summit of the hill now known as the Palatine.

In order to intelligently pursue our study of this most interesting of the seven hills, we must try to form some conception of its primitive aspect. The hill at present rises ninety-six feet above the level of modern Rome, but in its primitive state it was much higher for the valleys were deeper and the summits not leveled by the hand of man. It was divided into two summits, the Palatine and the Cermalum, separated by a slight ridge that extended into the Velia. The sides were almost perpendicular and protected by extensive swamps, the Velabrum major on one side and the Velabrum minus on the other, which the third was partially protected by a body of stagnant water, that for the want of a better name was called the pond. This pond, Nero converted into a lake for his Golden House. Thus we have the primitive hill protected on nearly three sides by lapping wave and the other by perpendicular cliffs. The margins of the Velabra were fringed by a ribbon of green verdure and trees, while undoubtedly the summits were crowned with the same efforts of nature. Thus from the midst of the foaming waves arose a great green island, while from the face of the waters arose a mist laden with miasma, fever and myriads of disease germs. Such must have been the scene before the hand of man transformed it.

As we have said, the spade of the archæologist has not gone deep enough to reveal to us the exact kind of primitive civilization that first tenanted it; but by excavations carried on at sites contemporaneous with the Palatine settlement we have been able to arrive at some definite conclusion concerning this early community.

Such sites as Antemnæ and Veii have been thoroughly explored and results recorded. Antemnæ is very nearly identical with the Palatine in form, size and manner of fortification. Those parts that were not rendered impregnable by nature were made so by artificial means. The Antemnates belonged to the "bronze age" with traces of the "stone age" still visible. The "stone age" is represented by flint spear-points and other implements made from stone. Their pottery was partly home-made, crude, rough stuff, burned in an open fire, and partly of Etruscan importation. These early settlers at Antemnæ lived in circular huts; that can be seen from the circular pits or beds of hard trodden clay mixed with wood ashes, charcoal, etc. Each house was surrounded by its orchard, garden and also sheep and cattle folds.

The walls had three gates, one leading to the springs and wells, one to the pasture and cemetery, and one to the high road. To protect against water famine in case of siege, great cisterns were built within the walls that held many gallons: one was destroyed in 1883 that had a capacity of 5,000 gallons. There was also a well within the walls that is still in use. This much has been learned from actual excavation at the site mentioned. Now the question arises: In what respect was the Palatine analogous? In answer the following is suggested:

I. The Palatine was entirely a natural citadel surrounded practically on three sides by an immense body of water.

II. The settlement was protected by a wall on all sides, the wall being pierced by three gates—The Romanula, leading to the river and springs; the Mugonia, leading to the pasture fields and the cemetery; and a third leading to the Vallis Murta. In addition we have the steps of Cacus leading down to the Lupercal.

III. Both Antemnæ and the Palatine obtained drinking water from springs in time of peace, but from wells or reservoirs during war. The Palatine has at least one such well, known to the general tourist as the Mycænæan well, so named from its resemblance to the masonry of that name.

Thus it can be seen at a glance that the history of contemporaneous settlements are the same, at least in mode of fortification, interior arrangement, and domestic usages.

Primitive Rome, or Roma Quadrata as it is usually called

(but Lanciani has proved that the name *Roma Quadrata* did not apply to the city, but to an altar), was built from the material found upon the spot. Beneath the surface the hill is burrowed in every direction with galleries or underground passages. This network may be entered under the coffee house of the Farnese Gardens. Some of the galleries are very ancient, while others are more modern. The section approaching the house of Germanicus and Tiberius is contemporaneous with the first settlement. In fact, these passageways are merely the tufa quarries from which the city was originally built. In later times these galleries were converted into water tanks. They are now practically inaccessible and exceedingly dangerous. It is not to be wondered at that a city built of tufa is all but extinct at present. What remains have withstood the ravages of time are truly venerable, for they mark the beginning of the city that was destined to rule the world.

We have already seen that the Palatine city was entered by several gates, among them the gate at the top of the *Scalæ Caci* (the steps of *Cacus*). Originally it was the beginning of a dangerous, winding path down the cliffs on the side of the *Circus Maximus* leading to the spring and cave of *Lupercal*. Later steps were substituted for the path. *Plutarch* calls them *Bathous kalees aktees* (the steps of the beautiful shore), which is derived from the beautiful inlet from the *Velabrum majus*. *Solinus* calls them the *Scalæ Caci* from a friend of *Hercules* who lived near where the *Aræ Maxima* later stood. The famous *Cornelian tree*, which was once the spear of *Romulus*, stood by the side of these steps. This tree was destroyed by *Caligula* when he restored the steps; the roots had to be cut to such an extent that the tree died. The stairway has nearly disappeared; the upper landing is in a tolerable state of preservation, together with the travertine jams which mark the site of the gate. It was down these steps that *Vitellius* made his escape in December, 69, when the lieutenant of *Vespasian* was taking the city.

Tradition tells us that at the top of these steps stood the hut of *Faustulus*, in which *Romulus* and *Remus* were brought up and educated. From the earliest times a model of this hut was kept near the top of the steps. It was of wooden frame-work with thatched roof, having a foundation of granular tufa; in form it was a parallelogram thirty feet long by seventeen feet wide. But these stones will soon disintegrate if not protected by a roof. The hut was modeled from nature and true to type, for it was in form the same as the hut-urn found in the necropolis at *Alba Longa*. The *Casa Romuli* of the *Capitol* was of the same type; in fact it seems to have been the general type of the early public

buildings, especially those of a religious or sacred character. Of course these *casæ* were restored and renewed from time to time, but the type remained ever the same, for it was sacred and allowed of no alteration.

At the bottom of these steps is another historic spot, the Lupercal. At the mouth of this cave the little ark that bore the twins came ashore. It is on the side of the Circus Maximus facing S. Anastasia. The event was commemorated by a Tuscan bronze group of the wolf and the twins. This is the group to which Cicero refers in his oration against Cataline. It is almost beyond doubt that this identical group is preserved in the Conservatori Palace, but probably somewhat restored by Guglielino della Porta.

We now come to the discussion of several difficult topics. Error seems to be made in chronology, in that historians thought of primitive Rome as it was after the drainage of the swamps. They seem to forget that the city of "Palæ" was originally nearly surrounded by water, deep enough at least to float a canoe. Therefore historians are prone to speak of a furrow plowed by Romulus (the *sulcus primigenius*) as running at the foot of the cliffs of the Palatine (per *ima Palatini*), but a moment's consideration of the hydrology will convince of error, for Romulus could scarcely plow a furrow in several feet of water. Later, when the marshes were drained, stone cippi marked the supposed course of the furrow. Inside this furrow was located one of the oldest monuments of prehistoric Rome, the Ara Maxima of Hercules. The remains of the Ara Maxima have been discovered, 220 meters distant from the so-called walls of Romulus.

In connection with the discussion as to the location of the Ara Maxima, the question of the form of the original Palatine city is allied. Tacitus (*Ann.* XII. 24) gives as the starting point of the *Pomerium* a spot in the Forum Boarum, afterward marked by the bronze bull of Myron; extending from there along the valley between the Palatine and Aventine to the altar of Consus, then between the Palatine and Cælian to the *Curia Veteres*, from thence to *Sacellum Larum*. Others affirm that the walls formed a square, therefore the city was called *Roma Quadrata*.

It is generally conceded that the original form of the Palatine was almost square, but for reasons too technical for discussion here it is sufficient to say that it is now believed that the walls were not square but trapezoidal, and that the name *Roma Quadrata* was not applied to the city, but to an altar which stood in front of the temple of Apollo.

It has been argued by Professor Carter that the oldest remains, the prehistoric Rome, are not to be found upon the Palatine,

but upon the Capitoline; for, he contends, the altars found upon the Capitoline were duplicated upon the Palatine. How he can tell that the altars on the Capitoline are older than those on the Palatine, he fails to clearly demonstrate. Perhaps he may explain more fully in a later publication.

How interesting and instructive it would be if we could trace the entire history of prehistoric Rome. But results are being obtained day by day that aid us more and more to catch clearly the outlines of this history.

Early in the excavations on the Palatine, wells were found which were called Mycenæan because the masonry is the same as that employed at Mycenæ. During this present season other wells of like construction have been found. Not only that, but shaft-graves have been opened on the Palatine. Does this give us any clue as to who were the early settlers on the Palatine? Let us see:

Shaft-graves are common all over the East. They are found in Palestine, Egypt, Greece, and Italy. In the Mycenæan civilization the bee-hive tomb seems to be the prevailing type during the twelfth century B. C. The shaft tombs in Palestine seem much older than the Mycenæan type. But in Greece the shaft-tomb exists contemporaneous with the bee-hive tomb.

The shaft-tomb is found in the Roman Forum. These tombs have been assigned to periods ranging from the seventh to the eighth centuries B. C. The tombs on the Palatine seem to be of the same general type.

Now the question arises: Which is the older? We know that what was later the Forum Romanum was originally a vast swamp, and that at the time of the early Roman inhabitants these swamps still existed. How do we know it? From several sources. We find altars on the Palatine dedicated to "Fever." So the malarial fever must have been very prevalent in early times.

If the Forum was at the time of settlement a vast pool, it is easy to see that the graves on the Palatine must be much older. Furthermore, these tombs were not built by native masons, the Etruscans; for the Etruscans built on a plan similar to the Egyptians. In view of this, it remains that the early settlers on the Palatine must have been influenced by eastern civilization. But whether the settlers actually came from the east remains at present an unsolved problem. The customs of inhumation and cremation throw no light upon the subject, for we find both methods of burial employed side by side. The Greeks employed both methods and so did many other eastern nations.

It is also worthy of mention that the history of the Palatine cannot be traced during the Republican Period. All that is known is that the Palatine during this time was occupied by the resi-

dences of wealthy and influential senators. It is not until the time of Augustus that the hill became the site of royal residence. From that time to the present its history can be traced with some satisfaction.

The oldest imperial building is the *Domus Augustanus* (the House of Augustus). It will be remembered that Augustus was born near the east corner of the hill, in a lane called "ad capita bubula;" this lane was near the street called "ad Curias Veteres." After the battle of Actium he purchased the house of Hortensius, the orator. After the conquest of Egypt he purchased other properties and began building the palace. The palace was built in several divisions—the Propylæa, the Temple of Apollo, the Portico of the Danaids, the Greek and Latin Libraries, the Shrine of Vesta, and the Imperial House proper. This magnificent set of buildings was crowded with works of art—Greek, Roman, and Etruscan. The palace was destroyed in the first fire of Nero, except the room in which Augustus slept for forty years. It was rebuilt by Domitian in 85 A. D., and suffered not again from the hand of man until 1775, when a Frenchman, Abbe Rancoureuil, laid a devastating hand upon it. But the work of vandalism went on from that time until at present only a few bare walls and three underground rooms are left standing. But these rooms have beautiful frescoes that repay the efforts of any tourist. They were somewhat injured by neglect, but restored at the expense of Mr. Charles Mills. It is probable that all the works of art found in the Stadium fell from the *Domus Augustana*.

PERSONIFICATIONS OF NATURE AMONG THE MAORIS OF NEW ZEALAND.

BY ELSDON BEST.

THE animistic concepts of primitive man are many and far-reaching, as may be noted when perusing the myths of old-time races. Uncultured man seems to have ever had a genius for personifying the forces of nature, the elements, natural products, war, peace, and other items too numerous to mention, and no race has preserved more of such peculiar myths than the Polynesian, the light skinned people we find occupying the Pacific isles from Hawaii to New Zealand, and from Easter Island westward to Melanesia.

The Maori tribes of New Zealand have preserved a great number of such myths pertaining to the origin of the earth and of man, as also of the heavenly bodies, the elements, etc., which must have been evolved in times long passed away. These myths

present to us personifications which might be termed anthropomorphic, inasmuch as they are endowed with powers of speech, feeling, and locomotion. In some cases, however, the object itself appears to possess such powers. Thus the sun speaks directly to his brother, the moon, and not through a personification of himself.

Another form of animism is represented by the native folk-tales, and the peculiar powers assigned to certain natural objects, as trees and rocks. Again, certain inanimate objects were endowed with wondrous powers, usually of a malignant or destructive nature, by means of charms or incantations. In this latter case, however, such powers were the manifestation of an *atua* (god, demon), and the charm to implant such powers in the object must be recited by the human medium, or priest, of such god. Such a human medium is termed a *waka*, a term that calls to mind the *huaca* of the Inca realm.

In Maori myth the Earth Mother (*Papa*), and the Sky Parent (*Rangi*) were the primal pair, the origin of all things. They are credited with powers of thought, feeling, and speech. The duty of the Earth Mother is to provide food for her offspring, hence man subsists on the products of the earth. *Rangi* and *Papa* lived as man and wife, and clung to each other, even when there was no space between them. Hence all was darkness where their offspring lay on the breast of their mother, the fair earth, until these offspring became aware, and sought Light and Space. They resolved to force their parents apart, and this was done by *Tane* (origin and personification of trees, plants, birds, and man.) Others of the offspring of Earth and Sky were *Tu* (personification of war), *Rongo* (peace and cultivation), *Wainui* (personification of water) *Tangaroa* (of fish), *Tawhirimatea* (of winds), etc. The sun, moon and stars were the offspring of *Wainui* (a female). It was *Tane* who placed these on the breast of the Sky Father, in order to throw light on the bosom of the Earth Mother. The sun has two wives. In summer days he dwells with *Hine Raumati*, the Summer Maiden, who is the personification of summer. As winter approaches, the sun returns to *Hine Takurua*, the Winter Maiden, who personifies winter. The sun, moon and stars are termed collectively the Light-Giving Offspring, or Family.

The most widely known personification of fire is *Mahuika*, from whom fire was obtained for the use of mankind by *Maui*, a hero or demi-god of Maori myth. But fire originally came from the sun. The sun desired to confer a boon on mankind, hence he sent his child down to earth in order to beget fire for the use of man. This child, a son of the sun, took to wife *Mahuika*,

and their offspring were the Fire Children, whose names are those of the five fingers of the hand. When the fire seeker sought and asked for fire, this goddess of fire plucked off one of her fingers and gave it to him.

The more important of these personifications were looked upon with much respect, and no one would interfere with their domain without performing certain religious rites. No man might fell a forest tree, or slay a bird when the snaring season opened, until the necessary rites were performed in order to placate *Tane*, the origin and personification of forests and birds. In like manner certain rites were performed by fishermen in order to placate the Maori Neptune, and to insure a good haul of fish.

Every tribal forest had its *Mauri*. This was usually a stone, over which divers charms were recited in order to implant in it the vitality and fruitfulness of the forest; that is to say, such stone was the material representation of those qualities. Offerings of first fruits of the forest were made to this stone at the opening of the season. The incantations repeated were to placate the forest deities, and to insure good bags of game. Should an enemy endeavor to destroy the productiveness of the forest by means of black magic, his spells would have no effect, unless he found the *Mauri*, which invariably was concealed in the depths of the forest, and its resting place known only to the priests and wise men. A similar custom obtained in regard to the ocean.

We have seen that fire and water have their personifications, as also had the winds. In like manner lightning, thunder, rain, and rainbows are represented by certain beings who are spoken of as though of an anthropomorphic nature. All the principal trees sprang from certain female beings through the agency of *Tane*, as the sweet potato sprang from *Pani*. These personifications or originating beings are so numerous, and appear in so many departments of nature, that the *anima mundi* theory might have been evolved by the ancestors of these brown-hued people of the many isled sea.

On all Maori tribal lands there were formerly certain objects, such as trees or stones, at which a certain rite was performed by travelers in order to placate the spirits of the land, that they might not be molested in any way by such beings. This rite consisted in repeating a short charm and in casting an offering of a branchlet, stone, or handful of vegetation at the base of the tree or rock.

There is another class of objects in Maori-land known as *Tipua*, a term that implies something of a supernatural nature. Thus certain logs, trees, rocks, mountains, etc., are viewed as possessing supernatural powers. Such mountains are spoken of as hav-

ing formerly possessed powers of locomotion and of speech. They punished by means of fogs or storms any persons who attempted to scale them without performing the proper rites. Certain wells or trees, if touched by travelers, would cause storms or unfavorable winds to arise. We are now in the region of folk-lore.

In fine, all nature was animated to the old-time Maori. He had something in common with all things around him. When he entered his great forests, he knew that the trees and plants and birds, as also he himself, were descended from a common ancestor, *Tane*, the life-giver. And such beliefs were probably universal at some remote time, when none but primitive man abode upon the earth.

Ruatoki, Whakatane Co., New Zealand.

ART AND THE DISCOVERY OF AMERICA.

It was in the year 1492 that Columbus discovered America. Leonardo da Vinci was born in 1452 and was forty years old at the time of the discovery. Verrocchio preceded Leonardo. The specimens of art which prevailed at this time show that there was a remarkable awakening of thought and development of taste before the discovery. Evidently there were causes at work which resulted in the love of adventure as well in the development of art. Roman and Greek architecture had prevailed long before this time; Gothic architecture also had appeared. Trajan's Forum, the Caracalla Baths, the Temple of Venus, and Roman columnar architecture all had had their evils. These brought the inheritance down from the Greek civilization through the Dark Ages, and, tho silent, they had a remarkable influence in awakening thought and inspiring effort, even in the times of Columbus.

We do not realize how much the silent intervals in the ancient works of art counted for, but we know that in Italy and Portugal and Spain there were those who were moved to effort and inspired by ambition. The awakening from the long slumber which prevailed through the Dark Ages resulted in new efforts and great discoveries. It was not in Greece or Rome or Carthage that the awakening first appeared, nor was it on the Mediterranean Sea that the movement began; but rather on the borders of the larger sea, and with an outlook which penetrated the mystery and even caught visions of far-off lands. There had been voyages to the south and the east and across the Indian Ocean and up the Asiatic coast. There had been long journeys across the eastern continent. The East India trade had attracted those who dwelt upon the Mediterranean. Such travelers

as Marco Polo had penetrated the deep interior of China and had brought back tidings of people who before were unknown. There were no barriers upon land which prevented the penetration of the deep interior of the continent.

The water was the only element which had not been overcome, and the mystery of the sea was bound to be known; and yet, with all this awakening of thought, the development of art, the increase in navigation, the two continents of America remained unknown. Venturesome navigators had even sailed around Cape Good Hope, across the Indian Ocean, along the Chinese coast. The whole eastern hemisphere had been surrounded, and crossed, and penetrated, and yet the Americas were unknown. The mariner's compass had come into use. Navigators had crossed the North Sea, Norsemen in their boats had reached Iceland and sailed down the eastern coast of America, and yet no one knew that there were two great continents which were occupied by many strange tribes, and that a degree of civilization prevailed here which was equal to that of many parts of Africa and even in China.

The discovery of the continent of America by Columbus was certainly a very remarkable event, and yet it was the result of causes which had been at work even in the continent of Europe. The slumber which prevailed through the Dark Ages ceased. Art and architecture, the love of learning, the awakening of the religious sense, were all signs that the long night had ended and the day—a glorious day—had dawned.

We who dwell in America can hardly realize what a pinnacle was reached when America was discovered. Strangest of all, however, is this—that the continent was already inhabited, and tribes and nations who had the same capacities that the discoverers themselves possessed had long dwelt on the continent, and some of them had already developed a civilization of their own. It certainly is a pity that, with all these advantages and enlightenment of mind which had appeared, the people who have crossed the Great Seas and spread gradually over the two continents of America do not realize that those who dwelt here before the land was discovered were human beings as well as themselves, and were capable of progress and high development if they had been treated as they should have been.

THE COSMOGONY OF THE BIBLE COMPARED WITH THAT OF THE ANCIENT PAGANS.

BY STEPHEN D. PEET.

THE cosmogony of the Bible is made known by the first chapter of Genesis. The keynote is given by the first verse: "In the beginning, God created the heaven and the earth." This single sentence can be compared only to a telescope which enables us to look through the universe and perceive the infinite expanse over which God exercised His power. In the second verse we learn that the earth was without form and void and darkness was upon the face of the deep, but the spirit of God moved upon the face of the waters, and God said: "Let there be light," and there was light. While reading these verses we seem to be standing upon the summit of a great mountain and looking out into infinite space over which a veil of darkness hangs. But as the spirit and power of the Infinite One moves through the darkness, the gleam of light flashes through the space, and we see what God saw, that it is good; and He divides the light from the darkness, so that we may realize what wonderful things are hidden behind the veil. God called the light, day; and the darkness, night.

It is then in the revealed Word that we catch the first view of the great universe, and begin to realize what is contained in the cosmogony which God has created and opened to the vision of those who are made in His image. The evening and the morning were the first day, and so to us they present the beginnings of the great universe into which we have been ushered, and which is to be the inheritance of the children of God. The evening and the morning are the first day to us, as they were at the time when the gleam of light struck through the primeval darkness.

It is a wonderful privilege to have such a telescope in our hands, and to be able by means of it to catch a view of the universe of which the children of God are to be the heirs. The privilege of having such a telescope in our hands has rarely been appreciated, and yet when we compare the condition of those who have the Bible, with the condition of the pagan nations

which have inhabited the earth, we realize something of the contrast which exists. The cosmogony of the ancient pagans is certainly in great contrast to that in the Bible. This is not realized by all, but is illustrated by the geography of the heavens which has been brought to light and become known to the nations that have this Book in their hands. Other books contain mythologic figures which possibly might be regarded as shadows of the Great Divinity, shadows which have been worshipped by those who have caught a few faint gleams of the infinite creation, but who have worshipped only images and have not known the Being whom we call God and claim as our Father. There are, to be sure, ancient books which represent the ideas of the people who dwelt in the far east, and who had received traditions from their fathers of events which had occurred before their day. There were ancient tablets which were written in the cuneiform letters which have been translated, and make known the thoughts and religious ideas of creation which prevailed. These tablets have been translated, and by this means we have learned about the mythology which prevailed in the earliest days. These records have come to us, fresh from the depths of the great mounds, in which the ruins of ancient cities lie buried, and have been translated so that we know the thoughts and beliefs of the ancient people.

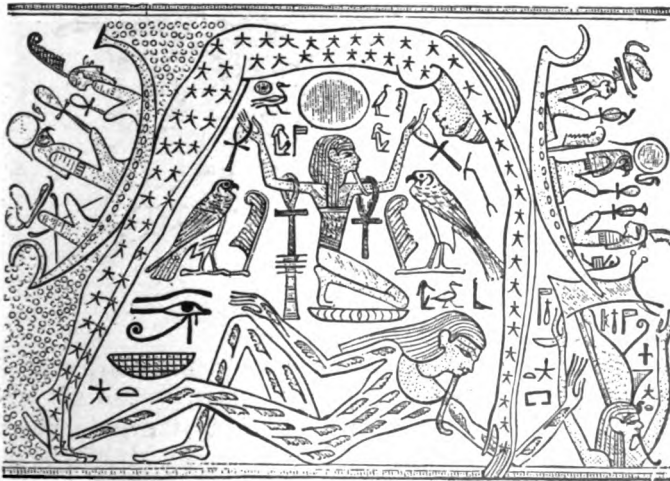
Not only this, but there is a record in the sky which has been translated by the traditions which have come down to us from the same ancient people and have gradually led the children of modern times to look up and recognize the same figures which the ancient races traced as the images of their gods. Still further, there is an inheritance which has furnished to the world images of gods which were worshipped—images which had the human form and represent human attributes and passions, the very attitudes proving suggestive of the thoughts which once prevailed. We who have the Bible do not worship them as gods, yet we recognize the feelings and thoughts of those who once did worship them, as well as the skill of the artist who molded them and made them to represent the ancient divinities. The inherited mythology has been widely diffused and has reached regions remote from the birthplace of mythology in the east. They have been preserved through countless ages, by innumerable generations of human beings. The retention of the original antecedents is in itself a proof that they must have been preserved by a religious sanction which forbade their alteration. An analysis of the earliest stories, including those told in our own Sacred Book, will show that almost all of them were connected with the super-

stitutions and customs of thousands of years ago. The facts of early history are confirmed by the Accadians and Egyptians, who recorded on the tablets inscriptions which have long lain buried in the pyramids, so that we now know what gods were worshipped and what religious beliefs prevailed.

We have to depend on the literature of Greece and Rome for explanation of the map in the sky. The asterisms specialized and named in the Bible as well as in the ancient books of the pagans were as follows: The Great Bear (*Job xxxviii*), Orion (*Job ix*), Pleiades and Hyades (*Job xxxviii*), Sirius and the Great Dog, Arcturus (*Job ix* and *xxxviii*). Others were also mentioned in Homer and Hesiod. The "Little Bear" and "Dragon" are given by Thales and Eudoxus.

In the southern half of the zodiac, stars were represented in the guise of mythologic personages and the constellations of the fish, ram, bull and the twins were given.

In several temples in Egypt, zodiacs have been discovered, some of them accompanied by inscriptions. These exhibit the various animals which prevailed at the time, such as the lion, the ox, the jackal, the crab and the bear. In the temples we find inscriptions and figures which reveal to us the natural history as well as the mythology of the region. In Egypt the goddess



THE GODDESS NU-T.

Nut was represented as a double figure stretching across the sky like a great arch which might be said to resemble a double rain-

bow. Above the arch were boats which represent the sungods as traveling across the sky while the stars were beneath them.

The star map and the movement of the celestial pole were made known as early as 4000 B. C. The constellations were read in the sky. Even the mythological characters such as Hercules, Bootes, Cebeles, as well as the Great Bear and Little Bear, were known. It would seem also that the harp and the chair were recognized in the sky, showing that domestic life and music were known and ascribed to the gods. The deification of the heavenly bodies prevailed, as well as orientation of the temples. The cosmic rising and setting of the stars in the eastern and western horizon were watched in connection with the rising and setting of the sun. The pole of the heavens on the ecliptic was practically fixed, but the pole of the earth's equator was not.

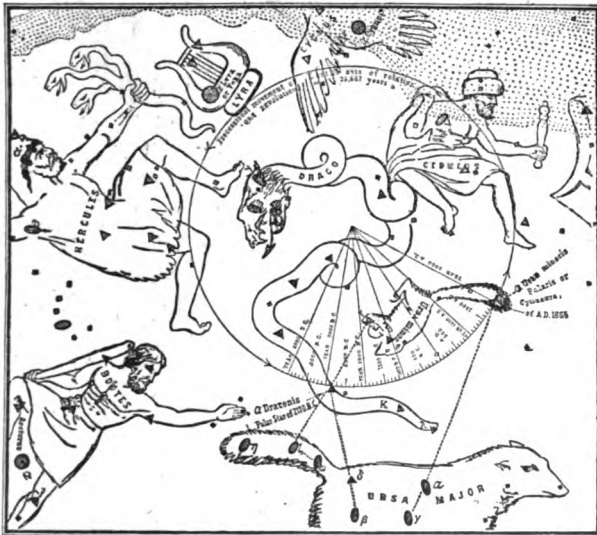


EGYPTIAN STAR MAP

The Bible cosmogony has resemblances to that which prevailed among the pagan races of ancient times, some of which possibly may have received their ideas from the same sources, though changed considerably in the transmission. It will be well, then, for this reason, to compare the cosmogony of the Bible with the cosmogony of the various nations of the earth.

We are to notice first that the works of nature form the background of the picture given in the Bible and that contained in the pagan myths of nearly all lands. There is, however, this dif-

ference—that the powers of nature were always personified by the pagans, and even the gods whom they worshipped were nature gods, and represented the elements rather than personal beings. These elements were sometimes controlled by demons, which were of two kinds. The most powerful and formidable were those who had a cosmic character, whose action was exercised upon the general order of nature, and whose wickedness had power to trouble it.



CONSTELLATIONS IN THE NORTH

With the Greeks, there was the conception of personal gods, bearing human shape rather than the shape of animals, and having power over the elements, ruling both in the sky, the earth and the regions below the earth. There was a difference among the gods, each having some part of the universe under his control, so that the cosmogony of the ancients was not the whole material creation but each part was represented by some particular divinity. This has been made familiar by Homer, who represents Saturn as ruling over the sky, Neptune over the sea, Hephæstus over fire, Here over the earth, and Zeus over the mountains.

The same fact is shown by the Book of the Dead, which was in reality the Bible of the Egyptians. According to this Egypt and Chaldea, Lenormant says, were the two sources of all learned magic for Greek and Latin antiquity as well as for Jewish and Arabian tradition. The one began by being of a naturalistic

See Star Map representing the celestial pole from the year 4,000 B. C. to the year 2,000 A. D.

and cosmic character, the other by being the superstitious conception of something higher and purer in its tendencies, and retaining in its subtleties the impress of a higher faith.

The Egyptians divided the gods into two classes, male and female, as did the Greeks, but there was not as much of a recognition of the cosmogony as there was among other nations. The Greeks regarded their first and chief divinity, Uranus, as representing the sky, and other divinities the sea and earth. The summit of Mt. Olympus was the chief place of assembly. The Egyptian mythology was so much influenced by the River Nile, which was the chief feature in their land, that they divided the gods and goddesses according to their particular mission. A common symbol among the Egyptians was a figure of the sun with rays descending toward the king and his companions, also presenting articles of food, etc.

The myths of Isis and Osiris are well known. Set was a wicked brother of Osiris, resembling the Greek Typho. Zeb was the earth god, and Nut the goddess of heaven. Horus grew up in the marshes. Isis wandered through the world, seeking the body of Osiris. The soul of Osiris dwells in the bird Benu. The sacred tree rises above the coffin of Osiris. Thus we have in the cosmogony of the Egyptians the elements of the topography, but the boat assumes great prominence in their mythology. There was a belief with them resembling the resurrection for Osiris awakened to life, and there was a great mythological fight in which the inhabitants engaged.

This view was most common among the Babylonians. Their belief was that there were seven bad spirits placed in the heavens, "seven phantoms of flames, seven demons of the ignited spheres." These demons had a general cosmic power of attacking mankind and producing "the evil command which comes from the midst of heaven, the evil destiny which issues from the depths of the abyss." From the cardinal points, the impetuosity of their invasion burns like fire. "Falling in rain from the sky, issuing from the earth, they penetrate the strong timbers; they pass from house to house. The habitual residence of these evil beings was in uncultivated wilds and deserts." The highest and most irresistible of all the powers dwells in the divine Name, the Supreme Name.

Among the Babylonians the monstrous forms thus assigned to the demons were composed of parts borrowed from different animals and were, according to Berosus, the first brood of beings born in the darkness of chaos. These divinities were represented as monsters having the head and forepaws of a lion, wings, tail and hind claws of an eagle, while the neck and upper part of

Fig.



Arian physiognomy (Persepolis).

Fig. 5.

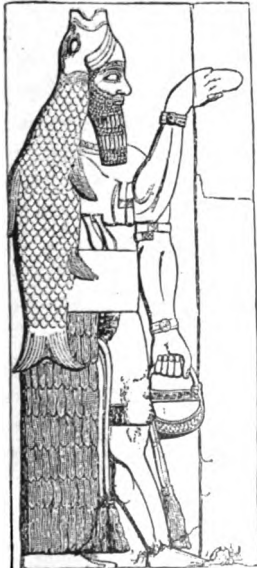


Figure of Nin, the Fish-God.

Fig. 6.



Nin's emblem, the Man-Bull.

THE COSMOGONIC GODS OF BABYLONIA

the body are covered with scales or feathers. Other divinities were represented by animal shapes. The winged bulls with human heads, which flanked the entrance gates, were genii which kept real guard. The celestial gods, conquering the demons, were also represented.

The mythology of the Babylonians differed from that of the Egyptians. They were devoted exclusively to astronomy, and read in the sidereal system the revelation of the Divine Being. The supreme god was Ilu, who was analagous to the Greek Kronos. He was the ancient god. Next to Ilu, the universal and mysterious source of all things, there was a trinity—viz: Ainu, the primordial chaos; Ea, the word and the spirit, which moved upon the face of the waters; and lastly Bel, a demiurge, the ruler of the universe. There were three trinities, each composed of a father, a power, and an intelligence. The gods of the five planets had the next place—Adar (Saturn), Marduk (Jupiter), Nergal (Mars), Istar (Venus), and Nebo (Mercury). There were twelve gods who constituted the true Chaldaic Babylonian Olympus. They were called by Diodorus Siculus masters or lords of the gods, and were said to preside over the twelve months and the signs of the zodiac. The long series of stellar personifications representing the celestial mansions through which the sun was supposed to pass were grouped in a cycle. These were not counted among the gods, but were animated by supernatural beings, or protecting genii. The bull, the lion, the eagle, the human face, were represented in Ezekiel's vision.

The Babylonians had a creation series, also. The upper region is called Heaven, the lower Earth, the abyss Hades. Chaos gave birth to all these. The Phœnician cosmogony involved a trinity—Baau, or Chaos, spirit; Mot, or slime, the egg out of which Heaven and earth were produced; Ea played the part of the Chaldean Noah, the Xisuthrus of Berossus in the flood. The theogony of the ancient nations of the east, including the Egyptians and the Babylonians, resembled that of the Greeks, but the cosmogony varied according to the nations.

The Babylonians delighted in the sight of the firmament, and knew no higher, no more splendid expression of the divinity, than those starry hosts to which their worship was addressed. The sun was not one of the highest gods. His power did not approach that of the three great spirits of the zones of the universe. He dissipated darkness, was engaged in a struggle with bad spirits, and was an object of worship, but fire was worshipped as a god superior even to the sun. It was worshipped principally in the flame of sacrifice. It was a supreme pontiff on the earth, and was recognized in the flame which burnt on

the domestic hearth. The god who resided in the flame of the sacrifice was the god of the hearth, identical with the cosmic fire which shone in the stars and was distributed throughout nature. He was the greatest and most active of the gods. Ea was the god to whom the people had recourse when all else failed. He was the supreme protector. The god of fire was the god of the house. Ea was the soul of the super-terrestrial zone. Fire worship was common to both the Turanians and Aryans, and prevailed in the primitive Accadian religion.

The cosmogony corresponded with the mythology. The Chaldean astrologers imagined a spherical heaven enveloping the earth, which was the firmament. This was regarded as a hemisphere, the lower edges of which constituted the foundations of the heavens. They rested upon the extremities of the earth and surrounded the continental surface, exactly as was represented by Homer. Between the earth and heavens was a zone in which the atmospheric phenomenon prevailed, over which the clouds were spread and through which the hot thunderbolts were sent and the rain was poured.

The cosmic system which prevailed in India is not so old as that of Babylonia, but the sacred books which contain the Hindu calendar describe the lunar zodiac and the planetary motions, as they were in the older books. It has been clearly proved that in 3,000 B. C. the solar zodiac was known to the inhabitants of Babylonia, but the Vedic bards of India were acquainted with the twelve-fold division of the zodiac.

Indra was the personification of the phenomenon of the firmament, for Indra's action in driving away the cloud demon, Vritra, and seeking for the cloud cows shows how even the agricultural pursuits were personified and embraced in the mythology and cosmogony.

There was, however, an astronomic interpretation, for Indra represented the summer solstice, Vritra the constellation Hydra, and Soma was the regular name of the moon and in the Rig Veda personified the moon. The constellation Aquarius was known to the Hindus but represented the element water. Agni, or fire, another of the elements, was a Vedic deity who was identified with fire under three aspects—first, as it appears in common use; second, as lightning; third, as manifested in the heavenly bodies. Some of the hymns of the Rig Veda tell of Agni hiding among the plants and waters and being found by the gods. The fire of the sun and the heat of the celestial waters were common symbols. Ahura Mazda, one of the Hindu gods, was represented as armed with a bow and fast flying arrows

and was a personification of lightning, resembling Apollo, who was called the far-darting god.

Artemis was the goddess of the silver bow in the Greek mythology, though there is no such goddess in Hindu mythology. Janus was a centaur; Diana, a huntress; Sagittarius, with his bow and arrow, personified the full moon. In the Bible we read that the greater and lesser lights were set in the heavens to be "for signs and for seasons and for days and for years." But the Bible contains no such personification of the elements, and the constellations are rarely mentioned.

Hecate was a lunar divinity who was worshipped and sacrificed to at the close of the month, but the Sanskrit Vitra resembles the Grecian Hecate. The Vedic Atri is a personification of the new moon, which had been hidden as if in a dark cave. Offerings were made to the new moon in India. The four divinities of the Rudra, the Maruts, Vitra and Atri, are described in astronomy in the Rigveda.

The Chinese lunar zodiac reminds us of the cosmogony of that nation. The history of the Chinese calendar goes back to the Accadians, and it may be that the cosmogony of the Chinese came from the same region. It is said that the acquaintance with the calendar goes back to 6,000 B. C. There is a description in the great history of China of the calendar which was revised by the Emperor Tchuén Hio as early as 2510 B. C., and he fixed the beginning of the year.*

The ideas connected with the stars of Aquarius were known by astronomers as far distant from each other as China and Mesopotamia. There are also Hindu and Chinese traditions concerning the lunar zodiac which mark the beginning of the year at the winter solstice.

Miss Plunket says the impression seems to force itself upon us more and more definitely, that before the races of mankind were scattered abroad upon the face of the earth their ancestors were capable of great scientific discoveries. The astronomers who traced out the circles of the zodiac and imagined its twelve strange figures must have understood the ecliptic as early as 6,000 B. C. Whatever the date, we must certainly conclude that there was considerable progress toward civilization made, and that the system of cosmogony which prevailed so many years must have been understood.

This cosmogony was embodied in the architecture and art of the oriental nations. The pyramid was both a temple and a monument. It was a temple on the outside of which the wor-

*"Ancient Calendars and Constellations." By Miss E. M. Plunket.

shippers ascended and made their offerings to the sun, Persia, of the pyramids had different colors for the various planets, colors which symbolized the planets, but the highest platform was sacred to the sun. It is a singular circumstance that the pyramids of Mexico and Central America were temples consecrated to the sun, and were built with platforms or terraces on the four sides. The worshippers were led by the priests around the four sides until they reached the summit, the victim of sacrifice being in the midst of the procession. When they reached the top of the pyramid, the victim was stretched upon the altar, and the priests with a stone knife opened the body, tore out the heart, and then thrust it into the face of the sun which was sculptured upon the side of the temple or shrine which stood upon the summit. The body itself was then thrown down the sides of the pyramid.

There was not much in this to remind one of the cosmogony which prevailed here, and yet the pyramid with its temple on the summit was similar to those in Babylonia and suggests the idea that there was a system of cosmogony even among this people which resembled that existing elsewhere. The same is true of Peru, for here the sun was the great divinity which was worshipped. The cosmogony which prevailed in Europe at an early date is worthy of notice. This is especially manifest in the rude stone monuments. In Great Britain there are at present standing stones and other monuments which convince us that the worship of the heavenly bodies was common, and that the points of the compass were very important.

Maurice has described the circles of standing stones on the island of the Orkneys, one of which is supposed to have been dedicated to the sun and the other to the moon. In another locality was a temple which was devoted to the sun. The body of this temple consisted of twelve obelisks or columns placed in a circle, each column seven feet high and six feet from one another, with one in the center thirteen feet high shaped like the rudder of a ship. The measurements, seven and thirteen, are quite suggestive.

The circles at Stonehenge and Rollrich were symbolic and suggestive of the cosmogony which prevailed. The diameters of both circles were exactly equal. It is supposed that the earthworks at Stonehenge represented serpents. The serpents were symbols of the vast astronomical circles of the zodiac, for their tails were interwoven with rings. It is supposed by some that mythology and philosophy first exalted the serpent from being an evil demon to the rank of being a good demon. On Mayday the Druids made prodigious fires on these cairns, which

and was a part of one another and could not but throw a glamor was call-whole region. The Druids on their great festivals wore jewels on their garments, and carried in their hands banners of gold or silver.

The cosmogony of the Norsemen was unique, and was symbolized by their customs as well as their monuments. Thor's hammer represented the lightning striking the mountain, and Thor's glove represented a cave. Each divinity represented some of the operations of Nature. Thrudhen represented the gloom of the clouds, Rind the frost-hardened earth, Frig the earth itself, Balder the summer's death, Mimer the Tree of Knowledge. Besides the heavenly tree, which reached to the clouds and was surrounded by the circle of the horizon, there was a tree under the earth whose roots were lost in the abyss at which the serpent Nidhogg gnawed. Valhalla was the hall in which the chiefs assembled. The whole tree was significant. The Tree of Life gathers around it all higher creatures in one worship.

The strife of the elements was symbolized. Rastok was the animal which went up and down whispering tales of strife between the eagle and the serpent. Odin, with one eye, symbolized the sun. The river between the giants and the gods symbolized the atmosphere, but the bridge that leads from heaven to earth was guarded by Heimdell. On the circle of the horizon were the stones of cliffs, and the ocean bordered the circle, on which Asgard dwelt. Within the circle was the popular assembly of the king. Above the circle was a tree with three branches, Ragnarock, with the elves and giants, the beings who have dwelt on earth but expect to come to their heavenly abodes. Jotunheim, the outermost limits of earth, joins hard on Helheim, the world of specters. Kiffeheim is the world of mists, Midgard the world of men; Muspelheim was the world toward the south; Virgelmir the oldest of all.

There was in America also a cosmogony which with variations prevailed among nearly all the different tribes. It is represented by the mounds and monuments as well as the myths. Here were found symbols of the serpent and the tree as well as the circle, cross, and pyramid. Upon the gateway of Cuzco, Peru, there is sculptured a human figure, standing with hands extended, each holding two staffs crossed, something like arrows and yet symbolizing serpents, the head at one end, a tiger's head at the other. This figure is significant, as it is connected with the cosmogony or cosmical system which prevailed in that region.

It has been shown by Mrs. Zelia Nuttall that the cosmical scheme of Central America is identical with that which appeared

in the remotest antiquity in Egypt, Assyria, Babylonia, Persia, India, China; also in Greece and Italy.

The archaic modes of figuring the cosmical scheme are illustrated by rudimentary images found in the ancient Mexican codices and sculptures. The great calendar stone in Mexico is the most elaborate representation of the cosmical system which forms the common basis of the ancient civilizations of the new world. Facts supporting it have been obtained from material published by the early writers on Peru as well as from the Peruvian ritual, the basis of which was an astronomical symbolism.



THE CALENDAR STONE IN MEXICO

In Peru it is the south pole rather than the north that forms the culminating point of the sky, but in Mexico and other nations in North America the north pole and the constellation of the bear form the culminating point. In Peru the figure of the five stars of the Southern Cross represent the tree. Below them we find the figure of a large egg, the symbol of the universal spirit, the spirit of earth, air, fire, and water.

It is to be noticed that even the arrangement of the city of Cuzco with its temple is suggestive of the cosmogony which

prevailed. There were roads leading to the city over the mountains, but the streets led to the temple as they did in the city of Mexico. The Maya Codices show a system of symbolism which illustrates the cosmogony of the ancient Maya and Nakhua. In the codices are figures of supernatural beings with human bodies and animal heads. These are personifications of the nature powers, but they show also the ideas that prevailed about cosmogony. It appears that the entire system of religion, which consisted in the worship of the sun and the powers of nature, had a great effect upon the occupations of the people and the modes of worship which prevailed. It would seem almost as if the map of the earth and the map of the sky were made to correspond, and all the powers of nature were personified. The kings and priests were regarded as divinities, as they were in the far East.

Among the Konds of Africa human sacrifice prevailed. The arms and legs of the victim were broken. Human sacrifice was offered in the island of Otaheiti. A belief in the resurrection was common among many of the rude tribes in different parts of the world.

The personification of the four quarters of the sky and the four ancestors prevailed among the tribes of the Mississippi Valley. Men lived in caves and were unable to prolong their race until they found four women, who became the mothers of the race. Among the Navajos there was an intense longing for the beautiful and a fond hope for the future. Their belief was that in their first condition they were confined to a dark cave, but were led through a hole in the roofs of four caves, each one of which became lighter. From the fourth cave they looked out and saw a beautiful valley surrounded by four mountains, on each of which stood a tree which corresponded to the Tree of Life. There is a story that there were four rainbows thrown over the valley, thus reminding us of the Bible story of the bow in the cloud. The number seven was sacred among the Navajos and the Zunis, for besides the four points of the compass there were the zenith, the nadir, and the middle. This Navajo story of their first home was certainly very much like the Bible story of the Garden of Eden. Their cosmogony resembled that which is common in the far east, but the sacrifice of the young man and maiden at the time of the flood, to the spirit of the waters, is a feature in the story peculiar to them.

The village Indians of the southwest, including the Aztecs, Toltecs and Nahuas, seems to have had a cosmogony resembling that which was common in Oriental lands. There were no astronomical circles, but there were constellations in the sky and

belts resembling the ecliptic. The village community was prevalent, but the points of the compass were always recognized as being under the control of certain divinities. Sacrifices were offered to the sun on the summits of the pyramids, and the processions were led by the priests with the sacrificial victim in their midst. The solar god was the chief divinity, and the sacrifice was offered to the sun.

There were four Bacabs, who stood in the four corners of the world and supported the firmament.* They represented the cardinal points of the compass. The Navajos believed there were seven points—four quarters of the sky, the upper and the lower points, and the one in the center. They believed there were four mountains surrounding their home, with a tree at the summit and a spring at the bottom. The valley was to them the Garden of Eden. It was swept by the flood, which represented the great serpent, but when the flood subsided there were four rainbows over the valley.

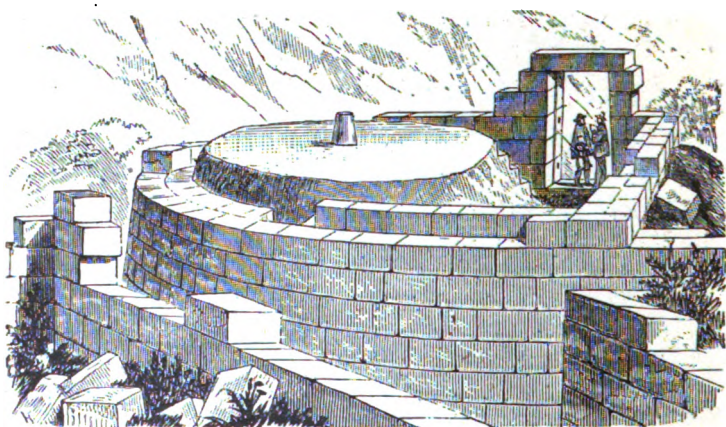
The personal divinities and deified kings, as well as culture heroes, resembled those of the Orient, but they had more power and the superstition of the people was greater than prevailed in the East. The nature powers were all worshipped, for there were divinities representing each. The water was symbolized by the reed, the fire by flint, air by tempest, earth by a stone. This system resembled that of the Hindus, for Ormuzd was the god of light, Kali the god of fire, Indra of water. The Quiches represented nature powers; Gucumatz and Huracan represented thunder and lightning.

The Ucatecs believed that there were four brothers, called Bacabs, who supported the four corners of the earth. They were the gods of the four points of the compass, but symbolized also the forces of nature. There were eighteen festivals at which human sacrifice was offered. There were days on which young virgins were victims. The children were named after the god on whose day they were born. The gods all had consorts. Cuculcan was the god of the west; his consort was the rainbow; their children were giants called Chacs. Each god had his own mission and his own province. The goddess of rain, waters, fields, medicine, and child-bearing was symbolized by the rainbow. The god with a single tooth is said to be the rain god.

It is a singular fact that the chief god of the Mayas was represented as the source of life in plants. He made the corn

*These remind us of the four dwarfs among the Scandinavians who supported the sky.

grow. He drew out from the cloud vases food for the people. He controlled the cloud serpent. He held the cloud lamp. The cloud boat of the Mayas was navigated by a singular looking creature called the Chac. There was, in fact, nothing in nature or art among these tribes of America but that represented a divinity, and religion was the key to the interpretation of nature. The cosmogony of these so-called civilized tribes was complicated. It included the powers of nature and the objects of nature. The air god and the rain god were both represented as king and priest and clad in the garb which became their office. The priest was arrayed in a garment made of a wild animal's skin. On his head were plants of all kinds. His belt was a



SUN CIRCLE AT PISAC

feather-headed serpent. The priest and king made the offerings to the sun, and the face of the sun—a mask—was suspended from a cross and was the chief object in the shrine or temple.

There were no people on the face of the earth who ever personified the nature powers more thoroughly than these Aztecs and Nahuas, and no ceremonies were more suggestive of the powers of nature than in this region. The cosmogony was just such as would come from a knowledge of the most ordinary facts, but consisted in deifying nearly every process of nature, as well as worshipping every object of nature. Among the Zunis there were works of art, such as water vases which represented animals under the arch of the sky, circles which are filled with the figures of plants, lines representing belts, and many ornaments, all of which added interest to their house adornments.

AEGYPTIACA.

AN ANCIENT CHARIOT AND OTHER OBJECTS FROM AN EGYPTIAN TOMB.

BY JOSEPH OFFORD.

ONE of the most sumptuous books upon Egyptian antiquities ever produced is "The Tomb of Iouiya and Touiyou," which describes the now celebrated discovery of the sepulcher of the parents of Queen Tiyi, for which science is indebted to Mr. Theodore M. Davis. The publishers, Messrs. Archibald, Constable & Co., are to be congratulated upon this superb volume, which for the first time utilizes the best modern processes of color printing for the reproduction of ancient Egyptian art specimens.

The literary portion of the book proceeds from the pens of Professor Gaston Maspero and Mr. Percy Newberry, so that its value is assured. The first of these provides a full description of the titles of the two occupants of the tomb, explaining the various hieroglyphical methods of spelling their names, and also the different offices of rank which are assigned to them—Iouiya having been a feudal noble, or *Rapaiti-haiti*; and a Samirou, a priestly function. He was also a member of the corps of courtiers called "Friends of the King;" indeed he was very exalted in the guild, for he is called "the first friend of the friends." At one time, probably when not such an important personage, he had been "Prophet of Min," and Superintendent of the Oxen of the same god. Numerous honorific titles are added symbolizing the regard in which he was held by the king, terminating by the statement that his coffin was made by the king's special favor.

Touiyou at various times had been a "Chantress of Amai," "Dresser to the King," lady of the harem (priestess) of Min, and so on, but her especial honorific which is most frequently repeated on objects belonging to her found in the tomb was to have been "Royal Mother of the Chief Wife of the King"—that is, mother-in-law of Amenophis III. Many of these honors were probably heaped upon these comparatively private individuals subsequent to his marriage of their daughter, and were sinecure offices, for as far as we know they never took any part in state affairs.

The most important portion of Professor Maspero's introduction, however, is wherein he disposes, once for all, of the unfounded theory that Queen Tiyi was of Asiatic origin, as he says, after fully considering the question: "Everything consid-

ered, the hypothesis of Syrian origin for Queen Tiyi rests upon a collection of mistaken theories, or badly interpreted facts, and as she herself was the only reason for making Iouiya and Touiyou foreigners, the desire to make them other than Egyptian must be renounced at once. Equally their titles connect them with Egyptian sacred rites."

It is interesting to note that, according to the newly found texts upon her sarcophagus, Touiyou had another child as well as Tiyi, a son who was a prophet of Ammon.

The description by Mr. Theodore Davis of the discovery of the tomb reads like a romance. He gives excellent reason for thinking that the penetration of it by a robber was the work of someone familiar with its construction, and so took place soon after the interment. The thief came for the sake of the gold, and probably had a very poor light for his sacrilegious work, for he carried off from the inner chamber a large scarab of stone, the neck yoke of the chariot, and a baton of office, all of which were covered with gold leaf, but on reaching a part of the corridor where daylight showed him they were not solid metal he dropped them as not being worth taking further. He also left a large gold plate in the breast of one of the mummies and many small gold beads and ornaments. This tomb is the first of personages connected with royalty ever found intact, for, with the exception of the gold ornaments removed by the early robber, every article originally walled up in the sepulcher was there. In some cases, these were tumbled about in the search for the precious metal, it is true, as in the case of the two sets of triple coffins, these having been taken apart and the lids of the innermost ones removed to get at the mummies.

To give even a summary of all the splendidly decorated objects recovered from the tomb of Iouiya and Touiyou would occupy several pages of *THE AMERICAN ANTIQUARIAN*, and moreover the volume of M. Maspero and Mr. Newberry does not by any means enumerate all those relics to be found in the special saloon in the Cairo Museum, where the whole of the find is well displayed.

Only a few of the most fully illustrated and conspicuous objects in Messrs. Constable's book can be described here. Chief among the furniture are the triple coffins of Iouiya and the double ones of Touiyou. In addition to these each set had an outer sarcophagus which was provided with a sleigh consisting of side runners, and a roller in front—a survival in religious funeral ceremonies from the prehistoric times when wheels and axles were unknown. These outer sarcophagi, which are rectangular in

shape, are both of them painted in black pitch, and ornamented with gilded stucco, with the hieroglyphic texts upon gilt bands, and gilded figures of deities upon the sides. The outer coffin for Iouiya was decorated in the same style, whilst the second, or middle one, is adorned with gold and silver foil richly inlaid with various colored glasses. The molded wig of this mummiformed coffin is long and the hair represented by alternate bands of silver and gold. The eyebrows and lashes are of blue glass, while the eyes themselves are of marble and obsidian. The inner coffin, which like the others is shaped to the outline of the human form, is more exquisitely modeled, and over the abdomen is a vulture with extended wings in inlaid gold; also upon the breast a charming image of the goddess Nut, in low relief.

More expense was lavished upon the two coffins of Touiyou; the outer one being entirely covered with gilt stucco, and the features delineated by mosaics of violet glass and white marble, and obsidian inlays. No verbal description can do justice to the magnificent Plate XIII of the book, depicting this mummiform wood carven figure so highly gilded and ornamented, reproduced in its actual colors. The lady's innermost coffin is also given in phototype and its portrait character is the more pronounced. The long necklace of fifteen rows of flowers and petals, if viewed with a lens, is perfectly reproduced.

A curious matter with regard to this semi-royal burial to Egyptologists is that the eighteen Shawabti figure statuettes bearing the usual extract from the "Book of the Dead" relating to work being executed for the deceased in the underworld, and supposed to be representative figurines of slaves, or laborers, are evidently portrait statuettes of Iouiya and Toniyou themselves. Moreover they each bear the name of one or the other of them.

It is obvious that the queen's mother and her spouse were not expected to do their own farm work in the Elysian Fields, and yet the features of the supposed magic laborers are their own. Also as indicating some variation in the magical concept connected with the making of these figures on this occasion, the usual implements held in the hands of the Shawabti statuettes are absent, at any rate in those selected to be depicted in this volume. The omission of implements in the hands of the Shawabti figures may be explained, perhaps, by the finding of numerous little metallic models of them, doubtless placed alongside the statuettes ready for use.

In addition to the Shawabti statuettes there is one other of Iouiya, which is termed by Mr. Newberry "a magic figurine."

It bears two chapters of "The Book of the Dead"—those of "The Flame" and of "The Magical Figures for the North Wall of a Tomb."

The frontispiece of the volume gives, in colors, a representation of the chariot, which was the most remarkable object preserved in the funèrary chamber. The view is taken from the side, but another plate, No. 32, affords a view of it from the rear. This is the first vehicle ever found in Egypt substantially complete as when it was built, and is of course *the oldest wheeled equipage in existence.*

The body framework, wheels, pole and yoke are all intact, and some of the leather paneling, though it has come off the frame, could easily be replaced, being in good condition. As is the case with the body of the chariot of Thothmes IV, which also may be found (though the rest of the vehicle is missing) in the Cairo Museum, the floor is formed of leather meshwork, so that the jolting arising from the absence of springs would be diminished. The weight of the occupant would bring the interlaced leather strapping down upon the axle and rear end of the pole beneath, but the feet could be placed so as not to stand upon the part so resting. The floor (or platform) framework of the body consists of a rod bent in a semi-circle, secured at the rear ends into a straight bar, forming the back of the platform. Both pieces of timber have rows of rectangular holes inserted in them, in which are secured the leather bands, or straps, forming the plaited flooring. The upper body framework rail is a similar bent bar, of much the same segment of a circle, supported upon ten uprights, or pillars, but the upper rail runs round at the back of the left hand side for half the width of the back of the chariot, leaving the other half, only, open as an entrance door for the driver.

The body is supported by the pole and the axle, resting upon the first in the center both back and front, and upon the second at the sides. As, however, the thickness of the pole, which is secured at the rear end upon the top of the axle, separates the body from the axle, the rear part of the sides of the body platform are carried down deeper so as to meet and rest upon the axle below the bent floor bar, the head corner uprights being prolonged in order to effect this.

The hind cross bar had also to be secured to the axle, and, there being a gap between them, this is achieved in a wonderfully modern manner, fully anticipating the skillful workmanship of today. It is done by means of six metal bands embracing the axle, and then each prolonged in a solid metal casting forming

an eyelet on the top of the metal piece, which is then simply secured into the back bar of the body platform. Had it been suggested by an Egyptologist to a modern carriage builder that his forerunners under the Pharaoh Amenophis III constructed vehicles in this way, the idea would have been scouted as impossible.

It will be seen that the construction of the chariot body is very remarkable, and our description of it is in accordance with that of Mr. Newberry, but the method of workmanship of the wheelwright is still more noteworthy, and here we shall set forth the mechanical design from a personal and close study of the chariot in Cairo, as the account given in the new volume errs in several important technical points, and is somewhat obscure.

The wheels, which are 75 centimeters in diameter, are made upon a method that not long ago was re-invented and patented in the United States, and is now much favored everywhere.

In this system the hub, or stock of the wheel, is formed of a metal casting, its center a large tube, or pipe, through which, in the case of Iouiya's chariot passed the wooden axle, which, when well greased, permitted the metal tube of the wheel to revolve without undue friction. From this central wheel tube radiate castings in the solid piece with it amounting to six projecting sockets, tapering toward the top outside, which serve as holders, or receptacles, into which are driven the six spokes for each wheel. This is quite a different method from the plan of mortising and tenoning the spokes into a wood nave, which has been the practice for thousands of years, and is still most frequently done today.

Strange to say, the rims of this chariot's wheels are also constructed in a manner supposed, a few years ago, to be quite novel, and acclaimed as an invention. This consists of building up the curved circular rim not of 6 or 7 pieces each cut out to the required segment of a circle, or what are termed "felloes," but by bending two straight pieces of wood to the necessary curve, and then having the socket holes made for the spokes, securing the two curved pieces together where they meet by shrinking on an outer metal tire.

The wheels of Iouiya's car do not have the metal band, but the bent rim pieces are secured with clamps, and a leather tire dyed red complete the work. The vehicle, therefore, was built to be used only once, which was to be gently drawn at the funeral procession of the departed Iouiya, and then deposited in his tomb. The body frame of the car was filled in with sheets of scarlet leather ornamented either with green and white applique work,

or with decoration in low embossed relief, and then gilded, representing the "Tree of Life," and two goats and rosettes.

It is to be regretted that in the letter press of this most excellent book no reference is given to the 44 plates, and some of the latter are not referred to at all in the descriptive matter.

In conclusion, it is worthy of remark that the recovery of the bodies of Iouiya and Touiyou is due to the generous efforts of Mr. Theodore Davis, a citizen of the land of the far West, all unknown to the contemporaries of King Amenophis and his fair Queen Tiyi, but which occupies the position of their longed-for Amenti, the abode of the blessed—the western home where the isles of an Occidental sea were laved by the beams of Ra Osiris, the setting sun.

WEST INDIAN NEGROES.

The West Indian negroes are far distant from the main body of British whites, and neither comes into direct contact and competition with the other. Compared with the great masses of colored inhabitants, the white residents in the islands are a mere handful. The former do not claim equality, and they accept whatever social honors the whites voluntarily grant them. Fundamental race antipathy exists here as elsewhere, but it is not accompanied by friction, because the political and social contact is not sufficiently close and the climate prevents anything like economic competition. But if the proportion of the population were equalized and the climate more adapted for white men, as in the United States, we should find a different state of things. Despite altruistic considerations, the whites probably would be much less tolerant of the negro and more adverse to his social advancement.

A CAVE IN CALIFORNIA.

A large and remarkable cave, according to the *Scientific American*, was recently discovered in the Santa Susana Mountains, some fifty miles from Los Angeles, Cal. The cave contains many halls, some of large extent, and the walls of one are covered with rude drawings, some of which are almost obliterated, but others are quite clear. The drawings represent incidents of the chase, showing Indians pursuing bear, deer, and other animals. One wall drawing shows the bear pursuing the hunter. The work is executed in soft red stone.

ORIENTAL DEPARTMENT.

EDITED BY DR. CHAS. H. S. DAVIS.

The Columbia University Press (New York: Macmillan & Co.) has issued a work covering the history of Gaza, by Dr. Martin A. Meyer. It is the fifth volume of the Columbia Oriental Studies, and is practically a summary of the well-known work on Gaza by Dr. K. Stark. Dr. Stark's work, published in 1852, gave all of the available information with regard to the town, its location, its inhabitants, its antiquities, and its history up to its capture by the Moslems in 634. Since 1852 the discoveries in Egypt, Babylonia, Asia Minor, Greece, Crete, Cyprus, and Palestine itself, have so completely revolutionized our ideas with regard to the early history of the entire Mediterranean region, and also with regard to the historical use and value of the Bible, on which, with the Greek historians, Dr. Stark depended for his information covering the period before the time of Alexander, as to make the work practically useless.

From the siege of the city by Alexander the Great in 332 B. C. to its capture by the Moslems in 634 A. D., a period of almost one thousand years, Dr. Meyer follows Dr. Stark very closely, but from 634 to the present time Dr. Meyer has relied entirely upon his own investigations, gathering his material chiefly from Arabic sources. For the period preceding 332 B. C., the material used by Dr. Meyer is almost entirely new.



Great interest has been aroused by the finding at Thebes of the jewels of the wife of Sety II, and it is another triumph for Theodore M. Davis, who is backing the excavation in the Valley of the Kings. The importance of the find lies in the fact that though the actual mummy of the queen was not found, her bracelets of gold, her huge earrings, and her elaborately worked rings, with their accessories, will tell the story of her life. They may disprove the claim that Rameses II was the Pharaoh of the exodus, and establish Sety II and his Queen as the rulers with whom Moses talked.



An exhibition has been opened at the New York Metropolitan Museum of Art of casts and reproductions of objects found during the recent excavations in the Island of Crete, which the mu-

seum has been collecting for the last year. In eight years two vast palaces have been unearthed at Knossos and Phaestos, and a number of smaller towns or villas have been brought to light by English, American and Italian excavators, and have revealed a high state of civilization. Most of the objects in the present exhibition date from the height of Cretan power. One of the most interesting finds of Dr. A. J. Evans at Knossos has been a collection of objects in faience, or native porcelain, which were discovered among the contents of a temple treasury. Chief among these are the snake goddess and her attendants. The goddess wears a high tiara and a dress consisting of a richly embroidered jacket with a laced bodice and a skirt with a double apron. About her are coiled three snakes. The figures are strikingly modern. The other faience objects found with these figures are votive robes decorated with crocus flowers; votive girdles and shields; flying fish and cockle shells; and two reliefs of remarkable naturalism, one a group of cow and calf, and another of a goat with her young. Among the vases are some which will illustrate the great delicacy and elegance which are found in Cretan vases of the best period, and which are suggestive of the finest delicate Japanese work.



G. Elliott Smith describes in the recent "Bulletin of the Egyptian Institute" what he discovered when he unwrapped in the Cairo Museum the mummies of five of the Pharaohs that were found at Bab-el-Molouk in 1898. These kings were among those who reigned in Egypt from about 1,000 to 1,300 years before the Christian era. At a period believed to be not more than a century after the death of the latest of these royal persons their elaborate tombs were broken into for the purpose of despoiling the mummies of the precious stones and jewels in the form of amulets, charms and other objects that had been buried with them. The work of unwrapping the royal mummies of Egypt is always a slow and careful process. Every stage of it is carefully described. Photographs are taken at every change in the process, as for example when different kinds of cloth or different widths of bandages are used. The detailed report on these five mummies has not yet been printed, and Mr. Smith confines himself to his notes of the mutilation and plunder of the royal dead. About three days was spent in the unwrapping of each of the mummies.

It would have been no easy matter for the plunderers to take off the wrappings and secure the jewels if they had treated the mummies with care, but they were after the valuables and stopped at no mutilation that would help to get them quickly. Parts of

the fine linen bandages, plastered together with resinous paste, were hacked off so brutally that bones of the mummies were broken, pieces of skin were cut out, arms, hands and ears were cut off, and teeth were knocked out. Fragments of the original wrappings remained glued to the mummies if it was evident that there was no jewel underneath that would add to the stolen riches. The least damaged of all the mummies was that of Ramese V, which was completely stripped of all its wrappings, but the only mutilation was the slicing off of the finger tips of the left hand by some sharp instrument.

None of the other mummies was so badly maltreated as the body of Ramese VI, whose head and trunk were literally hacked to pieces. Jewels around the neck had evidently supplied the motive for cutting off the head. One of the forearms and the hand were not with the mummy, but, curiously enough, they had been replaced by those of another body, evidently of a woman. Mr. Smith discovered abundant evidence that at a later period, during the reign of the priest kings, these outrages came to light and a very hurried effort was made to rewrap the bodies. The fragments of the old bandages were put around them and were then covered with new bandages, but the rewrapping was so carelessly done as to indicate great haste. When the body of Rameses VI was rewrapped it was necessary to obtain a board on which to tie the fragments to give them some semblance of the form of a mummy.



Prof. A. Ertholet, of the University of Basel, has issued (Tubingen: U. C. Mohr) a collection of data for the study of the origin and development of the leading religions of the Orient, called "Religionsgeschichtliches Lesebuch." His four coadjutors are Prof. William Grube of Berlin, religion of the ancient Chinese; Prof. Karl F. Geldner of Marbury, religion of the Vedas; Brahmanism and the Zoroastrian religion of the Avesta; Prof. M. Winternitz of Prague, Buddhism; and Prof. A. Mez of Basel, the religion as based on the Koran.



Prof. Hermann Guthe, of the University of Leipzig, has recently issued his "Palästina," with 142 illustrations and one chart. The author for many years was the editor of the *Zeitschrift* of the German Palestine Society. The book deals with the soil and climate, fauna and flora, and the inhabitants, and brings from the Old Testament an abundance of illustrative matter. The author also discusses the archæology of the Holy Land, both of the Biblical and the pre-Biblical periods. This volume forms

Vol. XXI in the series known as "Land und Leute. Monographien zur Erdkunde" (Leipzig: Velhagen & Klasing).

Prof. Hugo Winckler, of the University of Berlin, has published in the *Mitteilungen der Deutschen Orient Gesellschaft* further details regarding the discoveries made by him at Gobhaz-Koi in the summer of 1907. Prof. Winckler has made considerable progress in deciphering the valuable archive that he was fortunate enough to discover in 1906, and to which additions were made last summer. He concludes that the language on such of the cuneiform tablets discovered there are not written in Babylonian is, in all probability, none other than the Hittite translated into cuneiform characters: and numerous as the difficulties are which must still be overcome before the decipherment can be pronounced even semi-satisfactory, Prof. Winckler has successfully determined the proper names and the general sense of many of the tablets—thanks in part to the ideographic system of writing titles and some of the catch-words. Prof. Winckler has also settled, in a manner that will be generally regarded as convincing, that the Hittite language was an Indo-European tongue.



A discovery has been made at Shellal, where work is proceeding in connection with the Nile dam below Philæ. What is believed to be a prehistoric cemetery has been found of men of small stature and so poor in worldly goods that they carried to the grave only a few pebble ornaments. Near this cemetery a trench has been discovered where the remains of forty decapitated Roman soldiers are lying side by side.



A vase of beautiful workmanship with inscriptions tending to show it to have been the property of Cleopatra, and upon which is painted a portrait of Julius Cæsar in the custom of a Greek god, has been found by the Randall Maciver expedition of the University of Pennsylvania, which has been at work at Anibeh, a famous religious shrine of the ancient Egyptians, since the middle of last November. News of the discovery was recently sent by Dr. Maciver in a letter to Eckley B. Coxe, chairman of the Egyptian section of the University museum.

The vase, which it is expected will take rank with the few art legacies left by antiquity, was found in a tomb about a mile north of the city of Anibeh proper, where the tombs of many of the nobility of Egypt at the time of the Ptolemies have been unearthed. In the burial chamber, besides the vase, were several articles which would have been ranked as important discoveries

but for the Cleopatra vase. The vase itself, just twenty-six inches high, was standing in a niche cut into the solid rock wall of the tomb at the head of the sarcophagus.

The Royal Museum authorities in Berlin have just published the text of a fine collection of Greek papyri discovered by Dr. Rubensohn on Elephantine, an island in the Nile opposite Assuan, and deciphered by the discoverer. One of the most interesting documents is a marriage contract of 310 B. C. This was the time when Ptolemy I, one of Alexander the Great's generals, became king of Egypt. It is therefore by far the most ancient of all authentically dated Greek records.

A deed of marriage is drawn up between Heraclides, a Greek mercenary, and Demetria, daughter of Leptines and Philotes, his wife, of the island of Kos, in the Aegean Sea. The bride brings a dowry of clothes and ornaments to the value of one talent. The deed is witnessed by six companions in arms, compatriots of the bridegroom.

The terms of the contract are worthy of notice. If the wife prove unfaithful, it says, she must leave her husband and lose all claim on the dowry, but three witnesses of the transgression must be produced, accepted by both parties. This shows that even in those remote times a woman was not a chattel under the husband's autocratic sway, but possessed certain well defined rights of her own.

Should the husband break faith with the wife he must return the dowry in full and in addition pay proportionate damages. Here also the testimony of three accepted witnesses is required. Demetria, the deed further stipulates, was to join her lord in Egypt, but would afterwards return with him to Hellas, where Heraclides possessed property and ships.

At the recent meeting of the Berlin Academy, Prof. H. Diels reports the finding of an antique temple key. Up to this time nothing has been found in connection with the ruins of old temples that could with certainty be called a key. The present discovery was made at one of the most famous temples of Greece, the sanctuary of Artemis Hemera in Lusoi, Arcadia. That the key belongs to the temple is attested by an inscription, dating perhaps from the fifth century. Prof. Diels' account will be printed in the *Bericht*, and will be illustrated by a photograph.

Some three years ago Prof. Hubert Grimme published a pamphlet on the "Laws of Hammurabi and Moses." This has

now been translated by Rev. W. T. Pilter, with a brief introduction by the author, in which he states that, although much has been published on the subject since his pamphlet was first issued, he still holds to his main thesis by which he attempted to define the relation of the Hammurabi legislation to the Mosaic. His main contention is that neither the Hammurabi nor the Mosaic Code was derived directly from the other, but that each drew independently from the well of Old Semitic common law. Mr. Pilter has added some valuable explanatory notes, and some interesting additional chapters on the history and archæology of the two codes. He also gives in a handy form a translation of those Laws of Hammurabi which Prof. Grimme compares with the Mosaic laws of "The Book of the Covenant."

Mr. Oric Bates, assistant in charge of the Department of Egyptian Art in the Boston Museum of Fine Arts, left the service of the Museum last year to continue his studies in Egypt. The work of the Harvard University Museum of Fine Arts Expedition in Egypt has been steadily carried forward during the past year under the direction of Dr. G. A. Reisner. A number of reliefs have been received at the Museum, also a series of photographs of objects in the Cairo Museum. There has also been purchased a polished black granite statuette of a priest of the Temple of Ammon at Karnak. The statuette dates from the XVIII or XXVI dynasty.

The latest news from Dr. Sven Hedin is that he was just leaving for Khotan, and seemed uncertain whether he would proceed in the spring to Peking or to India. He claims to have discovered the true source of the Brahmaputra (Sanpu) at Kubi Tsampo; and he pronounces Marium Chur—the previously latest discovered source—merely one of the smallest tributaries from the west. He then discovered what he calls "the real source of the Indus" at the back of Kailas. Dr. Sven Hedin also warns us that "the map of Tibet will hereafter look very different from even the latest edition of the Royal Geographical Society's map."

Dr. D. Macdonald has been at work some thirty-five years on his recently published "Oceanic Languages," in which he gives their grammatical structure, vocabulary, and origin. This is our first vocabulary of Melanesian speech, and it is made possible to give intelligent study to the various scattered lists of words of the island area from New Caledonia to New Guinea. The work will no doubt give rise to considerable controversy among

the philologists who specialize in that speech family, for he has endeavored to prove by philological methods the Semitic origin of the Oceanic languages, and he contends that the Oceanic speakers—however the Caucasian, the Negro, or the Mongol physique may be more in evidence in any particular part—constitute mentally, socially, and religiously, as well as linguistically, one great though much diversified race or people, just as the languages, though multitudinously diversified, constitute one great family. The dictionary has 3,657 entries, and the work will prove of great value to those who take an interest either in philology or ethnology, as a distinct contribution to the question of the origins of peoples and their development. There are some errors, possibly typographical, in Samoan words—*faitilitili*, for *faititili*; *mati*, for *mate*; *moniti*, for *monoti*; *nohoa*, for *nofoa*.



At a recent meeting in Berlin, Dr. Karl Peters told his audience how he had discovered in the southeast of Africa, between the Zambesi and Limpopo rivers, "many shafts of ancient gold mines, 500 temples, fortifications, and other ruins of Phœnician origin." Consequently he is convinced that this region was the Ophir mentioned in the Bible as the place whence King Solomon procured his gold. He thinks also that the coins recently unearthed in Mashonaland belonged to the time of Solomon.



The *Deutsche Orient-Gesellschaft* has been informed by the commission it sent out some months ago to investigate the ruins of the synagogue in Galilee, that enough data have been secured to publish a new and instructive volume.



As a direct outcome of the lectures recently given in Rome and Florence by the English Egyptologist, Prof. B. P. Grenfell of the British Museum, an Italian Society for Archæological Exploration in Egypt is being formed, with the support of Prof. Pasquale Villari, Senator Domenico Comparetti, and Prof. Vitelli of Florence.



M. Edouard Naville has been writing in the *Gazette des Beaux Arts* on a beautiful group of statuary which he discovered at Deir-el-Bahari in February, 1906. M. Maspero says: "Neither Greece nor Rome has left to us, nor have we ourselves anything which compares with it." The group represents King Amenhetep II with the goddess Hathor. It is life-size, and carved in stone and painted a red-brown with details in black. The cow-goddess stands erect, as if emerging from the water, long

masses of moist papyrus grass hang like a parted veil from her horns, which enclose the lunar disk: beneath her head stands the king. The group is marked by a grandeur of conception, combined with absolute truth to life, which can only be called astonishing. How was the unnamed sculptor able to put so much of the majesty of the universe into the figure of a cow? The statue is perhaps destined to become as well known as the cow of Myron, so famed in the Greek anthologies. Perhaps, indeed, Myron drew some of his inspiration from this marvelous work.



Negotiations have been begun by the representative of a Chicago museum for the transfer to that city of an ancient tomb weighing 250 tons, according to an Assuan correspondent of *The London Graphic*. The tomb is situated near the pyramids of Sakkara, twenty miles from Cairo, and is a favorite resort of tourists, who usually make the journey on camels across the desert from the great pyramids at Gizeh. The Chicago museum authorities wish to remove the tomb in its entirety. To achieve this will naturally be a difficult problem. It has been arranged that a whole train shall carry the tomb in sections from the nearest point of the railway to the coast, but no arrangements have yet been completed for moving the tomb from the desert sands to the railway line. The sections of the tomb will be carefully packed and placed on board a steamer at Port Said or Alexandria. Another special train will convey it from the American coast to Chicago, where the sections will be put together, under the direction of archaeologists.



Professor George Trumbull Ladd's book, "In Korea with Marquis Ito," is partly the account of personal experiences described in a readable and interesting way, and a good description of the inefficiency and treachery of the inhabitants of Korea, and in part a serious first-hand discussion of a weighty political problem, but one necessarily somewhat biased, and an *ex parte* statement of a professed friend of Japan, and it therefore can hardly be accepted as that of a disinterested and impartial student.

While in Japan in 1907, Prof. Ladd was invited by Marquis Ito, who had been charged by the Japanese emperor with the administration of Korea, to visit that country in the interest of Japan and in an effort to persuade the Koreans of the beneficent intentions of their conqueror. Prof. Ladd had not only unprecedented opportunities for obtaining inside information and accurate knowledge as to the past and present conduct of Japan in her present intentions, but much hitherto unpublished diplomatic

material was placed in his hands enabling him to establish beyond reasonable doubt the truth about certain matters which he discusses in his book. The book is a powerful defense of Japan's educational work in Korea, as well as a revelation of Korean character, and it shows the impossibility it would have been for the Japanese to deal with the dynasty reigning in Seoul otherwise than they did. (New York: Charles Scribner's Sons: 12mo.; pp. 477. Price \$2.50.)

The excavations of the French archæologists in Tunis have recently brought to light some remarkable finds. Among the buildings the most important is a temple of Saturn, discovered at Bugga, of which a large number of columns are still in good preservation. Among the statues the figure of an Athena wearing a girdle decorated with the head of Medusa is noteworthy, as is also a colossal statue of Apollo, three meters in height, carrying a richly ornamented lyre. A large number of important inscriptions have also been found.

The Archæological Society of Athens announces the discovery near the site of Pegasus in Thessaly, of nearly a thousand marble stelæ, of which four hundred bear traces of important encaustic paintings of unusual originality and workmanship. They are said to belong to the second and third centuries before Christ, and there is reason for attributing some of the work to Polignotos and Apelles. Thirty, in a state of perfect preservation, show brilliant coloring.

RECORDS AND RUINS ON THE JORDAN.

THE highlands east of the Jordan river are strewn with ruins marking the rise and fall of successive civilizations—Semitic, Greek, Roman, Christian, Mohammedan and Crusader. These ruins have been preserved for the modern explorer by the tides of nomadic life, which have swept up from the Arabian desert; but at the southern end of this no-man's land, deep in the mountains of Edom, lies one of the strangest, most beautiful and most enchanting spots upon this earth—the Rock City of Petra. Its story carries us back to the dawn of human history. When Esau parted in anger from Jacob he went to Edom, then called Mount Seir, and after dispossessing the Horites became the progenitor of the Edomites, who remained the enemies of the children of Israel for a thousand years. These Edomites had princes, or kings, ruling in the Rock City while the children of Israel were

still in Egyptian bondage. Some of the darkest maledictions of the Old Testament are those aimed at Edom.

In the days of the Nabatheans, Petra became the central point to which the caravans from the interior of Arabia, Persia and India came laden with all the precious commodities of the east, and from which these commodities were distributed through Egypt, Palestine, Syria, and all the countries bordering on the Mediterranean, for even Tyre and Sidon derived many of their precious wares and dyes from Petra. It was at that time the Suez of this part of the world, the place where the east and the west met to trade and barter. It was also in fact a great "safe deposit" into which the great caravans poured after the vicissitudes and dangers of the desert. Its wealth became fabulous, and it is not without some good reason that the first rock structure one sees in Petra, guarding the mysterious entrance, is still called "Pharaoh's Treasury." It must have been the Nabatheans who developed the natural beauties of the situation and increased the rock-cut dwellings and temples to the almost interminable extent in which they are found today.

The palmy period of the Nabatheans extended from 150 B. C. to 106 A. D., when the Romans conquered the country and city, extended two Roman roads into it, and established the province of Arabia Petra. The Rock City was always to these regions and peoples what Rome was to the Romans and Jerusalem to the Jews. Horites, Edomites, Nabatheans and Romans have all rejoiced and boasted in the possession of this antique stronghold and most remarkable city of antiquity.

When Rome's power waned and the fortified camps on the edge of the desert were abandoned, no doubt the soldiers were withdrawn from such cities as Petra. Then the Romanized Nabatheans or Nabatheanized Romans held their own against the desert hordes as long as they could, and went down probably about the same time as the Greek cities of the Decapolis (636 A. D.). From that time onward Petra's history becomes more and more obscure, and for more than a thousand years Edom's ancient capital was completely lost to the civilized world. Until its discovery by Burckhardt, in 1812, its site seems to have been unknown except to the wandering Bedouin.—*From an Article in The National Geographic Magazine.*

THE SACRED LANGUAGES.

MONS. SOLDI, a gentleman who has spent twenty years in studying the symbols of all lands, has given some valuable thoughts upon what he calls "The Sacred Language."*

He says primitive men decorated their surroundings, loin cloths, baskets, war clubs and armor, canoes, head-dresses, their tattooed backs and breasts, their gems and vases, their village plats and monuments, their tombs, the surface of the rocks, not merely to make them look pretty and please the eye, thus giving origin to art; but, along with the art, they developed a sacred language and made use of art designs to express or symbolize their ideas concerning their origin and the creation of things.

The sacred language reveals beyond the limits of history known to us a humanity possessing an extraordinary knowledge about the creation of the universe, but little inferior to that of which we boast. This sacred language is not read, but it manifests itself and realizes its aim by the human realization of divine creation. It is a writing which has been misunderstood, but which created art and ornament. The simple straight lines or spirals embodied in mounds, or inscribed upon rocks, from India to Brittany; from America to Africa; the so-called geometrical decoration of archaic Greek vases; the form of Etruscan vases; the ground of Gaulish medals; the holes and cup-like hollows in Celtic stones; the costumes of ancient dancers, and those preserved in many lands; the architectures of the temples of all worships from Edfou to Parthenon, and Babel to Palenque; the ornamentation of ancient and modern tapestries; the humblest objects of the savage, and the richest of our own civilization, have concealed in ideographic language a true cosmoglyphic.

This sacred language is revealed not only in inscriptions and monuments, it is expressed in rude objects and the manner of their disposition. Thus a few pearls in the simplest tombs, vases, lances, arrows, hatchets, pins, and diadems write on the coffin or in the tomb the complete and mystic epic of humanity. Each object is a word of this poem of life and resurrection. When afterward we find unsymmetrical and monotonous rows in the cases of the museums of Europe we discover the cosmic signs which reveal clearly the mysterious ideas which the religions held or concealed in the depths of the sanctuaries, and which

*" *La Langue Sacree: Le Mystere de la Creation.* Par Emile Soldi. Paris: Libraire Achille, Heymann: 1897.

the Greek philosophers made their own and embodied in the Eleusinian mysteries. Thus back of myths and known worships is found a cosmology, the soul of religions, which answered well to human aspiration.

Now such a view of the student of ancient symbols is worthy of attention, from the fact that in America we have a series of symbols very similar to that which prevails in the ancient lands of the East, and which constitute a universal cosmic language. Thus we find that the very symbols which are recorded, both in profane history and in Scripture, as standing reminders of events which had occurred, were used in prehistoric times by many widely scattered nations, as the fundamental supports of creation, these nations having embodied them in their astronomy and cosmogony. There were nations which used the same symbols in another way. They made them not so much the supports of creation, which were stationary and fixed resembling columns or poles, as they were the symbols of the changeable operations of nature such as the descent of the rain from the clouds, and the growth of the vegetation from the earth, and the revolutions of the sky and the return of the seasons.

It is a singular fact that the serpent among many nations, as wide apart as Central America and Western Africa, was used as a symbol of the rain cloud which floated in the sky and hovered over the earth, and descended first to the temple and from the temple to the ground, as if it came in answer to prayer and sacrifice. A remarkable specimen of this is found in the temple at Palenque, where two distinct pairs of serpents are sculptured upon the door columns of the shrine which crowns the summit of the pyramid; the heads at the base of the columns, the tails toward the sky. Another pair of immense serpents or dragons form the balustrade of the stairway which leads up the pyramids to the shrine. The cave connects with the mouths of the upper serpents, but the jaws and scaly neck project from the base of the pyramid, as if about to crawl along the ground. What is most singular about this effigy is that a very similar temple has recently been discovered in Western Africa, in which metal serpents are represented as descending from the sky head first, some of them on the roofs, and others at the doors. This is near the city of Benin.

EARLY HISTORY OF CHINA.

The earliest ancestors of the Chinese were nomad people, 2953 B. C., but there was a mythical period which preceded them, for Fohi, who corresponds with Noah, was supposed to have the body of a dragon and the head of an ox. Still Confucius accepted him as one of the rulers. What heaven hears and sees, manifests itself by the things which the people hear and see; for originally a varied people lived who followed the life of hunters and fishermen, but who were compelled to become agriculturists and settle in towns. They had their mythical ancestors who taught them all the use of fire and of clothes, and raised them from their brute life. China, like Rome, was hospitable to all the gods.

A book of 5,000 characters is called the "Meditations of Confucius." The Bamboo Books of the Chinese are very old and may be compared to the books of Moses. De la Couperie says the Yih-King is the oldest of Chinese books and is a mysterious classic. We have proof that the writing was already an old one, but much improved since its hieroglyphic stage. We have also proof that it was borrowed from horizontal writing, traced from left to right, the precuneiform character of which had previously undergone several modifications. The mysterious book is still avowedly not understood, though it is not a book of fates nor of prognostics. It contains a valuable collection of documents of antiquity in which is embodied information on ethnological customs, languages, and writings of early China.

Proofs are found in the similitudes of institutions, traditions, knowledge, as well as the affinities of words of culture, and what concerns the writing, likeness of characters, hieroglyphics, and arbitrary signs with the same sounds and meanings attached to them. The same morphology of written words, the same phonetic laws of orthography appear in the early period of their history and before their migration to the far south.

The following dates are significant: Fohi, 2953 B. C.; Lootse, 604 B. C.; Mencius, 314 B. C.; Great Wall, 238 B. C. The Hwang-Ti built roads which still remain. He was buried with his many wives and a large quantity of treasure. His favorite exercise was walking. After his famous combat he began the building of bridges in western China between the mountains.

This Chinese Bak borrowed the precuneiform writing, and elements of the knowledge and institutions connected with the old centers of culture of southwestern Asia. The numerous affinities

of institutions and customs show the borrowing of script and culture by the Chinese from the region of Elam, the confederation of states of which Susa was the chief town. The breakup which resulted in the conquest of Babylonia by the Elamite King, Chedorlaomer, at the date of 2285 B. C., was also the cause of an eastern conquest. This was long before the time of Confucius.

Laotse was born in 604 B. C., Mencius in 314 B. C. During three centuries the feudal system prevailed, and at its height the writings of Laotse, Confucius and Mencius appeared.

Westerners marched against the Tartars who were identified with the Huns. The great wall was built 238 B. C., while Huang Ti sat on his throne with a naked sword in his hand in the hall of audience which was called the "palace of delight." The valleys were filled up, and towers were built within one hundred and fifty yards of each other. There was a collision between the tribes of the deserts and the agriculturists of the plains.

The doctrines are ascribed to Confucius, objects of culture to Laotse, and precepts to Buddha. Fohi lived from 2953 to 2838 B. C. Patriarchal rulers prevailed afterward. There are those who believe that all the gods and mythic monsters, who are regarded as ancestors, are only the personification of nature powers.

M. Rene Dusserod has visited the site of Cnossus in Crete and has described it with twelve illustrations.

Montelius has adopted the division of the bronze age into two periods. The first is found in the Armorican peninsula. The second is in the ornamentation and incineration.

Quatrefages holds that one of the chief problems of anthropologists in regard to America is that of the origin of its inhabitants. The question before us is one which requires a world-wide investigation and a candid but careful answer. Man is everywhere now, but did he appear everywhere in the beginning? According to the Sacred Word, he did not but was restricted to a certain locality.

Hercules does not, like Orion, appear in Homer for the two phases of a sungod and a constellation. Yet the presentation or description of him reaches the double form. In the Iliad he is the hero who captures Troy, is persecuted by Hera, fights with the sea monster. He appears in the underworld as a phantom. Ordinarily he wears a shining belt of gold whereon are wrought bears and wild boars. Hercules recognizes Odysseus and tells what hard adventures he had experienced on earth. His hardest task was to lift the dog Cerberus from Hades.

THE BABYLONIAN SABBATH.

There would seem to be hardly any doubt that the seventh and fifteenth days of the month were lunar periods and referred to the Semitic-Babylonian story of the creation.

The fifth tablet describes how Merodach set in order the heavenly bodies and fixed the path and the phases of the moon. The reason for the selection of the fifteenth day as the Sabbath of the Babylonians can be explained because the moon rests at the full at the middle of the month, and the "Heart Rest Day" would have been a "mid-rest day."

The Assyro-Babylonian word for Sabbath—namely: *Sabattu*, has been known, and the explanation, "gave rest for the heart," has been frequently quoted.

Mr. Theopholis G. Pinches has an article in the "Proceedings of the Society of Biblical Archæology," February 10, 1904, on this subject. He says that considerable discussion has been aroused in consequence of it. From Prof. Delitzsch's remarks upon the Sabbath in Babylonia, it will appear that the Sumero-Accadians numbered their days straight on from one to thirty, as did also the Babylonians after them.

"The seventh day, the fourteenth day, the twenty-first and the twenty-eighth were fast days of Merodach. The shepherd of the great people shall not eat flesh cooked by fire, he shall not change the dress of his body, he shall not put on white, he shall not make an offering. The king shall not ride in his chariot, the priestess shall not declare a divine decision, a seer shall not make an oracle in a secret spot. A physician shall not lay his hand on a sick man; the day is unsuitable for doing business. The king shall bring his offering in the night; he shall make a sacrifice before Merodach and Istar; his prayer is acceptable to God."

The Babylonian Sabbath would seem to be pre-Semitic. It did not remain, however, with the Babylonians or with the Accadians, but took root with the Hebrews.

THE HEATHEN WONDER BIRTHS.

The search for hidden analogies has been carried on for many years, and a vast field has been opened. The analogies heretofore have been drawn between Old Testament events and heathen records—between Judaism and the polytheistic religion of Babylonia.

The connection between the virgin goddess of the Babylonian mythology and the Virgin Mother of Jesus is now made the sub-

ject of discussion in the name of "comparative religion," not to say mythology. The sacrificial systems of all nations present analogies, but the birth of Christ from a Virgin is supposed to have been exceptional.

Alexander the Great was not supernaturally born, though a fiction, confined to Egypt, has been taken by some as real. A priest in the temple of Ammon, in the Libyan desert, greeted Alexander as the son of Ammon.

The case of Gautama is well known. Buddhism makes him a divinity, but does not allege a miraculous birth for him. At least the oldest documents do not.

The birth stories represent a later growth, not earlier than 250 A. D. The birth of Adonis by the bursting of the myrtle tree, and the birth of the Egyptian god by the bursting of the oak tree, are well known, but these are fables. The legend of Perseus is classic. Perseus was the son of Jupiter and Danaë. Jupiter changed himself into a shower of gold and poured himself through the roof of the tower in which her father had imprisoned his daughter.

In Mexico and India supernatural births were ascribed to their heroes. The normal birth of the hero is almost unknown in heathen literature. The Moslems believe that Mohammed was born in the wilderness of Arabia by a miraculous birth.

There are unnumbered parallels in the same direction; for similar belief prevails among the Aztecs and in Peru.

Begetter is a symbolic term for God, also for activity in the realms of matter and spirit. Virginity has no resemblance to what the New Testament means by it.

Historical virgin-birth never came within the range of philosophy. When it is recorded in mythology, it may be said to come from a heathen conception rather than a historical fact.

An article on the Heathen Wonder Births is contained in *The Presbyterian Review* for January, 1908. It was written by Lewis Matthews Sweet, of Canandagua, N. Y.

The Aryans and Accadians both had a remarkable horror of darkness. This is shown in the Vedic and Accadian hymns. In them we see glimpses of a period when the primeval chaos and the gloom and the confusion of the infernal abyss were closely linked together. (See Wright's "Empire of the Hittites.")

ARCHAEOLOGICAL NOTES.

TRANSFORMATION OF FUNERAL OFFERINGS.—It is well known that models or pictures of food were represented on the walls of the chambers in the Pyramids and Mastabas, and were offerings before the deceased person sufficient to provide him with sustenance provided that the formula was pronounced by a living person. As the deceased was represented by his ka or statue, it was sufficient that the necessary food should be represented by pictures or objects, but the magical power of words should intervene. Every person who passed by a tomb was besought to pronounce the formula. The Egyptians believed in the actual transformation of the pictured objects into a reality.

ARROWS USED AS PRAYERS.—Carl Lumholtz has spoken of the Huixhol Indians and has described the temples. He says they are large circular buildings of stone with doorways facing the east, but there is a novel form of prayer connected with the temples. When an Indian wants to pray, he makes an arrow. This expresses his desire in a language intelligible to the gods. The arrows are placed upright in the ground near some sacred spring. Sometimes they are stuck into the seats in the sacred part of the temples or in lonely spots in the mountain. The front part of the shields have symbols upon them. The shields are placed in the middle of trails and upon them fierce animals are portrayed. The eye is a symbol with them. It is woven into the center of a small cross, and expresses the understanding of unknown things.

SPIRITS OF THE DEAD.—Mrs. Stevenson, in describing the idea of heaven among the Sias, a western tribe in America, says: "When the years were new and the villages had just been built, the spirits of the dead came for a feast. They had just such bodies as they had had before death, but they recognized one another. Husbands recognized wives and wives husbands, children recognized parents, and parents their children. The spirits tarried but a single night. When the hour for separation came, there was much weeping. The living insisted on going with the dead, but the dead declared they must not, for they could not pass through the entrance to the other world." (See Report of the Bureau of Ethnology, 1889-90.)

THE NAVAJO STORY OF CREATION.—The Navajos personified everything and even the creation itself. The goddess of the west, Estanutli, became the wife of the sun. She lived in a floating

island in the sea, but she determined to make companions. From her left side she made four persons, who became progenitors of Gens, from her right side another Gens, from her left breast a Gens, from her right breast another Gens; so from the middle of her chest and the middle of her back. (See Matthews in "American Folk Lore," Vol. III.) According to the Mojaves, the earth is a woman, the sky a man. By conjunction of the earth with the sky, the two gods were born in the west to them, Gukemetz and his brother Tochupu. The earth and sky had other children, Malyapila and his sister. From these descended all men and women.

ANCIENT COINS.—The figures on the ancient coins such as the ox, fish, ear of corn, or wheat, represented the articles of general commerce whose barter preceded the time when the coins first appeared. The constellations of the Greeks appeared in the early Greek art as well as the Phœnician and Etruscan coins.

MEMORIAL OF JOHN WESLEY POWELL.—A bill has been introduced in the Senate by Senator Teller for the erection of a monument, and it is to be hoped that it will be passed.

It is reported that McCulloch peak, the volcanic mountain which was described and pictured in the *Scientific American* of October 26th last, has practically vanished. Thrown up to a height of more than 3,000 feet by volcanic activity, it has now sunk until it barely rises above water. It is believed that the subsidence was a sudden one, due to an earthquake.

Archæologists have long believed that if Herculaneum could be uncovered, it would yield treasures more perfect and more valuable than those of Pompeii. But the cost of excavation, which would be much greater than that of uncovering Pompeii, has always been a deterrent. Public interest in Europe has recently been directed to the suggestion, and as a result Signor Rava, the Minister of Public Instruction in Italy, upon whom the work actually depends, has prepared a bill providing for an appropriation of \$100,000, for the purpose of removing the houses forming the modern town of Resina, which is located over Herculaneum, and an appropriation of \$3,000 a year for actual excavation work. This at least insures Italy's practical interest, and brings the excavation appreciably nearer.

BOOK REVIEWS.

CONTRIBUTIONS TO SOUTH AMERICAN ARCHAEOLOGY. THE GEORGE G. HEYE EXPEDITION. THE ANTIQUITIES OF MANABI, ECUADOR. A PRELIMINARY REPORT. By *Marshall H. Saville*. New York: 1907. 4to; pp. vii, 105; plates IV.

The beautiful volume upon the "Antiquities of Manabi, Ecuador," is the first in a series entitled "Contributions to South American Archaeology." The field researches upon which the volumes are to be based are supported by Mr. George G. Heye of New York City, and conducted by Prof. Marshall H. Saville, whose earlier work in Mexico and Central America places him in the front rank of American field workers in Archaeology.

The volume before us is a fine piece of bookmaking, and the matter presented is interesting and most of it is entirely new to students. Prof. Saville calls his report preliminary, and in fact work in the same and neighboring areas is still in progress. The area to be ultimately covered by the investigation is the whole region lying between Panama and Peru.

After introductory descriptive and historical chapters, Prof. Saville describes and illustrates his finds. The ruins so far examined in this area present little of especial interest. There are some ancient wells, which are curious; they are rather numerous, and are mentioned by some of the earliest authorities upon the region.

The district is an arid one, and the ancient inhabitants were forced to expend great labor in order to provide water supplies. The wells are deep, excavated in the living rock, and carefully lined with masonry. The populations encountered by the Spanish conquerors attributed their construction to giants that formerly occupied the country. Cieza de Leon (1532-1550) refers to these wells. He seems inclined toward the native theory of their builders, for he says: "They must certainly have been executed by very strong men."

To museum men generally two objects are definitely associated with the thought of Ecuador—the little shrunken heads prepared by the Jivaros and the ancient stone seats. Of the latter Saville knows seven examples in American and fifteen in European museums. From his own collecting, he here describes and figures almost fifty examples (some broken), a magnificent series dwarfing the combined collections of all other important European and American museums. These seats, or chairs, have al-

ways a rectangular platform base, upon which crouches a human or animal figure, from the back of which rises a U-shaped seat, open before and behind. The whole object is worked by pecking from a single block of stone—almost always Andesite.

These chairs were never polished, but the workmanship upon them was good. Special pains was bestowed upon the faces of the crouching support figures. The borders were decorated sometimes with lines of geometrical patterning. While the two arms at the sides *might* rise to equal height, they were frequently uneven. Some of the seats are wide from in front back; others are narrow. These interesting and characteristic objects are usually found on the hills, not far from the sea. While hundreds have been discovered, the area within which they occur is not more than twenty miles in diameter. None of the older authors refers to these curious seats.

Among the other types of antiquities described, two or three are of especial interest. Such are a number of stone slabs, in bas-relief sculpturing of conventionalized human figures, the heavy bordering-bands above which are adorned with terraced geometrical designs. Of this curious type, almost unknown to students, Saville is able to present several, some of them broken.

Also of peculiar interest are copper disks, three in number, measuring from $1\frac{1}{8}$ to $8\frac{3}{8}$ inches in diameter. They are quite massive, and give forth a clear resonant sound when struck. Each bears an embossed animal head, rising an inch and a half or more from the surface. These three, with several others similar, were found together in a cache. In some art details these resemble the bas-reliefs just described. The animal whose head they bear is probably the puma. While he suggests that these metal disks might have been breast ornaments, Saville inclines to consider them gongs. We cannot more fully notice this beautiful book, but we sincerely congratulate Prof. Saville and Mr. Heye in opening up so interesting, important, and little-known a field.

F. S.

LOS CALENDARIOS MEXICANOS. By *Mariano Fernandez de Echeverria y Vetyia*. Edicion del Museo Nacional de Mexico: 1907. Folio; pp. 62; 8 plates.

Manual Jose Fernandez de Echeverria y Vetyia was born in Puebla, Mexico, in 1718. He was one of those remarkable geniuses of early ripening, not uncommon in the days of viceregal Mexico. When fifteen years of age he had taken his Bachelor's degree at the University; at nineteen, he had studied both courses in law and was in legal practice; going to the home

town of his parents in Spain, he had held in succession the offices of *alcalde*, *procurador*, and *regidor perpetuo*, before he was twenty-two years old.

In 1740 he began a series of travels, which included Spain, Portugal, France, Italy, England, Morocco, and Mexico. In 1744 the Cavalier Boturini, unfortunate devotee of Mexican studies, a prisoner, an exile from Mexico where his wonderful museum of native Aztec picture-writings had been seized by the government, arrived in Spain and was befriended by Veytia, who received him into his home and maintained him for two years.

During this period Veytia learned from Boturini his ideas regarding the beliefs, practices and achievements of the Aztecs, and particularly his views regarding the Aztec calculation of time and their representation of the facts regarding it in graphic form, as picture calendars or wheels. Under the stimulus thus received, Veytia went to Mexico, where he had the opportunity to study Boturini's collection and himself secured curios and instructive native manuscripts. Boturini eventually wrote and published his *Idea General*, a work of extraordinary suggestiveness but abounding in errors, as it was written from memory, with no opportunity to refer to original documents. In 1757 he died.

During the latter part of his life Veytia wrote a far more important and accurate work, representing many years of thought and labor, embodying the best of Boturini's ideas and avoiding or correcting many of his errors. This work was unpublished at the time of Veytia's death, which occurred in 1779. His history did not actually see the light until fifty-seven years later, when it was published by Ortega, 1836. It has since been considered one of the best works in its field.

Veytia's consideration of Aztec calendars is contained in the first volume of the history, and is a thorough piece of work, taking up one after another the eras, cycles, indictions, years, months, weeks, days, and the question whether the Aztecs knew the bissextile intercalation. The National Museum of Mexico has just issued an elegant edition of this portion of Veytia's history, under the editorship of Genaro Garcia, director of the Museum. The text is taken from a different manuscript from the Ortega edition and contains some before unpublished matter. The introduction by Director Garcia is useful, presenting some of the results of recent studies. The book is sumptuously gotten up and the Museum deserves credit for so beautiful an edition of one of the national classics. Paper, typography, and illustration are all fine. Veytia's original seven plates are all reproduced and an additional one is given from the Boban catalogue. As

chapter-end-cuts and tailpieces, a number of representations are given of Aztec sculptures with chronographic motives. Veytia's tables of correspondence between Aztec years and those of our own chronology are reproduced, and they are extended by new tables carrying the list of equivalences in years well on into the future. F. S.

NAUATL OR MEXICAN IN ARYAN PHONOLOGY (not including formative syllables.) By *T. S. Dennison*. Chicago: 1907: T. S. Dennison, 163 Randolph St. 8vo; pp. 24.

The effort to show relationship between the Aztec language and Old World tongues is nothing new. Usually such efforts have had little to commend them, and on the whole they have sunk into oblivion. The late Major W. E. Beebe made many interesting suggestions, which probably deserved much more serious consideration than they ever received; his work, however, can hardly be said to have been actually published. Mrs. Nuttall, in her "Fundamental Principles of Old and New World Civilizations," presents in an appendix a tabulation of ten words and runs them through a range of Semitic, Aryan, and New World forms. Many other attempted comparisons might be named.

Mr. T. S. Dennison, in his pamphlet, "Nauatl or Mexican in Aryan Phonology," cannot be said to be tracking through an untrodden field. It is, however, unpopular ground, and those entering it run the risk of being curtly dealt with by American students. Our author himself, in his preface, says: "For a century an unwritten law of Comparative Philology has been that America has been forbidden ground. He who ventures thereon is unsafe."

Mr. Denison's position is best given in his own words: "On the plains of Anahuac there has been spoken for centuries and is still spoken an Asiatic language of an ancient type. The vocabulary of this language is practically Sanskrit; its root-formation follows the laws of Indo-Iranian phonetics."

This is a precise and bold statement, which philologists should be able to disprove or to accept. It should not be waived away, or dismissed with a shrug of the shoulders. Mr. Dennison makes a detailed comparison of Aztec phonology with that of Sanskrit, Greek, Latin, and German. His purpose is to bring out clear laws of vocal and consonantal equivalence and substitution. His work is serious and deserves careful examination and just weighing.

Unfortunately the author is not always clear in his statements. We regret his use of the word Mexican in place of Aztec and his preference for the spelling "Nauatl." Nor do we

consider his bibliography adequate. It should be either more or less; as it is, it is not helpful. Mr. Dennison states that: "A more popular work of a comprehensive character is now ready for the press, and its publication will depend somewhat upon the reception which this analysis receives." It is much to be hoped that this more comprehensive work may be printed.

FREDERICK STARR.

BULLETIN No. 30, OF BUREAU OF ETHNOLOGY. HANDBOOK OF AMERICAN INDIANS. Edited by *F. W. Hodge*. Washington: Government Printing Office: 1907.

This is a pictorial cyclopedia of the American Indians north of Mexico, in two parts. It must certainly have taken a great deal of labor and expense to compile. Forty-six persons have been engaged in it, the most of them well-known archæologists and ethnologists, perhaps a third of them connected with the Bureau of Ethnology or with the Smithsonian Institution. It is printed in solid brevier and nonpareil type, arranged in two narrow columns, with many cuts distributed through the pages, the most of them small enough to be confined to the column. The cuts represent not only the houses which were occupied by the various tribes, but the mounds on which some of them are supposed to have been built. The portraits of the chiefs who have become known are also given, arrayed in the costume and decorated with the ornaments which were peculiar to each. The costume and ornaments are as distinctive as the faces and forms. There are other cuts which represent flint arrows, bows, cradles, bags and baskets which were fabricated by the different tribes. Prehistoric relics also are portrayed but reduced to a diminutive size. Portraits of certain ethnologists are also presented, among them Major J. W. Powell, who was at the head of the Ethnological Bureau. The Indians by their features are likely to perpetuate a knowledge of the tribes better even than any written description. It is remarkable that the individuality of the Indians was as prominent as among the white people, and even more so, for the expression.

OUTLINES FOR GREEK AND ROMAN HISTORY. By *Charles Bertram Newton* and *Edwin Bryout Treat*. American Book Company: 1907.

These little books, containing about 60 pages 16mo., are mere outlines with alphabetical indexes. They may be very useful to those who are studying ancient history, but furnish very little information for those who are following archæological lines.

ORIGIN OF THE ANGLO-SAXON RACE. A STUDY OF ENGLAND AND THE TRIBAL ORIGIN OF THE OLD ENGLISH PEOPLE. By the late *Thomas W. Shorc*. Edited by his sons, T. W. and L. E. Shore. London: Elliott Stock, 62 Paternoster Row: 1906.

It is to tribal organization and tribal custom that we must look for the origin of the old English race. The three names Angles, Saxons and Jutes were not the names of nations but of confederations of tribes. It is to the ancient tribes of North Germany and Scandinavia that we must look if we would understand who were the real ancestors of the English. The patronymic termination "ing," denoting "son," occurs in many places. Also the words "men" or "man," as "Norman," "Eastman-ton." The archaeological evidence is found in customs, folk-lore, and traditions. The settlers who became ancestors of the English race were people of many tribes—Teutonic, Germanic, Slavic. In 1271 there were many people who bore the surname Scott. Some of the Danes were called after their islands, and the Goths from ancient Gothland. The customs are described. The practice of cremation and building mounds continued to the time of King Alfred, but was practiced in Jutland previously. The venerable Bede has given a list of tribes from which the English of his time descended. The earliest example of old English is the Saga known as "Bœowulf." The "Doomsday Book" is also relied upon. This work would evidently be highly prized by English people.

ON THE GREAT AMERICAN PLATEAU. By *T. Mitchell Pruden*. Illustrated with photographs. New York: G. P. Putnam's Sons.

This book describes the wanderings among the canyons in the land of the cliff dweller and the Indian of today. Thirty-six plates and a map and frontispiece are in the book. The climate is varied by hot daytimes and cool nights. The march is strenuous under the burning sun. The camping place was under a gigantic butte. The Pueblo Indians are not savages, nor are they civilized. Old traditions, old customs, old aspirations show that their history goes back far into the prehistoric age. Their villages show that they were skilled in housebuilding; for a single house with its many apartments arranged in separate platforms constituted the entire village. The pottery of the cliff dwellers shows taste and skill, and the pictographs show the beginning of writing, while the relics illustrate the beginning of art. The readers of this magazine have already been made familiar with the people and their surroundings, but the prehistoric ruins with

their impressive phases are suggestive of an age which has passed away. The living representatives are still seen, but are changing their habits and it will not be long before the prehistoric features of the country will be mere shadows rather than substantial homes, and yet they are likely to remain long after the wild tribes have disappeared.

RELIGION OF THE VEDA. By *Maurice Bloomfield*, Ph. D., LL. D.
New York: G. P. Putnam's Sons: 1908.

This book carries us back to the prehistoric gods. The pantheon of the Veda was really founded upon the nature powers. The author says: "My object is to sketch the motives and principles that underlie the remarkable change of religious ideas that leads from the ritual worship of the great nature gods of the Rig-Veda to the high theosophy of the Upanishads. One of the most remarkable facts in the religion of the Veda is that the multiple gods vanish after they have contributed their attributes to the great idea of unity which is at the root of the universe. The treatment of India's prehistoric gods takes the form of comparative mythology. The difficulties consist in the fragility of prehistoric materials. Mythologic conceptions were in vogue among the prehistoric Indo-Europeans, who made much of the worship of the sun. The nature powers were worshiped or deified, and yet there are creatures which are not nature powers, for Cerberus, the dog of Hades, is a guard and the soul of man has to get past him in order to get to Heaven. The Vedic text tells us that the sun and moon are equivalent to the dogs. The personality of the shining sky is shown by the use of the word "dyans," equal to "Zeus pater" or Jupiter, who was a personal being. Homer's Zeus was a thunderer.

OLD ENGLISH GRAMMAR. By *Joseph Wright*, Ph. D., Professor of Philology, Oxford, and *Elizabeth Mary Wright*.

This book treats of the vowel sounds, diphthongs, sibilants, dentals and gutturals in ten chapters. The grammar commences with the eleventh chapter. It comprises nouns, adjectives, verbs, pronouns, adverbs, prepositions, and conjunctions. The index occupies 37 pages. The book is full of such technicalities as the vowel gradation, sound shifting, consonant changes, word formation, and forms one of the student series of comparative grammars. The author says in the preface: "We venture to think that the present volume contains all that the ordinary student will require to know about the subject."

BOOKS RECEIVED.

"*The Oxyrhynchus Papyri.*" Part V. By Greenfell and Hunt. Office Egyptian Exploration Fund: London: 1908.

"*Recent Investigations Bearing on the Question of Neocene Man in the Auriferous Gravel of the Sierra Nevada.*" By Wm. J. Sinclair. University of California, Berkeley, Cal.: 1908.

"*The Geography and Dialects of the Mizok Indians.*" By S. A. Barrett and A. L. Kroeber. University Press, Berkeley, Cal.: 1908.

"*The Creek Indians of Taskigi Town.*" By Frank C. Speck. Memoirs of the American Anthropological Association, Lancaster, Pa.: 1907.

"*The Jataka,*" or "*Stories of the Buddha's Births.*" Translated from the Pali, Edited by Prof. E. B. Crowell. Cambridge University Press: 1907.

"*Chronicles Concerning Early Babylonian Kings.*" By L. W. King. Luzac & Co.: 1907.

"*Uganda by Pen and Camera.*" By C. W. Hattersley. Illustrated. Union Press, Philadelphia: 1907.

"*My Sixty Years on the Plains.*" By W. F. Hamilton. Illustrated. Forest and Stream Co.: 1905.

"*History of the United States Navy.*" By John R. Spears. Charles Scribner's Sons: 1908.

"*Excavations in an Erie Indian Village.*" New York State Museum; John M. Clark, Director. Albany: 1907.

"*Pioneer Work of the Presbyterian Church in Montana.*" By Rev. Geo. Edwards. Reprinted from Montana State Historical Society.

"*The Man of Galilee.*" By George R. Wendling. Olcott Co., Washington, D. C.: 1907.

"*Systematic Theology.*" Vol. I. By Augustus Hopkins Story, D. D., LL. D. Philadelphia: 1907.

"*Roman Catholic and Protestant Bibles Compared.*" Edited by Melancthon W. Jacobus, D. D. Charles Scribner's Sons, New York: 1908.

"*The Formation of the New Testament.*" By George H. Ferris, A. M. Griffith & Rowland, Philadelphia.

"*The Loom of the Desert.*" By Idah M. Strobridge. Los Angeles: 1907.

THE MOUND BUILDERS:

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BY STEPHEN D. PEET, PH. D.

Editor of "The American Antiquarian and Oriental Journal."

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The author holds that there was a contact between the Southern Mound-Builders and the so-called civilized races of the Southwest, and that trade was carried on with all parts of the continent, but he thinks there was a decided difference between the hunter tribes and those which constructed the great earthworks which are scattered along the Ohio River and in the Gulf States.

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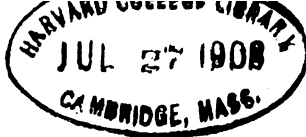
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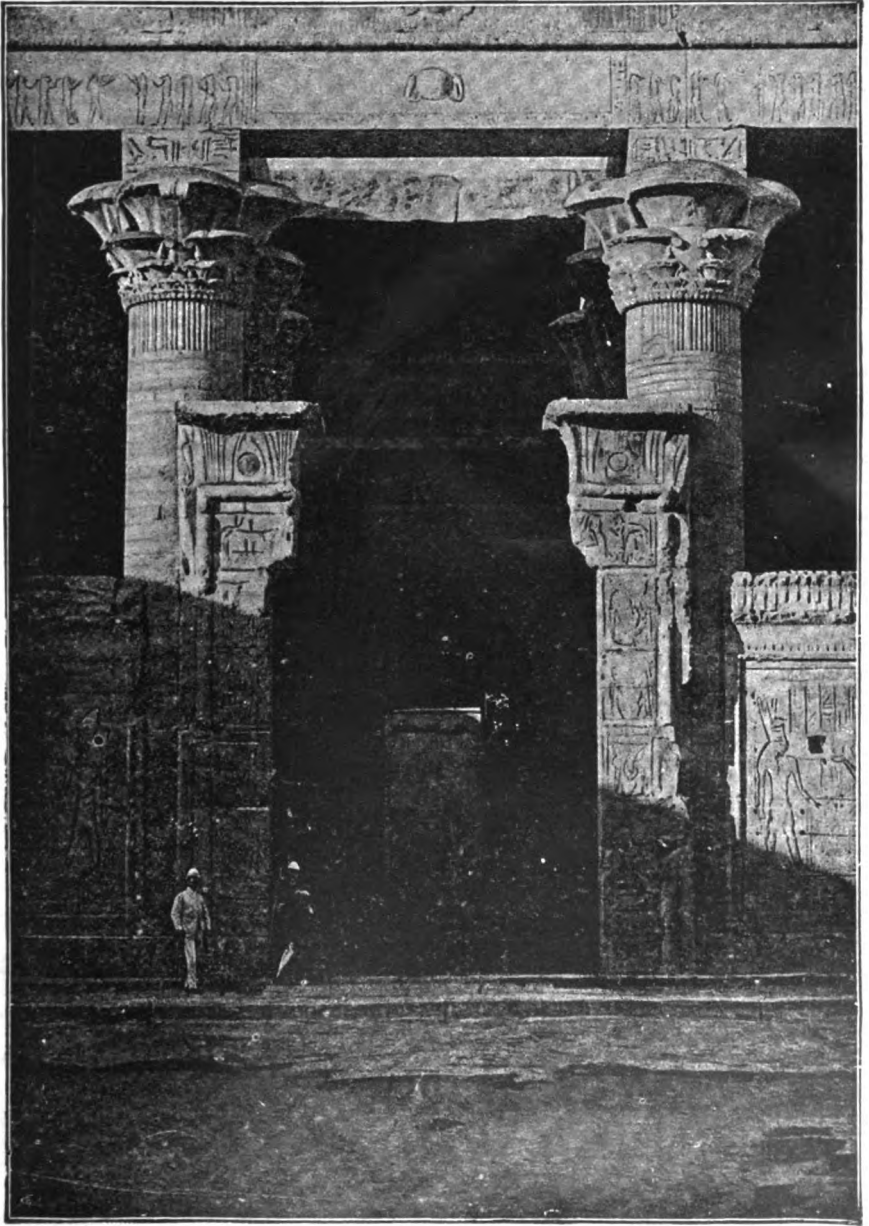
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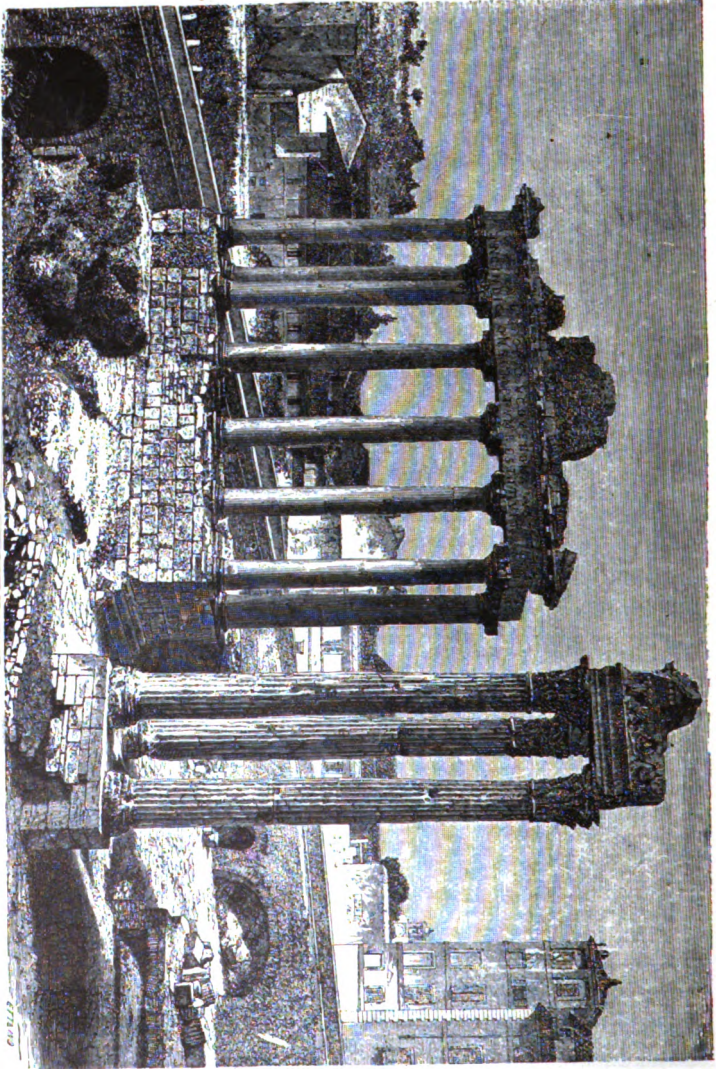
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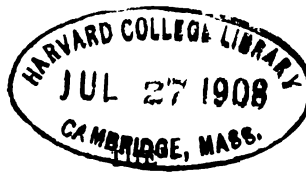
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ROMAN COLUMNS.



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JULY AND AUGUST, 1908.

No. 4

ROMAN BRIDGES OVER THE TIBER.

BY W. A. HARPER.

AS IN the examination of most subjects connected with the early history of the Romans, so here also we are brought face to face with superstitious rites and formulæ. In fact, the very word for the Roman pagan pope, "Pontifex Maximus," is derived, according to Varro L. L. 5, 83, from *pons* and *facere*, because he was the first bridge-builder. Varro (l. c.) says:

*"Pontifices, ut Q. Scaevola Pontifex Maximus dicebat, a posse et facere ut pontifices: ego a ponte arbitrar: nam ab his sublicius (the first bridge at Rome) est factus primum."**

In the next place the early Romans, as other primitive peoples, regarded the building of a bridge as an act of impiety, because the river god would thus be defrauded of the victims of swimming and fording. Mr. J. G. Frazer, *Eng. Journ. of Phil. XIV*, pp. 156-7, has collected some queer survivals of this primitive idea even in modern times. He shows that in Germany when a man is drowning in a river, they say the spirit of the stream is getting his annual victim; whereas in England the spirit of Ribble was content with a life each seven years. In 1843 at the building of a new bridge at Halle, Germany, the people thought a child should have been built into it, but finally agreed to the substitution of a chicken. When the Hoogly bridge was being built at Calcutta, the natives got hold of the idea that Mother Ganges, indignant at being bridged, had at last consented to the insult on condition that each pier of the structure be founded on a layer of infant skulls. In Albania there is a prevalent tradition that human beings were sacrificed whenever a bridge was built, and recently, when a new bridge was built over the Arcen, twelve sheep were slain and their heads placed under the pillars. Traditions of human sacrifice are also current in Greece, and the people of Zacynthus would today perform them but for the law. According to Grimm all German bridges were formerly built by the devil. In Herzegovina the Moslems regard the civil engineer

*Cf. also Dion. Hal. 3, 45, and Plut. Numa 9, 2. Plutarch here cites several possible derivations, laughing at the one accepted by Varro.

with pious horror, and curse all bridges over which they pass as the devil's handiwork.

It is not strange, then, that "Father Tiber, to whom the Romans pray," should be propitiated for the insult of a bridge built over him. In early times no doubt human beings were thrown into the river from the Pons Sublicius,* but later, when the primitive hardness of the Romans had been softened by culture and civilization, on the Ides of May twenty-four rush images of the human form were thrown in annually from the same bridge by the Pontifices and the Vestals. We are told as much by Ovid *Fasti* 5, 622:

"*Tum (Ides of May) quoque priscorum virgo simulacra virorum mittere roboreo scirpea ponte solet.*" These rush images were called Argei, as we learn from Varro *L. L.* 7, 44: "*Argei ab Argis; Argei fiunt e scorpeis, simulacra hominum XXIII; ea quotannis de ponte sublicio a sacerdotibus publice deici solent in Tiberim.*" Festus (Muell.), p. 15, tells us the same thing: "*Argeos vocabant scirpeas effigies, quae per virgines Vestales annis singulis iaciebantur in Tiberim.*"**

*Macrobius 1, 11, 47, ascribes the origin of this custom to Hercules and would lead us to believe that images of men were used from the beginning. He says (l. c.): "*Epicadus refert Herculeum occiso Geryone cum victor per Italiam armenta duxisset, ponte, qui nunc sublicius dicitur, ad tempus instructo, hominum simulacra pro numero sociorum, quos casus peregrinationis amiserat, in fluvium demississe, ut aqua secunda in mare advecta pro corporibus defunctorum veluti patriis sedibus redderentur, et inde usum talia simulacra fingendi inter sacra mansisse.*" This is a prophecy after the event and a sheer guess to account for a strange custom, whose origin had been forgotten. In view of the fact that the hurling of human beings into streams was practiced among other peoples, it seems most reasonable to suppose that this custom arose among the Romans from that source.

**Plutarch, hearing these rush images called Argei, naturally connected them with the Greeks and so gives us an explanation all his own in his *Rom. Quaes.* 32: "The question is, 'Why do they who throw the effigies of men from a wooden bridge into the river, in the month of May, about the full moon, call these images Argives?' and the solution is, 'Was it that the barbarians who of old inhabited about that place did in this way destroy the Grecians whom they captured? Or did their so-much-admired Hercules reform their practice of killing strangers, and teach them this custom of representing their devilish practice by casting in images? The ancients have usually called all Greeks Argives.' Or else it may be that, since the

In the third place the ancients thought a light and temporary structure was less offensive to the river-god, and accordingly the first Roman bridges were made of wood, without even the use of metal for joining. At least this was the case with the Pons Sublicius, the first bridge over the Tiber, as is learned from Pliny N. H. 36, 100: "*Cyzici et buleutrium vocant aedificium amplum, sine ferreo clavo ita disposita contignatione, ut eximanatur trabes sine fulturis ac reponantur, quod item Romae in ponte sublicio religiosum est, posteaquam Coclite Horatio defendente aegre revolsus est.*"* This prohibition of the use of iron in sacred matters appears elsewhere. The Arval brothers had to offer expiatory sacrifices every time it was employed in their grove. Flint knives were used in sacrifices to a very late period. The well-known proverb, "*inter saxum et sacrum,*" gives ample testimony of the early use of stone sacrificial implements. Strabo 15, 3, 15, says that in Cappadocia victims could not be slain with a knife, but only with a stone.** Among the Jews, too, iron was under a taboo in sacred matters, for we read in *I Kings 7:7*, that no iron tool was used in building the temple, and again we read in *Exodus 20:25*, that iron was not to be used in building an altar. But by 100 B. C. the Romans had seemingly forgotten the main reason for the rules and ritual of their ancient bridge-building, and explained it by risk of attack, as in the case of Horatius Cocles. In this view there may be something. No less a scholar than Mommsen accepted it, and the Elder Pliny (l.c.) inclines that way. And yet we may be certain, relying on the taboo of iron in sacred matters, that the strategic move was secondary to the ritualistic and superstitious.

There seems to be no doubt that the art of bridge-building, like that of sewerage, was one indigenous to the Romans; for the Latin word for bridge, *pons*,† is found with a similar meaning in

Arcadians esteemed the Argives open enemies by reason of neighborhood, they that belonged to Evander, flying from Greece and taking up their abode in Italy, kept up that malignity and enmity." Dion. Hal. places the number of these images at thirty instead of twenty-four, as all others do who specify a number.—Dion Hal. 1, 38.

*Dion. Hal. 3, 45, and Plut. Numa, ch. 9, tell us also that no iron was used in the construction of the pons sublicius.

**In later times the Roman priests used bronze in their sacrifices. On this point consult Maer. 5, 19, 11f., Serv. Aen. 1, 448, and Joannes Lydus de Mensibus 1, 31:

"καὶ τοῦτο δὲ πρὸς τοῦ Νουμᾶ διατέταται, ὥστε τοὺς ἱερεῖς χαλκαῖς ψαλίσιν, ἀλλ' οὐ σιδηραῖς ἀποκείρεσθαι."

the kindred Oscan dialect, while the Greek word is γέφυρα and the Slav, German, and Gallic words signify "brow over the water's eye," which point to separate development of the art. The time at which stone began to be used in bridges will be considered when we come to the Pons Aemilius, and so without further delay we will take up the bridges one by one and give the history of each as well as we may with the facts at our command.

I. PONS SUBLICIUS. Tradition agrees in assigning the erection of this bridge to Ancus Marcius (640 B. C.). Livy I, 33, 6, says: "*Janiculum quoque adiectum, non inopia loci, sed ne quando ea arx hostium esset. Id non muro solum, sed etiam ob commoditatem itineris ponte sublicio, tum primum in Tiberi facto, congiungi urbi placuit.*" Dion Hal. 3, 45, says:

"καὶ τὴν ξυλίην γέφυραν ἦν ἀνευ χαλκοῦ καὶ σιδήρου θέμις ὑπ' αὐτῶν διακρατεῖσθαι τῶν ξύλων, ἐκεῖνος ἐπιθεῖναι τῷ Τιβέρει λέγεται."

Plutarch (Numa 9) also ascribes this bridge to Ancus Marcius.

It was called sublicius because it was placed on piles, and as we have already seen (Pliny N. H. 36, 100; Dion Hal. 3, 45; and Plut. Numa 9), was built entirely of wood, originally and chiefly for religious reasons, but perhaps also for military and strategic purposes. Festus (Muell.), p. 293, says: "*Sublicium pontem quidam putant appellatum esse a sublicis, peculiari vocabulo Volscorum, quo appellant tigna in latitudinem extensa, unde pontem non aliter Formiani vocant.*"* But whether the Romans got the word sublicius from the Volsci or not, as Festus suggests, it is certain that the word means "piles," as can be gathered from the following passages in Cæsar and Livy. Cæsar B. G. 4, 17: "*Non sublicae modo derecte ad perpendicularum, sed prone ac fastigate, ut secundum naturam fluminis procumberent,*" and the same 7, 35, 5: "*Isdem sublicis quarum pars inferior integra remanebat, pontem reficere coepit.*" Livy I, 37, 1: "*Ventoque iuvante accensa ligna et pleraque, in ratibus inpacta sublicis cum haerent, pontem incendunt.*"

On the form of this first Roman bridge there has been great variance of opinion. Platner in his "Ancient Rome," p. 79, says: "The earliest form of this bridge was doubtless very simple,

†H. Jordan Roem. Top., vol. I, p. 394f, says it has not yet been demonstrated that the original signification of pons was foot-plank or path. He suggests that its original meaning was "haengewerk," and would connect it with "pendeo," as "mons" with "mineo."

*Festus in this same passage also suggests that it was called sublicius because the water flowed under it, but this is likely a poet's fancy. Cf. also Varro L. L. 5, 83, and 7. 44.

perhaps a series of floats which could be easily disconnected at the approach of an enemy." Richter *Top. der Stadt Rom.*, p. 756, says it must have led directly into the heart of the city, and was therefore so built that at a moment's notice it could be broken down. Pliny *N. H.* 36, 100, says it was so built that its beams could be removed and replaced with ease. Festus, p. 293, says that it had piles, and several passages quoted above show that no metal was used in its construction. This would seemingly exclude Platner's theory, and we may imagine it as a series of piles, two by two, joined by a horizontal beam dovetailed into the piles, and with boards laid over these, held in place by the projecting heads of the piles. This was a very simple sort of bridge but the very sort we should expect a primitive people, forbidden by religious scruples to use any sort of metal to hold it together, would have built. After the heroic act of Horatius Cocles described in Livy 2, 10, the idea arose that it had been thus constructed as a means of ready defense. This was the view of the Elder Pliny and of Mommson, as we saw above. Richter and Platner also adopt it. But considering the immense amount of superstition connected with this bridge and with bridges in general among primitive peoples cited above, it would seem more reasonable to regard the religious motive as the prime cause and the military as second in importance as well as in chronology. In harmony with this view is the supreme importance of the Pontifex Maximus** in the Roman religious system, who has been justly described as a cross between a theologian and a civil engineer. With this view also the curious, otherwise unexplainable custom of throwing the twenty-four rush images of the human form into the Tiber on the Ides of May seems agreeably to harmonize.

As we said above, tradition ascribes the erection of this bridge to Ancus Marcius. But practically all topographers and archaeologists now agree that there must have been a bridge long before the time of this king. The truth may be that the bridge was restored by or under Ancus Marcius.

The location of this bridge has given rise to much discussion, and seems not to be even yet definitely settled. Jordan *Roem. Top.*, vol. I, pp. 399-407, goes into the matter in much detail. He calls attention to the fact that the breadth of the Tiber through Rome is well-nigh uniform; that the *insula Tiberina*,

**Varro *L. L.* 5, 83, shows the relation of the pontifices to bridge-building: "Nam ab his (pontificibus) subicius est factus primum, ut restitutus saepe, quom in eo sacra et uis et cis Tiberim non mediocri ritu fiant."

which divides the river, forms a rapid current for some distance below it after the union of the two branches; and that it can be assumed that the bed of the river is now practically what it was in antiquity. Having made these general observations, he proceeds to locate the bridge. He argues that the only thing a primitive bridge-builder would have done was to make use of the natural bridge-pile—*i. e.*, the insula Tiberina, and so avoid the rapids below it. Mommsen agrees with him, and so they place it over the island. Furthermore, says Jordan, the bridge could not have entered the city, because neither the insula Tiberina nor the Janiculum was at the time of the Servian wall in fortified relation with the city, but the river-bank from the Capitoline to the Aventine formed the natural defense, and for the bridge to have entered the city would have been to weaken the defense of the same.* Then he thinks it is untenable that the island should be unconnected with the Roman bank until the erection there of the temple of Aesculapius in 291 B. C., for there was there from earliest times a cult of Veiovis. This is all theory, for the earliest mention we have of a connection between the island and the Roman bank is in 291 B. C.† As supporting his theory that the bridge was without the city he quotes Polybius 6, 55:

“τῆς γεφύρας—ἡ κείται πρὸ τῆς πόλεως,”

which he and Mommsen both contend can mean in Latin only *ante* or *extra urbem*.

The majority of modern scholars agree in placing it within the city, at a point above the Porta Trigemina, and opposite the Forum Boarium. The evidence seems to be as follows: There is no mention of a bridge to the island until 291 B. C. The heroic act of Horatius Cocles would have been needless unless the bridge entered the city. The quotation from Polybius cited by Jordan and Mommsen may mean simply in front of the city, and so is not inconsistent with this view, for in that same passage Polybius assigns Horatius' reason for defending the bridge as:

“δείσαντα μὴ βιασάμενοι παραπέσωσιν εἰς τὴν πόλιν.”

The coin struck by Antoninus Pius (Cohen, vol. II, p. 326, No. 379), commemorating this act, has no island; while the other coin of this same emperor (Cohen, vol. II, p. 326, No. 376), representing the coming of the snake to the island, has a bridge before you get to the island, which may be the Pons Sublicius. Ovid

*He forgets that the bridge could be easily cut down, as all were, according to Livy 22, 8: “ut muros turresque firmarent et praesidia disponentes pontesque rescinderent fluminum.”

†Cf. Livy 10, 47, and Epit. 11; Ovid Met. 15, 739, and Val. Max. 1, 8, 2.

Fasti 6, 477f., says: "*Pontibus et magno iuncta est celeberrima circo Arca, quae posito de bove nomen habet.*" This would place the bridge, if it refers to the *Pontes Aemilius et Sublicius*, as it most likely does, where scholars generally agree in placing it. Then, again, it is strange that Livy 35, 21, 1, in describing the inundation of the year 193 B. C., speaks of the destruction of "*duos pontes* (which ran over the *insula Tiberina*), *aedificia multa circa portam Flumentanam,*" but says nothing of the Pons Sublicius; for if it had been there, it, too, would have been destroyed and he would have been certain to mention it. The last point of importance in the chain of positive evidence is the flight of C. Gracchus from the Aventine to Trastevere. Says Val. Max. 4, 7, 2: "*Quorum Pomponius—concitatum insequentium agmen in porta Trigemina aliquamdiu acerrima pugna inhibuit.—Lactorius autem in ponte sublicio constitit et eum donec Gracchus transiret.*"* Now if Gracchus fled from the temple of Diana,** which was below the porta Trigemina, and if his friends defended him at the porta Trigemina and at the Pons Sublicius, we are forced to locate the bridge somewhere between the porta Trigemina and the porta Flumentana (for it stands to reason that they would also have made a stand there, too, had they passed through it), or where scholars have practically now agreed to place it.

This bridge early became a "sacra"—in fact from its first erection it had come under that category. Varro L. L. 5, 83, says: "*Nam ab his (pontificibus) sublicius (sc. pons) est factus primum, ut restitus saepe, quom in eo sacra et uls et cis Tiberim non mediocri ritu fiant.*" Dion. Hal. 3, 45, says:

"*ἱερὰν (γάφυραν ξυλίην, i. e., pons sublicius) εἶναι νομίζοντες.*"†

Being of a flimsy construction, it was often swept away by inundations, of which we have an account of six—Livy 35, 21, 5 (193 B. C. ?); Dio Cassius 37, 58 (160 B. C.); 50, 8 (132 B. C.); 53, 33 (121 B. C.); 55, 22 (4 A. D.); and Tac. Hist. 1, 86 (69

*Plutarch C. Gracchus 16, App. B. C. 1, 26, and Orosius 5, 12, agree with Valerius Maximus in essentials in the description of this event in Gracchus' career.

**The exact location of the templum Dianae is not accurately determined, but that the temple from which C. Gracchus and his companions fled was on the Aventine is conceded by all.

†For further evidence of the sacred regard in which this bridge was held compare Dion. Hal. 1, 38, Varro L. L. 7, 44, Ovid Fasti 5, 622, and Pliny N. H. 36, 100.

A. D.). Varro L. L. 5, 83, says that it had been "*saepe restitutus*," and this is no doubt true. The last restoration of which we have record was under the Emperor Antoninus Pius.* It became a matter of religion to preserve it and to build it in the pristine manner, without metal of any kind, entirely of wood.** It continued to exist as long as the pagan worship, as is shown by its being mentioned by Macrobius of the Fifth century,§ and by the Notitia and the Curiosum. Seneca† informs us that, like other bridges and the gates of the city, it was a favorite resort of beggars. It is regularly called "*pons sublicius*;" only twice does this order change, in Festus (Muell.), p. 293, quoted above, and in Livy 5, 40, 8, where it is *sublicius pons*. Ovid Fasti 5, 622, applies to it the epithet *roboreus****, and others of the poets call it *ligneus*.

The insula Tiberina, which lies above the Porta Flumentana, and which devout Romans explained as being formed by the grain cut from the estate of the Tarquinius in the Campus Martius after the expulsion of the kings,**** and for which a volcanic origin has been supposed by some in order to save the legend, is a natural formation of tufa which the Tiber, swift as it is, could not cut away. This island, as early as 291 B. C., after the erection there of the templum Aesculapi, was connected with the Roman bank, and perhaps at the same time, or certainly soon

*Cf. Julius Copitolinus' Life of Ant. Pius, ch. 8.

**Pliny N. H. 36, 100, says to build it in such a manner that its parts could be removed and replaced with ease was "*religiosum*" in his day.

§Maer. 1, 11, 47: "*ponteque, qui nunc sublicius dicitur.*"

†Seneca De Vita Beata, 25, 1.

***Some are inclined to think that this epithet "*roboreus*" is equivalent to saying that the bridge could be built only of oak. In Silver Latin "*robur*" does mean oak, but it does not necessarily mean this in Ovid's time.

****Cf. Livy 2, 5, Dion. Hal. 5, 13, and Plut. Popl. 8. The bearing of this legend on Jordan and Mommsen's theory that the *pons sublicius* crossed the Tiber over the insula Tiberina has not yet, so far as I know, been pointed out. To a Roman the theory would have seemed ridiculous. The bridge according to popular belief was ascribed to Ancus Marcius 640 B. C., whereas the island over which the bridge was built, according to Jordan and Mommsen, was not formed until 510 B. C., according to the legend. Therefore a Roman could never have held their theory.

after, by another bridge with the Janiculan bank. These bridges were wooden like the Pons Sublicius, and were destroyed by the inundation of the year 193 B. C., as we are told by Livy 35, 21, 1. They are referred to as "*duos pontes*" in Macrobius 3, 16, 14-17, and elsewhere. Religious scruples did not prevent the construction of these bridges in later years of more substantial and enduring material, and accordingly they were later replaced by the stone bridges, the Fabricius and the Cestius, of which in chronological order.

II. PONS MULVIUS. This bridge was not within the city, but was located about two and one-half miles north of it and conducted the great Via Flaminia across the Tiber at that point. This road was built in 220 B. C. by C. Flaminius, censor at the time, and it is likely that the bridge is contemporary with it, but the first reference we have to it is Livy 27, 51, 2, where, in speaking of the events of the year 207 B. C., he says: "*Ad Mulvium usque pontem continens agmen pervenit.*" We get the correct spelling from the Mon. Anc. 4, 19, but it is elsewhere variously spelled Molvius, Molvi, Molbi, Milvius. In the Middle Ages it was called Mole, de Mole, etc. It is now called the Ponte Molle. Statius in his *Silv.* 2, 1, 170, calls it Mulvius Agger. It is famous as the bridge over which the conspirators associated with Catiline fled in confusion, as Cicero tells us in his third oration against Catiline, 2: 5: "*Occulte ad pontem Mulvium pervenerunt, atque ibi in proximis villis ita bipartito fuerunt, ut Tiberis inter eos at pons interesset.*" Here, too, the Allobrogian ambassadors were intercepted with the fatal letters. Sallust *Cat.* 45, 1: "*His rebus ita actis, constituta nocte qua proficis—cerentur, Cicero per legatos cuncta edoctus L. Valerio Flacco et C. Pomptino praetoribus imperat, ut in ponte Mulvio per insidias Allobrogum comitatus deprehendant.*" Florus *Bellum Civile* sub Lepido 3, 23, 6, writes as follows: "*Sed iam Mulvium pontem collempque Ianiculum Lutatius Catulus Gnaeusque Pompeius, Sullanae dominationis duces atque signiferi, alio exercitu insederant,*" from which we conclude that in time of war and especially of civil war this bridge was of great strategic value.*

Twice is a Scaurus designated as the builder—Val. Max. 8, 1: "*Censor viam Aemiliam stravit, pontem Mulvium fecit* (Aemilius Scaurus, censor in 110 B. C.)," and Am. Marc. 27, 3, 9: "*Ad Mul-*

*This bridge is also of interest because of this bit of information which we get from Cic. *Ad Att.* 13, 33, 4 (45 B. C.): "*Horum ego vix attingi paenulam; tamen remanserunt, ceciditque bello; scilicet casu sermo a Capitone de urge augenda, a ponte Mulvio Tiberim duci*

vium pontem quem struxisse superior dicitur Scaurus." Jordan Roem. Top., vol. I, p. 415, says the bridge may have been built before the via Flaminia, that it was first let as a stone bridge by the censors of the year 110 B. C., and completed later by an otherwise unknown Mulvius. Mommsen, commenting on the Mon. Anc., p. 59, thinks this Mulvius was an old or perhaps the original builder, but not the complete builder. The restoration in 110 B. C. was so thorough that it was not in need of repairs when Augustus repaired the Via Flaminia. The Monumentum Ancyranum 4, 19, says: "*Viam Flaminia (m ex) ma(nibiis) Ari (mino tenus et in ea pontes) o(mnes) praeter Mu(l)vium et Minu(c)ium (refeci)*"—letters in parentheses are supplied from the Greek by Mommsen. But while Augustus did not restore the bridge, he placed one or two honorary arches of himself over it.** Of the bridge as it stands today—restored in 1808—four of the six arches are ancient, but it is not certain that they go back to the restoration of 110 B. C. It is built of peperine and faced with travertine.

III. PONS AEMILIUS. Up till the time of the erection of this bridge, which was 179 B. C., the only bridges leading from the city to the opposite Janiculan bank were the Pons Sublicius and the *duos pontes* mentioned above. All three of these were wooden and could be easily torn down. Consequently the city enjoyed a peculiarly advantageous isolation, which had now to be given up. Richter Roem. Top., p. 476f. thinks the building of this new bridge was made necessary by the increasing intercourse between the two banks, for the volume of which the old wooden bridges were by no means adequate and certainly not satisfactory, liable as they were to be swept away by the first freshet, and so this first stone bridge was built. We saw above that the art of bridge building arose among the Romans as naturally as their sewer system did. It may also be presumed that the art of stone bridge structure grew out of the former by gradual stages. Richter (l. c.) is of the opinion that at first only the pillars were of stone with wood for the floor. Manifestly

secundum montes Vaticanas, campum Martium coaedificari, illum autem, campum Vaticanum fieri quasi Martium campum." Capito referred to Caesar's proposed scheme of changing the bed of the Tiber, a theme upon which other would-be benefactors of the city have since meditated, the desire being to avoid the floods of the Tiber.

**Dio Cassius 52, 22, says Augustus erected honorary arches

ἐν τῇ τοῦ Τιβερίου γέφυρᾳ and at Armininum. Cf. also Claudian 28, 520f.

it would be some time after this step was taken before the art of spanning the arches between the pillars would be acquired.

Jordan Roem. Top., vol. I, pp. 407-414 is inclined to cast all sorts of doubt on the identification of this bridge, and on the art of stone bridge building as well. He relies on a fragment of a calendar from Allifæ (C. I. L., vol. I, p. 294), which reads as follows: "*Feriae Portuno ad pontem Aemilium, Iano ad theatrum Marcelli.*" In his comment on this, Mommsen shows that it was before 29 B. C., but Jordan says it could not be later than this. He is inclined to think that the great celebrity of the Aemilian family makes it impossible to get any nearer dating it than this. He dogmatically dismisses Plut. Numa 9:

ἡ δὲ λιθίνη πολλοῖς ὕστερον ἐξεργάσθη χρόνους ὑπ' Αἰμιλίου ταμείοντος"

with the remark that a writer of Hadrian's time would naturally speak of the prime of the republic by such a phrase as this. He further identifies this bridge as the one called later Pons Probi, and explains the appearance of the double for one and the same bridge in the Curiosum and Notitia by a species of juggling unworthy a scholar of his ability.*

But scholars have generally agreed to place this bridge, the first stone one, in the year 179 B. C., relying on Plut. Numa 9 quoted above, and Livy 40, 51, 4: "*M. Fulvius* (Censor with M. Aemilius Lepidus in 179 B. C.) *plura et maioris locavit usus;*

*Jordan Roem. Top., vol. I, p. 423f, says: "Die Spuren der urspruenglichen Ornung treten unverkennbar hervor (1, 3, 6, 7 fraglich 5, 8): von den sicher widersprechenden ist der p. Mulvius hoechst wahrscheinlich urspruenglich als ausserhalb der Stadt liegend nicht mit aufgefuehrt gewesen, ist also whol sicher nachgetragen. Naehme die zweite Stelle statt des Aemilius der ganz fehlende Neronianus ein, so wuerden mit Ausnahme des Sublicius alle uebrigen in richtiger Reihenfolge stehen, denn 8 Probi fuer Ponte rotto zu halten, ist erlaubt, ja nach dem ueber den pons Theodosii et Valentiniani Gesagten, gradezu nothwendig. In diesem Sachverhaeltniss scheint mir Verwirrung des Verzeichnisses zu liegen; der an falscher Stelle eingeschobone Name Aemilius ist der aeltere des nach seinem wiederhersteller benannten pons Probi, welcher Name in die Volkssprache nie Eingang gefunden hat. Das sonst austeessige Verkommen eines Doppelnamens in dem Verzeichniss erklaert sich also wohl daher, dass in der amtlicher Liste, welche dem erste Herausgeber vorlag, der Neronianus nech stand, der Herausgeber aber ihn als nicht mehr existirend strich und ihm, um die Zahl festzuhalten, den Aemilius substituirt."

portum et pilas in Tiberi, quibus pilis fornices post aliquot annos (142 B. C.) P. Scipio Africanus et L. Mummius censores locaverunt inponendas." In the same year these two built the famous Aemilian basilica in the Forum Romanum, which, like the bridge, went by the name of the great Aemilian family to the exclusion of Fulvius.

On the location of the bridge two or three passages from the classical writers help us. The first is Ovid *Fasti* 6, 447f.: "*Pontibus et magno iuncta est celeberrima circo Area, quae posito de bove nomen habet.*" It is very likely that Ovid has in mind here the *Pontes Sublicius et Aemilius*—the *duos pontes* being too far north to be referred to in this connection. The second passage is Lampridius' "Life of Heliogabalus," ch. 17: "*Tractus per publicum addita iniuria cadaveri, ut in cloacam milites mitterent, sed cum non cepissent cloaca fortuito, per pontem Aemilium adnexo pendere, ne fluitaret, in Tiberim adjectus est, ne unquam sepiliri posset. Tractum est cadaver eius etiam per circi spatia priusquam in Tiberim praecipitaretur.*" Certainly they would carry the body "*per circi spatia*" to the nearest bridge. And what further reassures us is that we are expressly told in Aethicus *Cosmog.* 54 that the *pons Aemilius* was situated "*iuxta forum boarium.*" So we are justified in placing it above the *Pons Sublicius* and below the island, at a dangerous place to be sure, but nevertheless most likely at the place.

This bridge has had a multiplicity of names. At first we may suppose it was called interchangeably *Pons Aemilius* or *Pons Lepidus*. Then it was in the popular vernacular called *Pons Lapidus*, maybe because of the nearness of that word to *Lepidus*, but more likely as a signification of the fact that it was the first stone bridge. In fact it was thus called in the Fifth century A. D., as appears from Aethicus *Cosmog.* 54: "*Per pontem Lepidi, qui nunc abusive a plebe lapideus dicitur iuxta forum boarium.*" In the early Middle Ages it was called *pons maior*, later *pons Senatorum* or *Sanctae Mariae*, and at present *ponte Rotto*.* It was nearly destroyed in the inundation of 1598 and was not restored. Only one arch can now be seen, standing in midstream, a silent but impressive relic of the first Roman bridge of stone.

IV. *PONS FABRICIUS*. This bridge took the place of one of the *duos pontes* from the Roman bank to the *insula Tiberina*.

*If we adopt Jordan's view (*Roem. Top.*, vol. I, p. 421) we add at this point that the Emperor Probus, who completed the Aurelian wall, restored this bridge and from his restoration it received the name *Pons Probi*.

Inscribed upon it are the following inscriptions—C. I. L. 1, 1, 600, and 6, 1305 (both being the same): (a) "*L. Fabricius C. f. Cur. viar. faciundum coeravit.*" (b) "*eidemque probavit.*" (c) "*Q. Lepidus M. f. M. Lollius M. f. cos. s. c. probaverunt.*" The L. Fabricius mentioned as the builder in this inscription was *tribunus plebis* in 62 B. C., and seems to have built this bridge as a special *curator viarum*** in that year. The inscription is non-committal in regard to the date of the building, which is given us by Dio Cassius 37, 45: †

"Τότε (62 B. C.) μὲν ταῦτα ἐγένετο καὶ ἡ γέφυρα ἣ λίθνη κατασκευάσθη ἢ ἐς τὸ νησιδίον τὸ ἐν τῷ Τιβέριδι ὃν φέρουσα Φαβρικία κληθεῖσα."

The restoration referred to in (b) of the above-quoted inscription occurred in 21 B. C., when Q. Lepidus and M. Lollius were consuls; the inscription tells us it was restored in accordance with the Senate's decree. So thorough was the restoration that no further ones of importance have since been necessary. In the Middle Ages, from the proximity of the Ghetto, it was called *pons Iudaeorum*. At present it is called *ponte dei Quattro Capì*. It is built of tufa and peperino and faced with travertine.

V. PONS CESTIUS. As the Pons Fabricius took the place of the one of the *duos pontes* which led from the Roman bank to the insula Tiberina, so the Pons Cestius took the place of the one which led from the island to the Janiculum bank. It is very likely that this substitution took place at the time of the building of the Pons Fabricius (62 B. C.), or soon thereafter; at least this is Richter's view.* It is well known that the Cestian family was very prominent at that time. Its architecture and material are similar to the Pons Fabricius. It is first mentioned in the Notitia (334 A. D.), but is now identified as the Pons Gratiani, restored under that emperor by Symmachus as *praefectus urbis* in 364-365 A. D., but not completed until 370 A. D., according

**By what authority he was appointed to this office we do not know. We read of other *curatores viarum* under the Republic, but this is the only one definitely cited as a bridge-builder, though it is easy to see how this would happen. Censors seem to have been the usual bridge-builders. Under Augustus the *Curatores viarum* became regular commissioners.

†If we did not have the bridge, the following from Porphyrio ad Hor. Sat. 2, 3, 36, would locate it for us: "*Pons dicitur, qui est insulae illius, quas in medio Tiberi posita est, ideo Fabricius, quia a Fabricio factus.*"

*Roem. Top., p. 764.

to the Tribunician power of the following inscription—C. I. L. 6, 1,175: “*Domini Nostri Imperatores Caesares Fl. Valentinianus Pius Felix Maximus Victor ac Triumph. semper Aug. Pontif. Max. Germanic, Max. Alamann, Max. Franc, Max Gothic, Max. Trib. Pot. VII. Imp. VI. Cons. II. P. P. P. et Fl. Valens Pius Felix Max. Victor ac Triumph. semper Aug. Pontif. Maximus Germanic. Max. Alamann. Max. Franc. Max. Gothic. Max. Trib. Pot. VII. Imp. VI. Cons. II. P. P. P. et Fl. Gratianus Pius Felix Max. Victor ac Triumph. semper Aug. Pontif. Maximus Germanic. Max. Alamann. Max. Franc. Max. Gothic. Max. Trib. Pot. II. Imp. Primum P. P. P. Pontem Felicis Nominis Gratiani in usum Senatus ac Populi Rom. Constitui Dedicarique iusserunt.*”** Up till 1849 there were two marble tablets attached to this bridge bearing the above inscription, but in that year for the protection of the city a part of the bridge was torn down by order of Garibaldi, and one of these tablets was thrown into the Tiber.

VI. PONS AGRIPPÆ. In 1887 the following inscription was found—C. I. L. 6, 31, 545: “*Paullus Fabius Persicus C. Eggius Marullus L. Sergius Paullus C. Obellius Rufus L. Scribenius Libo curatores riparum et alvei Tiberius ex auctoritate Ti. Claudi Caesaris Aug. Germanici Principis (sui vel senatus) ripam cippis positis terminaverunt a Trigario ad Pontem Agrippæ.*” The Paullus Fabius Persicus mentioned in this inscription was consul in 34 A. D.; of the other curatores we know nothing. At first scholars were inclined to doubt the existence of such a bridge, especially Jordan *Roem. Top.*, vol. I, p. 422, but the finding in the year 1889 of the remains of the piers, one hundred yards above the Pons Aurelius puts the matter beyond doubt, though we know nothing else of it.

VII. PONS NERONIANUS. This bridge connected the Campus Martius with the Vatican meadows, where were the gardens of Agrippina and the circus of Nero, and was probably built between 60 and 64 A. D. It is first mentioned, however, in the “*Mirabilia Romæ*,” compiled about 1150, in a later edition of which, known as the *Anonymus Magliabecchianus*, compiled about 1410-1415, it is further described as *pons ruptus ad Sanctum Spiritum* in Sassia. It may have been destroyed in Hadrian’s time; it certainly was before Constantine’s. Its ruins have been found about one hundred yards below the Pons Aelius, by which it was rendered unnecessary, if it had not been already destroyed at the time of the erection of that bridge, 134 A. D.

**Platner, *Ancient Rome*, p. 81; compare also *Pol. Silvius*, 545.

VIII. PONS AELIUS. On great marble slabs on both its sides was the following inscription—C. I. L. 6, 973: “*Imp. Caesar Divi Traiani Parthici filius divi Nervae nepos Traianus Hadrianus Augustus Pontif. Maxim. Tribunic. Potest. XVIII. cos. III. P. P. Fecit.*” This tells us that Hadrian built the bridge and that he built it in the year (*Trib. Pot. XVIII. Cos. III*) 134 A. D. Even if we did not have the bridge we should have no difficulty in locating it, relying on what we are told in Spartianus Hadr. 19, 11: “*Fecit (sc. Hadrianus) et sui nominis pontem et sepulcrum iuxta Tiberim,*” and Dio Cassius 69, 23, 1:

“Ἐτάφη (sc. Hadrian) δὲ πρὸς αὐτῷ τῷ ποταμῷ, πρὸς τῇ γεφύρᾳ τῆς Αἰλίου. Ἐνταῦθα γὰρ τὸ μνήμα κατασκευάσασα.”

From the *Anonymus Magliabecchianus* we learn that it was also called *pons Hadriani* and then *pons Sancti Petri*. It is now known as the *ponte S. Angelo*. It joined the Campus Martius with the Mausoleum Hadriani on the Janiculan bank. As originally built, it had three main center arches, with three smaller ones on the left and two on the right, of peperino faced with travertine. With the exception of the balustrade, which belongs to a later period, Hadrian's original structure continued until 1892, but two of the three arches on the left had been covered up. The ends of the bridge had to be entirely rebuilt to accommodate them to the new embankment of the present Italian Government.

IX. PONS AURELIUS. This is the name which occurs in the Notitia. In the Mirabilia it is called *pons Antonini*, while in the *Anonymus Magliabecchianus* it is called *pons Ianicularis*. It was partially destroyed in 772 and therefore called *pontus ruptus* until 1475, when, being restored by Sixtus V., it received the appellation *ponte Siste*, which it wears today. It must also have been called *pons Valentiniani*, from a restoration. Evidence has been handed down to us in an inscription found in 1878 just below the first arch of the present *ponte Sisto*, which records the rebuilding of an arch and bridge by Valentinianus in the years 365-366—C. I. L. 6, 31, 402; 31, 412, of which 31, 402, gives the essential facts and which is therefore here quoted: “*Imp. Caesari D. N. Fl. Valenti Max. p. F. Victori ac Triumphiferi semper Aug. S. P. Q. R. ob providentiam quae illi semper cum inclyto fratre communis est institui ex utilitate uebis aeternae Valentiniani Pontis atq. Perfect. Dedicandi operis honore delato iudicio princip. maximor. L. Aur. Alciano Symmacho τ. c. ex praefectis urbi.*” Since Gratian was given the title Augustus on August 24, 367, and since this title is not on this or any one of the other nine inscriptions referred to above, the bridge must have been dedicated before that time, after its restoration by Valentinianus.*

We do not know the exact date of its original construction, but as it bore the names of Aurelius and Antoninus, it was very likely built by one of the emperors who belonged to both these families. Jordan (l. c.) thinks it was built by Caracalla, who in this way brought the buildings erected by Severus in Trastevere into closer and more intimate connection with the Campus Martius.** But as likely as not it was built by Marcus Aurelius.

X. PONS PROBI. As said above, many want to identify this bridge with the Pons Aemilius already described, Jordan being chief among the number. The great objection to this is that thus the Notitia, in its list of the bridges, would give the same bridge (Aemilius) twice: "*Pontes octo—Aelius, Aemilius, Aurelius, Milvius, Sublicius, Fabricius, Cestius, Probi.*" The name Probi occurs only once elsewhere, in an "*enarratio fabricarum urbis Romae,*" taken from the Curiosum and inserted in the calendar of Polemius Silvius, which dates from 448 A. D., and which is to be found in C. I. L. 1, p. 335f.

In the Mirabilia we first meet the *pons Theodosii*, also called *pons Marmoreus* and *pons in ripa Romaca*, which is often referred to in the letters of Symmachus, 4, 70, 2: "*Video enim basilicæ pontisque rationem recte quidem Bonoso præsidiali viro esse mandatam.*" 6, 76, 3: "*Bonoso optimo viro, et post militiam Palitinam geminae administrationis integritate conspicuo discussionem pontis ac basilicæ novæ præceptio Augusta mandavit, quod munus fide et vigilantia posset implere, si solus istius modi examinis ius haberet,*" and in numerous other places. If the *novæ* of the second quotation be taken as going with *pontis* (against which interpretation the normal word order would argue), as well as with *basilicæ*, then Theodosius erected an absolutely new structure, and the Pons Probi must be located elsewhere; perhaps with Jordan and others it would have to be iden-

*On the strength of this inscription Mommsen, *Hermes* XV, p. 244f (1888), justifies the following Gelonius reading of *Amm. Marc.* 27, 3, 3: "*Multo tamen antequam hoc contingeret, Symmachus Aproniane successit, inter præcipua nominandus exempla doctrinarum atque modestiæ, quo instante urbs sacratissima otio copiisque abundantius solito fruebatur et ambitioso ponte exultat atque firmissimo quem condidit ipse, et magna civium lætitia dedicavit ingratorum, ut res docuit apertissima.*"

**For these buildings of Severus consult *Spartianus, Severus*, ch. 19, who says: "*Opera publica præcipua eius extant Septizonium et thermae Severianæ. Eiusdemque etiam ianua in Transtiberina regione ad portam nominis sui, quarum forma intercidens statim usum publicum invidit.*"

tified with the Pons Aemilius, then presumably in ruins. Conclusive evidence is not in hand here, and we cannot therefore give an "*ipse dixit*" to the matter. On the whole, however, it seems better to follow Richter and to regard the Pons Theodosii (also called in the *Mirabilia pons Marmoreus* and *pons in ripa Romaea*) as the restored Pons Probi. From the letters of Symmachus cited above it appears to have been begun in 381, but not to have been completed before 387 A. D. It was the last of the bridges of the city and the farthest down the stream, crossing the Tiber under the Aventine near the Marmorata. It was partially destroyed by fire in the Eleventh Century, and completely in 1484, but the bases of the piles still exist under the water.

Jordan (l. c.) thinks the bridges called *pons Marmoreus* (Theodosii) et *pons Valentianus* are one and the same and so falls into error, but it is a little strange that all the other bridges come in order down the stream—" *pons Milvius*, *pons Adrianus* (*Aelius*), *pons Neronianus*, *pons Antoninus* (*Aurelius, Valentianus*), *pons Fabricius*, *pons Gratianus* (*Cestius*), *pons Senatorum* (*Aemilius, major*), *pons marmoreus Theodosii* (*Probi*), et *pons Valentianus* (this bridge, the same as the *pons Antoninus vel Aurelius*, being thus mentioned twice). Yet there seems to be every reason to believe that the *Mirabilia* list is wrong, and that the inscription cited above (C. I. L. 6, 31, 402) is right, and that therefore the *pons Valentianus* = the *pons Aurelius vel Antoninus*, and not the *pons Marmoreus Theodosii vel Probi*.

ORIGIN OF THE WHITE DEER DANCE.

*The Dance of Worship of the We-gat Indians of Humboldt Bay,
Humboldt County, California—An Aboriginal Tale.*

BY MRS. R. F. HERRICK.

THIS legend or history was first told to me in 1859 by Ki-welot-ah, the head chief of the tribe, after I had entered into brotherhood with him. At this time he was 102 years old. The oldest legend of our people does not tell where we came from, but it goes back so far we cannot count. Our tribe did not have *mow-ich* (deer), nor *mal-ick* (elk), nor *mock* (bear)—only rabbits, coon, mink, quail, ducks, geese, clams, crabs and fish for meat, and many kinds of berries and roots, nuts and grass seed. Our people were not as they are now, not so smart.

One day, so many years ago we cannot count, a young man and Co-le-we-up-qua, daughter of a chief, were out picking berries when a strange man came down from *Tomp* (sun) and told them to make a large basket of willow sprouts, and drew the dimensions on the ground. They were to go into the forest to make it, where no one would see them. They must not tell anyone what they were doing, and when they were done he would come to them again. They were very much frightened, and proceeded at once to do as they were told, working day after day until it was finished, when the same man appeared and showed them how to pitch the outside with the soft gum of the spruce and pine trees. Then he told them to gather many roots and store them inside, and at last to go inside and stay all night.

When they awoke in the morning it was raining, and continued to rain many days, and the basket floated. But one morning the basket was still, and the Indian opened the door in the side. They were still at their old home. But the trees and brush were all dead and there was no living thing in sight. But there was a coon track leading from the basket, showing it had lived on the top. The man wanted the woman to help him build a house, but she would not. She covered her face and wailed for her dead. So the man built the house, and told her they must be as husband and wife as there were no more people on the earth, and the woman went in the house as a wife.

The first born was a son, but he could not talk the language of his sire, and when old enough took a sister for a wife and

settled at Matole. The second son could not talk to father or brother, and he took a sister for a wife and went to the mountains. The third son could not talk with any of the others, and he went with his sister-wife to the Klamath River. After that there were many sons and daughters, but they all talked like their father. The Great Spirit did not want them to all talk alike, and so at each place the brothers married sisters and cousins until there were large villages. But they were not smart. So the strange Indian came again, and told each village that their women must go to other villages for husbands, for they were like the fish—they did not have any sense. So for two generations they must not intermarry, but send their women to other villages to get husbands. From this time the Indians improved in knowledge.

He also told the women that some time in the future they would find a Pi-Soc root with two leaves and they must tell their daughters to tell their daughters not to dig it for every generation until it was found. So every woman was looking for it. Time passed on, generation after generation, until the redwood trees that came up after the flood had grown to forest trees, and there were We-gat villages from Mock Cu-ol-et (Bear river) to Skinah-cu-ol-et (Little river.) When at the village where the city of Eureka now stands a man died who had a wife and daughter, and when the council met to settle his affairs and send the wife and child to her nearest male relative they found she did not have any. Such a thing had never been recorded in any annals of the tribe.

After the wise men had discussed the matter they decided that Co-toc-qua (God) meant something by it, whether for good or evil they could not tell, and they decided to build her a house on the outer edge of the village and supply her with meat, and her daughter could dig the roots and herbs, gather the nuts, and pick the berries.

One day when the girl was out on the edge of the forest digging roots she saw a large double leaf Pi-Soc, and she thought it a large one. She thought of her mother's warning not to dig it, but curiosity got the better of her, and she drove her stick deep into the soil and gave it a quick pry, when out flew a live baby. In fright she started to run, but the baby clung to her string dress. When she found she could not leave it she carried it to her mother's *moral* (house) and, leaving it outside, went in. But the baby cried, and the mother said: "You dug the double Pi-Soc root and you have the Great Spirit's child. She went out and took the child in, and it grew apace.

When he was five years old he took his grandmother out and showed her the first elk and deer, also the first bear and Cali-

fornia lions that had ever been there. He fashioned the first bow and arrows and killed the first deer, and taught the Indians how to cure the hides and prepare the sinew for use. He taught the women how to make thread from it, how to fashion string dresses instead of the fiber and grass dresses they wore, which were stiff and cumbersome. He taught them how to make cooking stones to cook the meat, and many other things until he was ten years old, when he commenced to teach the men how to make canoes and knives of bone flint and obsidian, to skin the animals they killed, also how to make glue from salmon skins and sturgeon heads, and to make stone and bone points to their arrows. He also taught them the laws to govern the tribe and to be kind to their women; to never lie or have a forked tongue; that if they obeyed the laws the Great Spirit sent him to teach them, they would be the children of Co-toc-qua, and he would never turn his face from them.

When he was fifteen years old he was loved and honored for his great wisdom and the people called him Skinah Etoch (little father). One day he saw all the village gathered on the point where the Occidental Mill now stands and looking on the water of the bay. So he went to see what was the matter. He saw a strange man standing on a small mud island uncovered at low tide, and small mud sharks swimming up and the man catching them by the tail and throwing them onto the high land. He motioned for Skin-ah Etoch to come to him. They talked for a few minutes, when a large fish like a shark swam up and threw his tail onto the island near the boy, who laid his hand on him. Then the fish pulled the boy into deep water and swam for the entrance of the bay. The Indians pursued in boats, but the fish swam so fast he was soon out of sight and the strange man had disappeared. The Indians commenced to put ashes on their heads, and all joined in the death wail, when into their midst came a snow white deer, the first ever seen. Three of the warriors shot it, when it turned and ran to the mo-al of Skin-ah Etoch and fell dead. Then the tribe thought the little father was dead and his spirit had returned in the form of a white deer. So they skinned it with the head and feet intact and tanned it. The third day they erected it on a pole and were having their first white deer dance when the fish returned with Skin-ah Etoch. He told them the white deer was like him, that white meant purity; and they could hold their white deer dance in remembrance of him and hand it down to future generations with the things he had taught them. Then he told them that Co-toc-qua was going to take him home. But they must never forget him or

the laws the Great Spirit had given them; and that he would receive them in the Great Council when the Father called them, and so the historians of the tribe whose duty it was to keep the records and pass them on each learned his part.

One morning his grandmother went out to the edge of the forest to get some sweet acorns that grew on the peninsula oaks for him. When she would go to pick up one she would hear a voice say: "Don't take the little one." She could see no one, and she became frightened and went in and told the little father. He smiled and said: "I think I am the little one; they have come for me." And going outside, two strange women appeared, one on each side of him. All the village gathered around him and he told them not to forget anything he had told them, and to obey the laws of the tribe, and Co-toc-qua would keep his face turned toward them, and told them to love and care for his earthly mother, that her days would be short. Then the women locked their arms in his, and they arose from the earth and disappeared from sight, and though Zo-wa, his mother, was well she soon died, and no one has ever seen him since, though we have looked for his return for many years.

Joe Star added this: Our people have departed from the ways of our fathers; they have learned to use the forked tongue of the wha-ga (white man), and we will soon become only a memory of the past. Our greatness will be lost unless you do as you promised us—make a book like your people do. Joe Star has joined the great majority, and is sitting in the Great Council, a just man and a friend of the whites always.

Before the Indians can have the dance they must decide what villages they will ask to participate. Then the chiefs of these villages will meet and each will tell what men are in trouble or grief. The head men will donate enough Al-e-quo-cheek (money) to give each such a present that they will rejoice, for none must go in the dance with grief in his heart. They dance and sing down the nearest river, asking the Great Spirit to make the food grow to nourish the fish, then along the shore of Sol-olah (ocean), asking him to send whales ashore and make the surf fish plentiful. Thence over the prairies, asking him to make the grass grow for the elk and deer, and the seed to ripen for the birds. And lastly through their villages, asking him to keep away the bad Spirit of Sickness and teach his children wisdom.

The woman does not dance in the dance of worship, but she can sing. She cooks for them. The dance usually lasts two weeks and never stops day or night. When one is tired another takes his place. And the council fire never goes out during the

dance. The dance is solemn; no mirth is displayed, and no games indulged in, not even by the children, who watch quietly what their elders do.

THE WONDERFUL OLD RUINS OF POLONNARUA IN CEYLON.

The ruins of Polonnarua, though more modern than those at Anuradhapure, have a special interest and importance because they form a link between the ancient and modern styles at a time when the Buddhists had ceased to build in India. One of the most interesting, and one of the first to be reached after leaving the rest house, is the Dalada Mailgawa, or Palace of the Tooth, which was built to receive the most sacred relic of the tooth of Buddha when it was removed from the temple of the same name in Anuradhapura and brought to Polonnarua after the capture of Anuradhapura by the Malabars.

There is an interesting mixture of Hindu and Buddhist architecture in this, as in most of the buildings which have been excavated; due, no doubt, to the influence of the invaders and the broad eclecticism of Buddhism. The sharply defined figures and moldings have suffered little, and the well cut blocks of granite of which the structure is built fit as accurately today as when they were first placed in position. The decoration on the base of the pilasters is interesting, and the shape of the capitals is most unusual. On the south and west sides are the remains of outside chapels, one of which was protected by a stone canopy; this was no doubt desecrated by the iconoclastic Malabars, as many broken stone figures have been found in the jungle close by.

The plan of the building is Hindu, and consists of an outer quadrangle, an inner, and an innermost court. The entrance is on the north side. The shrine where the tooth was kept had a conical or octagonal roof of brick, part of which is still in position and is decorated with a frieze of curiously shaped bricks. On one side there is a stone spout which conveyed to a square receptacle, still to be seen on the outside of the temple, the water of which was poured in libations over the most holy relic.—*From "A Buried Civilization of Ceylon,"* by ROSALIE SLAUGHTER MORTON, in *Scribner's*.

ARCHAEOLOGICAL AND ETHNOLOGICAL COLLECTIONS IN WISCONSIN.

BY THE CUSTODIAN.

THE collections of the archæological and ethnological department of the museum of the State Historical Society of Wisconsin, at Madison, number at the present time in the neighborhood of 15,000 specimens, some 5,000 of which are at present on exhibition in the principal ethnology hall. They are arranged in wall- and table-cases along the center and sides of this hall. Instructively labeled and accompanied with photographs, prints, drawings, and maps, their valuable contents are made additionally attractive to the University students and to large numbers of miscellaneous visitors, who come from all parts of Wisconsin and neighboring states.

The series of archæological materials at present on exhibition in the table-cases include the following:

1. Illustrating the manufacture of chipped flint implements. The products of both the "roughing-out" shops at the quarry sites, and of the finishing shops are shown, together with the primitive implements employed in their making. Caches of flint blades and disks add to the interest of the series.

2. Illustrating the classification and uses of chipped stone implements. This series includes arrow- and spear-points, knives, scrapers, perforators, spades, hoes, ceremonials, etc.

3. Illustrating the manufacture, classes, and uses of pecked and ground stone implements. It includes axes, celts, gouges, chisels, adzes, pestles, mortars, hammers, mauls, etc.

4. Miscellaneous stone, hematite, shell, bone, lead, iron, and other implements, ornaments, and ceremonials.

5. Collection of native copper implements and ornaments, including arrow- and spear-points, knives, axes, chisels, pikes, awls, needles, fishhooks, beads, crescents, etc.

6. Three additional cases illustrate mainly the implements, utensils, weapons, and ornaments of the aboriginal inhabitants of the Four Lakes region.

7. The collection of aboriginal earthenware is especially valuable and extensive, including particularly a fine collection of ancient and modern Pueblo and cliff-dweller ware, the gift of Hon. Robert L. McCormick, and a fine series of mound pottery from the St. Francis valley in Arkansas and Missouri.

8. The smoking customs of the Indian inhabitants of this section of the country are illustrated by means of an entire case of ancient and early historic pipes.

Models of a Wisconsin mound group, and of the principal types of effigy mounds for which this state is celebrated, complete the collections of archæological materials.

The American ethnological collections are at the present time chiefly confined to a single large wall-case, and consist mainly of articles illustrative of the tribal life of the several well-known Wisconsin tribes—the Winnebago, Chippewa, Potawatomi, Menominee, Sauk, and Foxes. Several fine birchbark canoes swing from the ceiling above the row of center-table cases. There is also a good model of the Hopi pueblo of Teguá.

On the tops of the wall cases are shown a rare and very valuable collection of oil portraits of noted Wisconsin and other Indian chiefs; also paintings of Black Hawk War battlefields, etc.

In this hall are also several screen exhibits, which are changed from time to time. Those at present on exhibition illustrate by means of carefully selected series of photographs, prints, maps, etc., "The Features of Wisconsin Archæology;" "The Making of "Fire," and "Central California Archæology." All are accompanied by full and carefully prepared descriptive matter. These screens represent a new departure in museum display methods, and particularly appeal to the student and visitor, who often has not the time nor inclination to study large series of materials. They likewise enable the presentation, in an inviting form, of subjects not otherwise readily illustrated in a limited space. Some other advantages are also apparent.

A fine collection of Moro materials from Mindanao is also temporarily installed in this hall. In an adjoining hall is a valuable collection illustrative of the interesting period of the Wisconsin fur trade. Other ethnological materials are shown in some of the other halls of the State Historical Museum.

Valuable additions to all of these collections are constantly being made, and the exhibits themselves are from time to time rearranged to meet the growing needs of students and visitors. Rereading tables are now being provided, and these supplied with helpful literature. The historical collections of the institution are very extensive and valuable.

The museum occupies the entire top (fourth) floor of the beautiful and capacious new building of the Wisconsin Historical Society, and is one of the greatest educational institutions of its nature in the Northwest. It is visited by from 75,000 to 80,000 people annually.

COMPUTATION OF TIME AMONG THE TOLTECS AND AZTECS.

THE division of time in cycles was known amongst many of the old nations. We know the Sexagenary Cycle of the Chinese, the Chaldean cycle containing about 6,585½ days, the Metonic Cycle of the Greeks, besides many others. Also the Toltecs had their time divided into cycles, which computation the Aztec astronomers accepted.

Each cycle consisted of 52 years, being divided into four periods of 13 years each. Two cycles or 104 years were called Huehuetitiztli (the old one). The end of the cycle was named Tojiumolpia, "the union of our years."

The solar year counted 20 periods of 18 months or 360 days, and to make it complete 5 days were added to the end of the year, called the Nemontemi, "useless days."

Every period of 20 days was subdivided into four parts of 5 days each, the last day of which was kept for market day "Tianquiztli." The days of the month were arranged so that each subdivision of 5 days began and ended with the same name, as follows:

Acatl, tecpatl, calli, tochtli, acatl.
Tecpatl, calli, tochtli, acatl, tecpatl.
Calli, tochtli, acatl, tecpatl, calli.
Tochtli, acatl, tecpatl, calli, tochtli.

The above being a very primitive method for the division of a month, other names were added to it, so that the principal signs were not repeated and only stood at the beginning of each subdivision:

Acatl, ocelotl, cauhtli, cozcauhtli, ollin.
Tecpatl, quiahuitl, xochitl, cipactli, ehecatl.
Calli, cuetzpallin, cohuatl, miquitztli, mazatl.
Tochtli, atl, itzcuintli, ozomatli, malinalli.

The first year of the century was (hare) "tochtli."
The second year of the century was (reed) "acatl."
The third year of the century was (flint) "tecpatl."
The fourth year of the century was (house) "calli."
The fifth year of the century was (hare) "tochtli."
The sixth year of the century was (reed) "acatl."

And so on, till finished by 13th, "tochtli." In this way their cycle was formed by these four principal names, which signified the 4 cardinal points, the 4 elements, the 4 seasons, and the 4 stars: Acatl, the sun; Tecpatl, star; Calli, the moon; and Tochtli, earth.

Great preparations were made for the last night of each cycle, in which the thousands of spectators might be not only the spectators, but also the victims. Everything was awe-inspiring and weird in that night, which might be the last for the whole nation. The holy fire and all the lights in the Teocallis (temple) were extinguished, darkness reigned in the streets, for also the lights in the houses were blown out and the hearths remained cold and gloomy. Not a spark glimmered through the darkness, every palace and house seemed to be the abode for the dead, and the whole town was like an enormous burial place. Everything which had served in the old year or had given joy and happiness was destroyed. Also the Tepetitones, "their little housegods," and amulets in whose protecting power they had lost faith were attacked with mighty blows of the stone hammers, until they were reduced to pieces. Should a new year greet them, nothing of all they had was good enough for it, and if not nobody would remain to make use of the treasures, or dress the dead in their rich garments and light the pyre for them. The whole family united, friend went to friend to say a last word of cheer or to ask forgiveness, and all prepared for death, for who could assure them that they would see the light of another day?

Great ceremonies, all of imposing solemnity, accompanied the end of each cycle, and many festivities were arranged to greet the beginning of a new one. While during the first reigned the silence of death, the latter was celebrated with all the noise and merriment of happy youth.

The Toltecs and Aztecs believed that the world was doomed to disappear by a terrible cataclysm, but their soothsayers could not tell in which of the cycles this general destruction would occur, so each cycle might be designated by the gods to be the fatal last one, which by its expiration might bring also the dreaded storms and earthquakes which would destroy the whole world and all that lived on it.

When Quetzalcoatl, the evening star, was no longer visible in the sky, the priests in one long line left the teocalli. They wore the rich garments of their gods and their emblems. Their long unkempt hair wafted in the soft breeze, partially hiding their sad and gloomy features. One of them carried the "Mama-huaztli," the two pieces of wood by whose friction the new fire was to be lit.

In the midst of the priests walked the victim, the peace offering to their gods for this grand night, the richest and most valiant soldier, whom they had made prisoner for this purpose. Accompanied by an immense multitude, the procession passed slowly through the lonely streets, which lay deserted in the shadow of the night, till at last they reached their goal, a mountain near Huixachtlan not far from Ixtalapan, and only two leagues from Tenochtitlan. The hour for their departure from the Teocalli had been carefully calculated, so that the solemn procession only arrived a few moments before midnight at Huexachtla.

Arriving there, the priests ascended in dire silence the top of the mountain, where the pyre for the victim was already erected. Endless seemed the minutes in those hours of waiting—all hearts were filled with terror and dismal apprehensions, for the long-feared cataclysm might bring death and destruction to all. Those of the inhabitants who had to remain in town listened with palpitating hearts, straining their eyes to be the first to hear the loud exclamations of happiness which would pierce the stillness of night, announcing that the gods had been merciful and that the life-bringing fire had greeted their eyes again and the continuance of the world for another 52 years was assured.

The poor women who expected to become mothers were locked in granaries for fear evil spirits might take possession of them, changing them into ferocious beasts who would devour their husbands. The little children were kept in constant motion and their faces covered with the big leaves of Maguey, for if they fell asleep the evil spirits might change them into little mice or toads.

Deep silence reigned in the streets. It seemed as if the angel of death was soaring over the awe-stricken town. Slowly passed the minutes till at last the dreaded last one of the expiring Cycle arrived. Nobody dared to breathe, and nothing was heard in the ghostly silence, but the loud palpitations of thousands of trembling hearts. The great Teopixque (high priest), feeling himself no longer the holy representative of the gods, looking down with despite on the cowering mortals, now perhaps for the first time felt himself the brother of all these trembling creatures. The proud warrior laid aside Chimalli and Macana, threw himself on the ground, and felt no longer the pride of his caste. Women and children crowded tremblingly together, seeking consolation in being near to each other if the fatal blow should strike.

As soon as the moment had come which assured the continuance of the world for another 52 years, the unfortunate prisoner was sacrificed, and his body burnt on a pyre erected on the highest

top of the mountain near Huexachtla, so that the fire could be seen in the far distance.

The Teopixque took the Mamahuaztli, struck them in the prisoner's breast in the opening from where his heart had been torn. By friction of the Mamahuaztli the new fire was lit and soon spread out all over the pyre. At the moment the first spark was seen, the deep silence was pierced by loud screams of joy and a tumultuous scene followed. Everybody tried to light his torch at the holy fire, then hastening home to see again the newly regained fire burning on his hearth. With glaring torches the priests took up the homeward march.

On the 20th of February ended the 18 months of the year, and on the 21st began the five days "Nemontemi." In those days no festival was celebrated, and no business or lawsuit was begun, for they were believed to be the mischief-brooding days of the year. The boy born in those days was called Nemoquichtli (the good-for-nothing boy), and the girl Nemihuatl (the good-for-nothing girl). The first 13 days after the renovation of the fire were dedicated to the whitewashing and cleaning of the buildings. New dresses were prepared, and everything replaced which had been destroyed before, so that nothing old might be taken into the new year. Nobody was allowed to drink water before noon on this first day of the new Cycle, which was always the 26th of February. At the same hour the great sacrifice began, in which hundreds and sometimes even thousands of victims were slaughtered. Shouts of rejoicing re-echoed through the air and mutual felicitations for the new year sounded from mouth to mouth. Splendid illuminations lighted the nights, visitors went from house to house, balls took place, and all kinds of public games were arranged for poor and rich. One of the most liked amongst the latter was the game of the Voladores, the flyers.

After the 13 days ended the great festivities of the Cycle, and people were enjoying another 52 years of safety promised and assured by their gods.

Compiled from old Mexican histories and adapted to English by

ILAMATEUCTLI

THE MIGRATIONS OF THE LENAPE.

BY C. STANILAND WAKE.

IN his reconstruction of the ancient history of the Algonkin Lenape of the Delaware, as given in their migration legend referred to by the *Walam Olum*, or *Red Score*, the late Dr. D. G. Brinton states that "at some remote period their ancestors dwelt far to the northeast, on tidewater, probably at Labrador." In confirmation of this view, he refers to a legend common to the western Algonkin tribes, the Kickapoos, Sacs, Foxes, Ottawas, and Pottawatomies, according to which their original home was located north of the St. Lawrence River, near or below where Montreal* now stands, where they dwelt as one nation. This legend may have reference, however, to a later movement than that recorded in the *Walam Olum*. Dr. Brinton also speaks of a "vague migration myth" of the Shawnees, which will be referred to later on.

So far as I can judge, the location of the ancestors of the Lenape in Labrador is not consistent with the statements of the *Walam Olum*. The great migration there mentioned began, as stated by Dr. Brinton, on tidewater. The place from which it starts is described as being near "the great Tidal Sea, the mussel-bearing Sea." Of this northern land, which previously is called "Turtle Island," giving name to the Turtle men, "the best of the Lenape," it is said: "It freezes where they abode, it snows where they abode, it storms where they abode, it is cold where they abode." This description would answer well for Labrador, and yet it is said in the legend: "At this northern place they speak favorably of wild, cool (lands) with many deer and buffaloes," which does not indicate a locality so far east as Labrador; there being nothing to show that the buffalo roamed much further east in British America than Lake Winnipeg. Moreover, Turtle Land appears to be located expressly somewhere west of the "land of the spruce pines," from whence began the eastward migration toward Snake Island, in the verse which says:

*Curiously enough, an Iroquois legend also places their original habitat in the neighborhood of Montreal.

"They all come, they tarry at the land of the spruce pines,
Those from the west come with hesitation,
Esteeming highly their old home at the Turtle land."

It is evident that the spruce pine land cannot be the same as Turtle land, which lies to the westward and therefore could not be Labrador. This is confirmed by the statement in an earlier verse which, after referring to the disquieting of the cabin fires

of the Turtle country, expressly says that "to the Snake land to the east they went forth." Apparently driven forth either by an earthquake or a volcanic eruption (as their land is said to have been "burned"), they went forth in different directions. Some of the people, under Bald Eagle and White Wolf, remained along the sea, "rich in fish and mussels," but when Head Beaver and Big Bird said: "Let us go to Snake Island,"

"Those of the north agreed,
Those of the east agreed;
Over the water, the frozen sea,
They went to enjoy it.
On the wonderful slippery water,
On the stone-hard water all went,
On the great Tidal Sea, the mussel-bearing Sea."

In the Shawnee tradition above mentioned reference is made to their people crossing a wide water, which they were able to do by magical art. All "the best men, the rich men, the head men" come with wives, daughters and dogs, and tarry at the land of the spruce pines." From here the people spread south and east and then, according to the legend, the Snake land was at the south, the great Spruce Pine land was toward the shore, to the east was the Fish land, and the Buffalo land toward the lakes.

The movements recorded by the Walam Olum are thus distinctly toward the south and east, and we must suppose them, therefore, to have been from north and west. In this case, the great Tidal Water was probably the great inland sea known as Hudson Bay, which may then have extended further south and west than at present. From the Spruce Pine land, which would be north of the great lakes, the ancestors of the Lenape went eastward to fight the Snake people, *Akowini* or *Akonapi*, who are located by Dr. Brinton north of the Ohio River, in Western Ohio and Indiana; where many important mounds and earthworks are found, among them the remarkable serpent effigy in Adams County, Ohio. To the south were the Talligewi or Cherokee, whom the invaders encountered long afterward, and we may suppose, therefore, that by Snake people was meant the Dakotah, who once lived as far east as Ohio, rather than the Iroquois, who lived much further east. It is true, nevertheless, that the word Iroquois is said to be derived from an Algonkin word meaning "real adders," as distinguished from the Dakotah, whose name also signifies "adder," but is derived from a diminished form.

Long afterward the ancestors of the Lenape continued to live together, but finally they separated at Fish River, the "lazy ones" remaining there and the others going to invade the eastern land possessed by the Tolligewi, on the Upper Ohio and its tributaries. The Indian word translated "Fish River" is Nemassipi, and Dr. Brinton remarks on this that "in the present connection it seems to refer either to the St. Lawrence, about the Thousand Islands, or else its upper stream the Detroit River, both of which were famous fishing spots." The Nemassipi is identified, however, with the Mississippi by Heckewelder, who gives an account of a Delaware tradition of migration which evidently refers to the same great movement as that recorded by the Walam Olum. That tradition makes the Iroquoian Mengwe (*Lynxes*) allies of the Lenape in their attack on the Talligewi. This does not agree, however, with what is known to have been the location of the Iroquois, and probably, therefore, the identification of the Namassipi with the Mississippi is not correct.

According to the Walam Olum, the Lenape encountered the Mengwe long afterward much further east, and indeed not until after they had reached tidewater again. However this may be, the constant movement of the Lenape east by south is not reconcilable with their migration having commenced in Labrador. The original Turtle land whence they wandered, if not near Hudson Bay, may have been on tidal water much further to the northwest.

FABULOUS MONSTERS.

Fabulous monsters are found in Greek mythology. Ctesias describes the griffon as a quadruped in shape like a lion but having claws like a bird. Its head was blue, its beak like an eagle's, and its eyes sparkled like fire. It could easily vanquish all other creatures but the lion and elephant. The griffon was in fact the same as a bird, the Orroc of the Samoyede Sagas. Griffons were apparently connected with the worship of Apollo, to whose car they were attached. The fossil bones found in caverns were supposed to be those of monsters as late as 1672. It was believed there were living dragons, and that the bones found in caves of Europe were bones of dragons. It is supposed also that the tortoise of Hindu mythology, which bore up the earth, and the roc of the Arabs, which Marco Polo identified with the griffon, belonged to the same period. It is owing to the same impression that the stories arose of the Gigantes and Titans who fought with the gods and whom the gods overwhelmed. The belief in giants is not confined to ordinary human beings such as are described in Scriptures, for the teeth of elephants and

whales found in England and Ireland were believed to be the bones of giants. Cuvier was the first to show that the mammoth and early rhinoceros were not identical with the elephant of the tropics. He also showed that the mammoth and Indian elephant were different, although the mammoth remains from Siberia and Western Europe belonged to the same species.

THE SHAPE OF THE EARTH.

According to the ancients the earth was conceived as a rectangular box, the bottom of the box being concave, having the valley of the Nile as its center. The pillars of support were at the points of the compass. On the north were the mountains beyond the Mediterranean, on the south the source of the Nile, and on the east and west were mountains. Circling about the mountains was a great river, but separated from land by the mountains. On this river the sungod made his rounds in a boat, fighting day after day with the demon of darkness. The valley of the Nile was supposed to be guarded by a divinity who represented the vault of the heavens. It was Nut, the goddess of night, who had been torn from the arms of her husband, the earth god, and elevated to the sky. She remained in this attitude supported by her four limbs, which were changed to mountains. This forcible elevation was effected in the day of creation by a new god who came forth from the primeval waters.

A variation is found among the tribes of the Pacific. The Babylonians believed the earth was a circular plane, but the sky was a vault resembling an inverted boat. Outside of this was a great circular river and beyond that the barrier of the mountains.

THE PEOPLING OF THE WORLD.

BY STEPHEN D. PEET.

THERE are several methods of treating the subject of the peopling of the world. One is by examining the traces of man which have been found in the gravel beds and caves. Another is by studying the various inscriptions which have been left by man on the rocks. A third is by taking the earliest and most ancient traditions which have been preserved. A fourth is by examining the various systems of mythology wherever found. A fifth is to study the alphabets and the style of writing common among the different races. A sixth is by the study of language, and comparing the construction of the written with the unwritten and tracing them to their earliest origin. A seventh is by studying the history of all nations and tribes and ascertaining earliest beginning.

In treating of them, we shall endeavor to show their bearing upon the Bible record, especially that found in the Book of Genesis. There are those who claim that science and revelation have never agreed and never will, while others hold that one confirms the other, for God is the source of both. Some hold that the origin of man was from the monkey, and in order to understand the earliest history of man we must go to the region where monkeys abound. Such claim that the first appearance of man was in a quite different region from that which is described in Genesis. In fact they maintain that instead of going to Asia we should visit the portions of Europe where the gravel beds have yielded the bones of an extinct species of "genus homo." It is well known that in the valley of the Samme, skeletons have been found in gravel beds, and these are supposed to have been the earliest specimens of man—specimens which were deposited many thousands of years before the history of man began. The examination of the caves as well as gravel beds has shown that a creature resembling man dwelt in Europe long before historic man appeared in the valley of the Euphrates or in any of the regions held by tradition as the starting point.

I. It is to be noticed that the presence of man in Europe was made known by the human bones found in the caves and by the perforated flat plates of cockle shell which were probably used as a necklace; also by flint knives and a few instruments of horn on the outside of the caves. But these creatures were certainly very different from those known to history, and cannot be placed

on the same level with the first pair who have been regarded as the parents of the human race.

In the year 1852 an ancient cave was accidentally discovered in the Pyrenees close to the town of Auriguac. This cave was closed by a large slab of sandstone. In it were found skeletons of at least seventeen human beings which had been deposited there. It was found that this cave was a primeval sepulchre of the stone age. There was an open terrace in front of the cave, in which funeral ceremonies had been observed, for upon it a layer of ashes and fragments of wood and charred coal made a deposit six inches thick. It was a sort of rough hearth, composed of several pieces of sandstone blackened by the action of fire. The most remarkable thing was that among the ashes and in the soil was a great quantity of bones of animals and many articles of human handiwork. A hundred of these were made of stone, chiefly of flint, among them knives, arrowheads, slingstones, flint flakes, a sort of hammer consisting of a rounded stone resembling the thumb and finger stones of America. Besides these were other articles made of the horns of the roe and reindeer, such as needles, arrowheads, awls, scraping knives, and the canine teeth of a cave bear. The bones of animals were very numerous, mostly of the species which belonged to the diluvial period—the mammoth and rhinoceros, and gigantic Irish deer, horse, reindeer and aurochs.

Huxley says of these: "The late discoveries and investigations as to the primeval existence of man upon the earth have proved that man, although the youngest member of the organic creation, was already upon the earth during a period with which the few thousand years covered by human history and tradition sink almost to a single moment." Buckner says there is only a single scientific discovery which is of the same importance, and that is the discovery that the earth moves and that the sun is stationary. When the "genus homo" comes into view, elephants of various species existed in considerable numbers except in Australia. The first accomplishment of man appeared in the extermination of the elephant. This was the case in America as well as in Europe. The bisons were nimble enough to escape, but as soon as stone implements were replaced by those of metal, and especially by the use of gunpowder, the animals were overcome and finally disappeared.

The history of man before the time of the great flood is very obscure, but it is to be taken into account when we are studying the subject of the peopling of the world. The mists of obscurity have gathered over the nations which first dwelt in this region, and it still remains uncertain whether there were emigrants who went to distant regions of the earth and were not destroyed by

the flood, and yet the fact that nearly all the nations go back for the beginning of their history to the time when their first great ancestor and ruler escaped from the flood, is significant. This is the case, not only with the Babylonians and Assyrians, the Indo-Europeans, the Chinese, and North American Indians, but even with the inhabitants of some of the islands. The ancient history of the world contains hints as to the early presence of man in the distant regions.

The resemblances between the axes and stone relics found in England and France and all parts of Europe, as well as in India and various parts of America, show that there was what is called the paleolithic and the neolithic age before the historic, and the evidence is that the world began to be peopled during this age. The main question which arises is whether this was before the time of the flood which is recorded in the Book of Genesis, or after it.

As a matter of fact, the study of the gravel beds and caves belongs to a different department than the study of history. For this reason we shall study the peopling of the earth from a historic rather than a prehistoric standpoint.

II. The Bible record agrees closely with that preserved by history, for the locality from which all historic races began their migration is placed in the valley of the Tigris, and the time fixed upon agrees fairly well with that which comes from a careful study of the monuments. It is true that the mists of obscurity have gathered over the nations which first dwelt in this region, and yet recent discoverers have thrown so much light upon the records which have been left that investigators as well as Bible scholars are inclined to place more confidence in the records which archæologists and explorers have discovered in this region than in any of the theories which have been advanced as to the origin of man. It is certainly remarkable that tradition confirms the story which is given in the Book of Genesis to a startling degree.

We therefore pass from the doubtful and disputed points to consider the evidences which are presented by inscribed tablets. As to the date when writing was first introduced there is uncertainty. The same may be said of the locality and nation of origin. The hieroglyphs of Egypt have generally been considered as the oldest specimens of writing, but discoveries in Babylonia carry it back much farther, and are bringing out records older than those of Egypt. The general impression has been that the hieroglyphs of Egypt arose from the pictographs which were first placed upon the rocks and afterward written upon paper, but it is now claimed by many of the best scholars that the cuneiform alphabet, which was used in Babylonia, and which has been pre-

served through so many ages and changes, was in reality earlier in its origin than even the hieroglyphs found in Egypt. These wedge-shaped characters, which were placed upon the clay tablets, are to most people as obscure as the tracks upon the rocks: yet when the key to this strange alphabet was found the history of this region proved to be more ancient than that given by the hieroglyphs, and the information gained from it carries us back farther into the past. The history of writing began in the valley of the Tigris, and the records have been preserved in better condition than they could have been if papyrus had been used, or wood, or any other material.

There were three languages in the valley of the Tigris and Euphrates at the outset of history, which corresponded with the three sons of Noah. One of these and the most important was the Indo-European language. It was so-called because it spread from this common center toward the east and toward the west, and became the language of the race which introduced civilization into the continents of Europe as well as of Asia. It is probable that the cave dwellers had passed away before the people speaking this language had reached Europe on one side and India on the other. It would seem, however, that history of the two continents, Europe and Asia, began about the time this race had reached the confines of their territory.

It is probable that the history of the Semitic race began even before that of the Indo-European or Japhetic races, and long before the Hamitic. Some maintain that history began in Egypt as early as it did in Babylonia, and it was introduced, not by the Hamitic race, but by the Semitic. This is an important fact because it shows that the Semites were the source of civilization and confirms the Scripture record as to the early use of the Hebrew language.

The classic languages belong to the Japhetic stock, but they represented to the world a civilization which appeared first in Asia, next in Europe, and to a certain extent in northern Africa, but has since spread over both continents of America, and is beginning to prevail in the islands of the sea. The Hamitic languages are not so well known as either the Japhetic or Semitic, and yet the continent of Africa had at an early date many tribes and nations which spoke this language, some of whom reached a fair degree of civilization. Africa is called the dark continent, but vast treasures have been found hidden away among the mountains and in the southern borders, and the civilization of the world seems to be spreading over the nations and tribes which have so long remained hidden within its borders.

It is acknowledged that history began earlier in the valley of the Tigris than anywhere else, and although language varies according to the nationality the art of writing began in this valley sooner than anywhere else, and the records which were preserved but have recently been discovered there were the earliest of all. The discoveries which have been made in the mounds of Babylonia show that civilization had reached a high state before the days of Abraham and thus confirm the Scriptures. The Semitic, the Indo-European and the Hamitic races have left records here which show that this was the starting point of all the races known to history, though the records of the Semitic are more ancient than others. The strange thing about this valley of the Euphrates is that it should contain so many records which belong to the Semitic races, and yet that it was the starting point for all the other races. It is not claimed that all of the alphabets were written or invented in this valley, nor all the languages which now exist began to be spoken in this region, and yet, so far as history has left any record, the evidence is that all the races had their starting point in this locality. This may seem a startling fact, and one hard to believe and yet the evidence is coming to be clearer every year and the progress of discovery is proving that the Bible record is correct.

A glance at the different races which are scattered over the globe will be suggestive and startling, for it shows that history began in this valley earlier than anywhere else in the world, and the races which are becoming known had their beginning here. We need not go to the languages which are now spoken to prove this, for languages change as fast or faster than complexion and physical traits. It is claimed by the naturalists that the different colors of plants are produced by the effect of the sun upon the juices of the plant, changing the color from white to green and to the different shades which may be recognized in the leaves and fruits. The roots are generally colorless, because they are not reached by the sunlight, but the leaves, stems, branches, blossoms and fruits receive their colors from the sunlight, which is the great painter. The effect is not confined to the plants or animals, for the different races of men are influenced by the sun, and the more direct and intense its rays, the deeper become the colors of the human face and form.

We speak of the Semitic, Japhetic and Hamitic races, and ascribe to them different traits which have been inherited, but the complexion of these three races varies according to the locality in which they have dwelt. The Hamitic races are dark, because they dwelt in Africa; the Semitic races are yellow because they dwelt in Asia; the Japhetic races are light because they dwelt

in Europe. This point could be carried out to a remarkable extent, and the varieties of complexions which appear among the different races could be shown to be the result of sunlight as well as of surroundings. There is a very broad view brought before us by the study of ethnography. It is the view of the races which have spread from one continent to another and even to the islands of the sea. Each region presents nations and tribes which have different complexions and different physical traits. The great oceans which lie stretched out between the continents have not prevented the migrations from this historic center, but the sunlight has produced effects which have marked the nations by colors and complexions which present great contrast, in fact as great as the languages.

The lines of migration are not so well known as are the localities which have been reached, and yet it is supposed that Europe on one side and Asia on the other received the population which started from the birthplace of the human race in the valley of the Tigris and Euphrates, but the great Atlantic ocean, with its multitude of islands transmitted to America those who had reached the extreme coast of Europe, while the Pacific transmitted those who had reached the extreme of the Asiatic continent. The different nations as they migrated changed their complexions and dialects or languages, race peculiarities and national habits. The processes of nature and mode of life served to separate and make distinct the races which had started from one common home and birthplace. The North American Indians have left no record as to their origin or earliest birthplace or home, and yet the supposition is that they migrated from the old world to the new and became divided into tribes and races, which varied in appearance and language according to the locality in which they made their home. This is confirmed by the fact that in many localities the Indians have become separated from one another by mountain barriers, and have so changed their languages and habits and physical traits that they have become virtually distinct from one another. At times the tribes dwelling on the sides of mountains will differ from those in the valleys. It is, however, to the languages that we must look to discover the greatest differentiation.

There were different nationalities and tribes in Mesopotamia at a very early date, and different dialects and languages were spoken, thus confirming the story given in Genesis making this region the point of departure for the different nations of the earth. There is a significance in this fact, for if the three sons of Noah were in reality the ancestors of the three great races it not only shows the reliability of the Scriptures, but explains

how the three continents of Europe, Asia and Africa came to be marked by different races as well as languages.

The testimony of the rocks has been interpreted by naturalists, especially by Hugh Miller, throwing much light upon the subject of creation. But the languages are not stratified, nor do they always follow one another in succession of time. They are like the branches of a tree which thousands of years ago struck its roots deep into the soil and spread its branches far and wide, whose blossoms and fruits can be recognized. There are evidences that the animals and plants followed in successive ages, for the fossils reveal this; but the languages are not deposited and cannot produce strata even if they are consecutive in time. Occasionally different tribes and nations will occupy the same continent and speak different languages, but after a time these barriers are broken away, and the tribes grow into one great nation. Such is the case with the continent of America, though the continents of Europe, Africa and Asia are occupied by nations which speak different languages.

III. The mythology prevailing among the various nations of the earth is another guide to the manner in which the earth has been peopled. In some cases it may have been the effect of the scenes of nature upon the minds of men, and yet there are myths among the distant nations of the earth which remind us of the story which is given us in the sacred word. There were myths among the nations of the east which seem to confirm the story of the confusion of tongues, and the dispersion of the race. We have only to go back to the lands of the East to realize this.

It is a singular circumstance that the same myths which prevailed in the classic lands of the East refer not only to the prevalence of a great flood but to an early migration from the same region. These myths are found among the Greeks and Romans, and form the chief feature of the classical mythology. We have not only the story of the Argonautic expedition, but we have also the story of extensive migrations. The Argo is represented as the first ship to be built, and the constellation which is seen in the sky is supposed to represent this very vessel, and possibly may be referred to as a remnant of the story of the flood and the preservation of Noah in the ark. The author of the Orphic Argonauts makes them pass up the Phasis and thence to the Baltic and so on to the British Sea and back by way of the Mediterranean to their home. It is plain that this expedition took place long after the building of the Tower of Babel, and yet the fact that the Argo was the first long ship, and that Minos had a fleet of long ships with which he held the sovereignty of the seas shows that the story of the flood and the preservation of the

family of Noah is not so strange after all. The building of the Tower involved architectural skill, but the fact that the confusion of tongues occurred in connection with it shows that the different nations of the earth already had begun to speak different languages.

The date of the Argonautic expedition was not so early as the dispersion of the race, although it occurred before the Trojan war. The first setting-out of the Argo was northward to Lemnos, but Herodotus says Jason sailed toward Delphos. Eretosthenes tells us that the constellation Argo was placed in the sky by divine wisdom, for the Argo was the first ship ever built and was an oracular vessel. The Argo, like the horse of Poseidon, was called Pegasus, for it was a mythical creature. The colonies of the "Arkites" who sailed in the Ark went abroad and made various settlements. Memphis in Egypt was believed to have been built by the Argives.

The peopling of the world was in part by way of the sea and in part by migrations over the land, but the migration would have resulted in different languages even if the incident of the Tower of Babel had not occurred. The effect of migrations on language has always been as great as if the change had been accomplished by a miracle. The confusion of tongues was remedied to a degree by the gift of tongues at the miracle of the Pentecost; but this miracle is going on in a gradual way in all lands even among the islands of the sea. Thus history repeats itself.

Language is often written as well as spoken, but in every case it becomes both a means of communication and a history. There are pictures in the Bible which are so easily interpreted that a child can understand them. "The path is so plain that a wayfarer, though a fool, may walk therein."

We are told in the Book of Genesis that Noah had three sons. We learn from history that three great races appeared at an early date, each one of which took its name from that of the sons. The Indo-European or Japhetic race are the descendants of the youngest of these sons, Japheth. The Semitic race, which includes the ancient Babylonians, Assyrians, Hebrews, and even the Egyptians, descended from Shem, who was the oldest of the sons. The African races are supposed to be the descendants of Ham, though the origin and history and early wanderings of the race is buried in obscurity. The migrations of the tribes which descended from these three great ancestors have extended to the most remote regions of the earth, and yet the linguists and the ethnologists have been able to identify them by their languages even when found in the most remote parts of the world. The history of their wanderings is obscure, and yet the records are found in so many places and ways that the linguists and ethnologists are

becoming satisfied that they will soon get the clue which ultimately will reveal the routes which were followed.

It is not a deep forest through which we are wandering and in which we are likely to lose our way, but is a plain and open path with landmarks and milestones at frequent intervals. There is then no reason why any one should be lost in studying the subject. For the *a b c*'s are suggestive of a primitive civilization, and at the same time show the spot from which the different nations separated and made their way to the remote parts of the earth.

IV. The alphabet has given us a record which is more reliable than the pictographs, but the pictographs suggest the manner in which thought was conveyed by rude and uncivilized tribes. The North American Indian will hew a place in the side of a tree and paint a picture in the place laid bare, and by the picture will indicate the point to which he is going. The use of pictographs was even more extensive than this; for the sides of the tents were often covered with figures which showed the clan and tribe to which the inmates belonged and sometimes tell the history of the people. Pictographs have always a tendency to attract attention, and have about the same effect as the Bible stories, for they are easily interpreted and always understood.

The alphabet was originally a pictograph or a series of them. By studying the alphabet we learn what was the primitive condition of mankind, and even the place from which the early migrations began. It was the place in which the camel and the ox abounded. The first letter in the alphabet "aleph," represents the head of an ox in Hebrew; alpha means ox. The letter *b*, or "beth" in Hebrew means house. The letter *g* or gimel in Hebrew means camel. So we may go through the Hebrew alphabet, and learn the primitive condition from the race from it even better than we can from any tradition that has come down to us or even from history, and shall find confirmations of the Bible stories which are certainly surprising.

The Phœnician alphabet was borrowed from the Egyptians, and the Persians adopted it and transmitted it to the Greeks. Instead of using symbols to represent sounds, nations have been content to adopt letters, which can be recognized by sight. The alphabet in reality gives to us a vehicle of transmission which is recognized by the eye instead of by the ear. The orthographic image has a definite shape which the voice alone could not convey. To the child the voice is the earliest means of receiving and communicating thought, but later in life the eye becomes the chief means of transmission, especially among the civilized na-

tions. The uncivilized races have always had signs by which they could communicate their thoughts to one another.

Among civilized races the unit of language is the sentence and not the word. Among the uncivilized it may be the word and not the letter. In either case language is engaged in the endeavor to preserve the stock of ideas which arise in the human mind. The consequence is that ideas are constantly colored by individual and national peculiarities, so that languages had often proved a barrier rather than a means of communication. The progress of linguistics, however, is gradually overcoming the barriers.

It is supposed that the patriarchs Shem, Ham and Japheth communicated their thought by speech and did not use any alphabet, but tradition has been transmitted through different languages. Between the patriarchy of Abraham and the writing of the book of Moses was an interval of four or five centuries, yet the transmitted accounts have a genuine historic stamp. The sequence of races in Africa and Syria and even in Babylonia is such that it is difficult to trace the route which was taken at the time of the separation, or even to identify the starting point by the study of the languages.

It is not strange that some of the distant nations of the earth have lost all trace of their early history, and only know that they found at last the home which reminds them of their earliest starting-place.

It is true that certain tribes and nations have a tradition that their ancestors first dwelt in caves and afterward came out and settled in the very regions where they live at the present time; their history having been preserved by their chiefs or priests and sacred men, and their religious ceremonies, even at the present time, are founded upon their past history. These ceremonies have been studied by the ethnologists and have been interpreted in such a way as to remind the Bible student of the record contained in the Book of Genesis—a book which makes known the beginnings of all mankind.

It is remarkable that these people, dwelling so far away from the original starting-point of the human race, should have kept a record of events which transpired so many thousands of years ago, and yet make it so thoroughly adapted to the locality where they made their first home on the American continent.

An illustration of the manner in which the nations remember their early history is found among the Pueblo tribes and the so-called Cliff-Dwellers. They have a tradition that their home was originally a dark cave, but under the lead of a fabulous creature they made their way through the roof of the cave into another

cave which was lighter than the one they had left. A second time they were led through the roof, and came into a cave where the sun and moon could be seen, and which was much brighter than the one from which they came. A third and a fourth time they were led through the roof. But in the fourth cave they gained glimpses of a beautiful valley in which were streams of water. The valley was surrounded by four mountains, one on each side. At the top of every mountain was a tree which spread out its branches in every direction. At the bottom of each mountain was a beautiful spring from which flowed a stream which crossed the valley and joined the waters, and formed a lake in the center of the valley.

The strange part of this story is that a flood was sent out from the cave from which they came by a great, fabulous monster which was an enemy to the people who had escaped from the darkness and were dwelling in the valley and near the borders of the lake. This monster had the form of a serpent which in some way was connected with the distant ocean, and through its body the waters of a great flood came rushing in to fill the valley and to overwhelm the people who dwelt there. It was only by the power of the Great Spirit who ruled over sea and land, sky and earth that they were saved from the flood. It was by a sacrifice, however, that the enemy was overcome and they were rescued from the flood. The sacrifice consisted of two youths who were let down from the top of a cliff. The great monster was satisfied with this sacrifice, and withdrew from the valley into the distant ocean. The most striking part of the story is that the youths which were offered in sacrifice were transformed into two rocky peaks, which resembled the human form and still remained standing near the great cliff to which the people escaped and on which they built their many-storied houses in which the people have dwelt for generations. This is a fanciful and poetical view of an event which reminds us both of the book of Genesis and the Book of Revelations. The latter furnishes the analogous story of a monster heaving out a great flood to destroy the Lord's people, while the former emphasizes the necessity of sacrifice in instances too numerous to repeat.

Alphabets show significant distinctions and combinations. Alphabets were invented by different races and nations, and systems of written as well as spoken language are the chief indices by which nations have become known. This fact makes it easy to trace the historic nations back to their first home, even when changes in complexion and physical characteristics by climate and environment have obscured the source.

The differences and resemblances in the languages enable the

linguists to trace the lines of separation. Thus have been identified the lines of migration followed by the Chinese. The Chinese look back to Fohi as their great ancestor and ruler, and they make him to represent the Noah of their great nation. The Chinese language is supposed to have sprung from the ancient Accadians who formerly dwelt in the valley of the Euphrates, and their alphabet as well as their mythology and history confirms the same conclusion.

Prof. Williams in his "Middle Kingdom" describes the Chinese script as well as Chinese occultism. Writing or script has six styles—the seal, the official, normal, cursive, fancy, and the sung. The Chinese writing requires eight different kinds of dashes. Dr. Paul Carus has written a book in which he reproduces much that Williams has written, and has shown the correspondence between the writing and the elements. The elements seem to have a relationship similar to that of the family or human kind. They are: parent, child, enemy, friend, planet. Under these separate heads are embraced such elements as metal, wood, water, earth, fire, and such planets as Mercury, Mars, Jupiter, Venus, Saturn. The five elements figure prominently in the "Great Plan," and they seem to have been embodied in the topography and geography, for "the pointed crags mean fire," "the mountains mean metal," "rocks and trees mean wood," "plateaus mean earth," "lakes mean water." Water destroys fire, fire produces earth and conquers metal, metal conquers wood, wood conquers earth, earth conquers water. The mystic tablet, which was supposed to have been revealed to Fohi on the back of a tortoise, represents the world which was created by Pan-ku when he chiseled the world out of the rocks. The Chinese recognize the seasons, the equinoxes, the solstices, the elements, rain, dew, snow, water, and grain; also twenty-eight constellations, though they differ from those which are common. They show a combination of animals and birds and mechanical contrivances as well as plants, and are entirely different from the constellations known to the Indo-European nations. Among the latter the signs of the zodiac are associated with different parts of the body—Aries with the head, Twins with the arms, Crab with the breast, Leo with the loins, Goat with the knees, etc. The Chinese assign animals to the human body but differently arranged, for the horse is assigned to the head, the cock to the shoulder, the hare to the arm, the goat to the breast, the snake to the hand, the dog to the legs, the tiger to the feet, the dragon to the knees, etc.

These differences show that the symbolism, constellations, alphabets and mythology were all introduced among the Chinese

after they had made their abode in China, and long after the time of Fohi their first ancestor, who represented Noah, the great navigator. Still the history and symbolism as well as mythology of the Chinese shows that they originally came from the valley of the Tigris and were an agricultural and industrial people rather than seafarers or fishermen. The Accadians are supposed by some to have been the descendants of Ham, and by others descendants of Japheth, and yet the Indo-Europeans who were known to be descendants of Japheth did not reach China until long after the Chinese empire had been established and the Chinese language and alphabet had become known.

V. Under these circumstances it may be well to turn from the history of writing to the beginning of the alphabet. It will be acknowledged that the alphabet changes, but leaves permanent marks betraying its origin. This is not saying that all alphabets were derived from the same source, but it does show that the alphabet used by most civilized nations was one by which history is known and can be traced back to an early period. It will be acknowledged that the Phœnician alphabet was the one which the majority of civilized nations have used.

The migration of the Indo-Europeans from Babylonia to the shores of the Pacific and from there to the interior of China at so late a date that they did not affect the Chinese alphabet nor even the Chinese religion, and yet the architecture of China was largely the product of the Indo-Europeans. The same is true of the Hamitic stock for the separation of tribes and races in Africa was so early that it is impossible to trace the African language to a common stock or to give a definite history of any of them. The widespread naturalism of mythology seems to have covered the early traditions, and it is difficult to trace either their myths or their languages to an original source. Paganism seems to have settled down upon the African continent so long ago it is hard to find any Bible story or to trace any of the three great languages.

The patriarchy which is described in the Book of Genesis was transformed into the system of ancestor worship. The confusion of tribal history is so great that it is a question which was the earliest among these people. The same may be said of the North American Indians, for most of the ethnologists have asserted that matriarchy prevailed among all the American tribes, and the system gave way to patriarchy in only a few cases. Another difficulty in the way of recognition of the origin of the American races is found in the languages that prevailed, for every American tribe claims that its birthplace and first home was in the very locality where the tribe was found at the time

of the discovery. The tribes of the northwest coast claim that they originally sprang from either the birds or animals which dwelt in the forest or from those which inhabited the sea. Their first ancestor has a name and a history which identifies him with some fabulous monster.

Similar fabulous origin has been ascribed to the earliest inhabitants of the historic lands. Berosus in the Chaldean myth represents the beginning of the world as consisting of darkness and water and ruled by a woman, though Bel, the great divinity, divided the darkness and cut the woman into two halves, from which he formed the heaven and the earth. He then cut off his own head, and from the drops of blood gave life to man. By the union of spirit with slime the "all" of creation was formed from which the universe was developed. The heaven was made in the form of an egg from which the sun and moon and stars and constellations sprang.

The constellation Leo affords a good illustration of the fact that the main features of classical and modern astronomical nomenclature have descended unchanged from the Sumero-Accadian period.

Wilkinson says: "There has always been a striking resemblance between the Egyptians and Asiatics as to manners, customs and religion, and some authors have considered that the valley they inhabited belonged to Asia rather than to Africa. They bear the evident stamp of an Asiatic origin. Pliny affirms that the people of the banks of the Nile were not Ethiopians, but Arabs."

We cannot lay claim to the priority of the Hebrew language over all others from its perfection, nor even from its having been spoken by the most ancient or the most widespread people. But we may certainly claim that the thoughts expressed in the Hebrew Bible were the most elevated and advanced, and are in great contrast to those contained in what is called the pagan books of the east. It will be acknowledged that the Hebrew has been confined to a narrow and restricted territory, but the thought contained in the Bible has spread throughout the globe.

It is, however, the Indo-European language, now spreading to distant parts of the earth, which seems to be breaking the barriers down between the nations. The physical barriers remain, but civilization is surmounting them. The vessels which traverse the seas are like white-winged birds which sing the songs they once sang near the banks of the Euphrates and Tigris, and which shall be echoed in the most distant islands of the sea as well as the continents beyond the seas.

Three great races—the Semitic, the Japhetic, and the Hamitic, have transmitted to their posterity languages which differ from one another, yet as time goes on they become blended and changed, so that the nations of the earth hear others speak in words which are familiar. The Indo-European races have spread over all the earth, transmitting as the chief inheritance to the world the record contained in the Sacred Word, with its narrative of creation and the beginning of human life.

We read the thoughts which our earliest ancestors had when they looked up to the sky and believed that God was their Father and they were His children. The Semites, the Japhethites and the Hamites have been long separated from one another, but in the Providence of God they have been brought together in the continent of America, where the belief in the quality of man in God's sight is the source of encouragement to the lonely and oppressed as well as of inspiration to those who are more favored. The Semitic, Japhetic and Hamitic races all have had their history—a history written in different languages and recorded on different continents, but which are beginning anew in the continent of America.

The archaic civilization which began in the Euphrates valley is continued in the distant parts of the earth. Traces of it are seen in the sky as well as upon the earth. Some think that mankind never had a common birthplace or a common home; that the diversity of races is due to the laws of descent, which began with animals rather than with human beings, but the records refute this. The languages have varied, the physical traits also have been as different as the habits of the people, and yet the evidence increases that there was in that valley what may be described as the birthplace of the human race.

The sky confirms this for the recognition of the constellations give the stamp of finality to the Euphrates valley theory. The Greeks received the names of the constellations and transmitted the stories connected with them. They are stories not of savages but of highly civilized people. The Phœnicians, who in turn had obtained them from the civilization of the valley of the Euphrates, incorporated them into the alphabet, so that the person who is familiar with the Hebrew alphabet can understand what the stage of civilization was and learn about the articles and objects as well as animals which were common at that early date. For an understanding of the Euphratean astronomy we have the valuable labors of Prof. Sayce, of Offord, of Hommel, of Jansen, of Epping, and others. The cuneiform inscriptions of western Asia published by the British Museum have been translated by C. W. King and others. Lockyer in "The Dawn of

Astronomy," Whitney, Le Normant, Max Muller and others have translated and transmitted the languages of these early nations who dwelt in the same valley.

But in addition the signs of the zodiac and the constellations of the sky may be recognized and read. The zodiac was familiar to the Babylonians centuries before Alexander led his armies toward the east. The light god fights the dark monster, and we are able to reach the treasures which were guarded and kept from sight otherwise.

ARBORIAL ANCESTRY OF THE MAMMALIA.

The animals classified as mammalia, such as the elephant, rhinoceros and tapir, exhibit a difference in size according to their antiquity, also in shape and characteristics. The elephant, rhinoceros and tapir are found only in miniature. The peculiar shape of the tail, leg, claws, head and teeth becomes more like those of birds the farther back we go in time. The neck is flexible, the tail long, the scapula, ulna, radius, tibia and wrist are like those of birds, as well as the digits. The arboreal primates are so much like birds that we are able to trace the changes. The cretaceous ancestors of the mammals were small arboreal creatures.

Mr. Sceley says it is easy to fix a place in nature for living animals and determine their mutual relation to each other, because all the organs are available for comparison. They are grouped together into large divisions of beasts, birds and reptiles. The neck is more liable to vary than the back with the habit of the animal. The mammals preserve the same number of vertebrae, but the bones vary in length. The sea reptiles have short necks, but the pterodactyls have short vertebrae. It is a singular fact that the very animal which in Job is called "behemoth," in Tartary and among the Ostyaks is called the mammoth. The Russian word mammoth comes from the Hebrew word for behemoth. It is interesting to know that the horn of the unicorn was the same as the horn of the rhinoceros, but among the same animals in the fossilized state in Siberia the bones were taken to be the claws and skull of a gigantic bird.

ORIENTAL DEPARTMENT.

EDITED BY DR. CHAS. H. S. DAVIS.

THE ORIGIN OF THE BANTU.—The government of the Cape of Good Hope supplied the means that enabled Mr. J. F. Van Oordt to give three years of close study to the Bantu question, and has also published his results under the above title in a pamphlet of 97 pages. The author calls his paper merely a preliminary study, but he believes he has found clues that will help to unravel the secrets of Bantu philology and of the institutions, customs, and religious ideas of that widespread race. Briefly, his philological studies have convinced him that the Bantu languages belong to the linguistic group generally known as the Ugro-Altaic; and he thinks he has discovered that the original home of the Bantu was the peninsula of Malacca, and that the present pagan races of that region are ethnographically and linguistically related to the existing races of Africa. The larger part of the paper is given to his comparative philological evidence. He expects to make further researches along the lines he has opened.

A recent issue of the official *Jahreshefte* contains a report of research in Ephesus by Austrian scholars under the leadership of Prof. Rudolph Heberdey. He is assisted by the archæologists, W. Wilberg and J. Klein, and the geologist, A. Grund. These excavations, east of the ruins of the library, have laid bare an eight-cornered building, erected between 54 and 59 A. D., and ornamented with beautiful relief plates. Next to this is a long hall, one end of which connects with the theater. This hall, it appears from the inscriptions, was used down to the Byzantine period. Remnants of the old and beautiful Hellenistic rotunda belonging to the time of King Lysimachus, have been exposed by removal of a superstructure dating from the period of the Roman empire. Adjoining the remains of St. Mary's church, the largest Christian structure unearthed in Ephesus, is found a smaller church planned in the same style.

Particulars as to the recent discovery of some new authentic manuscripts of the Bible are given in the Paris *Debats* by M. Gaston Migeon, who was fortunate enough last year to discover in company with Mr. Charles Freer of Detroit, Michigan, among

the odds and ends amassed by the Ghizeh merchants, certain manuscripts unearthed among the ruins of Akhmin, in Upper Egypt. After prolonged examination by Biblical scholars in America, it seems to be admitted, according to M. Migeon, that these manuscripts are of the fourth, fifth, and sixth centuries. The first one contains Deuteronomy and Joshua; the second contains the Psalms and is apparently more complete than the Vatican manuscript. The third contains the four Gospels, and the fourth the Acts and the Epistles. Mr. Freer's manuscripts are somewhat larger than the famous Alexandrine texts in the British Museum, but the importance of this discovery consists in the fact that a collation of the Freer manuscripts with those of the British Museum shows that many words, and even passages, wanting in the latter, are still preserved in the new texts. We may, therefore, according to M. Migeon, be on the eve of a fresh revision of the Bible.

We regret to announce the death of Prof. Gustav Oppert, of Berlin, who has recently passed away at the age of seventy-one. His first work of importance was done in the Bodleian Library, where he catalogued the collection of Hebrew manuscripts. He was then appointed sub-librarian at Windsor Castle, and in 1872 was made professor of Sanskrit at Madras. He returned to Europe in 1894, and the next year was appointed professor of the non-Aryan languages of India in the Berlin University. He has to his credit many works on the weapons, commerce, religion, and dialects of India.

Archæological work is being carried on in the island of the Nile known as Elephantine. A number of objects, some of which are of considerable value, have been found. Among these may be mentioned two large steles of diorite, covered with inscriptions of Thotmes III. A curious kind of sanctuary decorated with miniature obelisks and covering a spot which was used for burying the bodies of sacred animals, was also found. These animals proved to be rams, carefully mummified and buried in sarcophagi of granite. The wrappings of the mummies are gilded and ornamented with painted scenes of a mythological character, and bear inscriptions. The ram was among the sacred animals of Egypt, and seems to have been specially consecrated to the deity Khnoum, one of the principal deities of the islands.

The temple in the Roman Forum, the excavation of which was begun in the presence of W. D. Howells, has proved to be

a most interesting and valuable find. Of the temple there are only so far to be seen the foundations which are buried under the Arch of Titus—better known as the “ Arch with Seven Branched Candlesticks ”—and composed of large blocks of “ lapis tiburtini,” or Tibur stones, which by their size and shape confirm Commendatore Boni’s opinion that he has discovered the remains of a temple erected in honor of Jupiter “ Optimus Maximus ” nearly four centuries before the Arch of Titus was raised. It now seems certain that this arch has not always stood on its present site, but was transported thither by the engineers of Hadrian when that emperor decided to build a new imperial Forum.

The foundations of the temple go twelve feet deep, and among them have been unearthed terra cotta lamps, amphorae of iridescent glass, and the bones of animals used in sacrifice. There have also been uncovered at various depths the remains of paved streets and other civic constructions which reveal the number of times the history of the spot has been changed through the centuries.

Word has been received from Rome that the government, after considering the international proposal to excavate Herculaneum by a system of galleries, believes that the excavation should be conducted along the practically the same lines as those at Pompeii.

The Duke of Loubat has discovered in the Greek archipelago a sort of Oriental Pompeii of great riches and extraordinary interest. These researches were originally begun by the branch school at Athens in 1874, and by 1886 over twenty buildings had been brought to the light of day. Many important inscriptions were found—dedications, lists of household goods, tradesmen’s bills—dating back as far as the seventh century before Christ. In the ancient temple many valuable articles have been found and—what is more curious still—records written on stone proving that the temple was virtually a pawnshop, where money was lent at 10 per cent on all articles of fixed value. This interest was not usurious, but it should be added that at the end of five years unredeemed pledges became the property of the temple. Under the direction of the Homole the researches have been continued and the theater, the necropolis, the port of the buried city, have been completely reconstructed. The Duke de Loubat has not only given his money for this purpose, but has also given his personal supervision.

Professor D. G. Lyon, curator of the Harvard Semitic Museum, was given leave of absence from April 25 through part of the next academic year, to supervise excavations at Samaria. The site is one of the largest and one of the most important in Palestine. On the surface are the remains of buildings erected by Herod in the fifth century B. C. Beneath these there may be remains of Hebrew palaces and of the homes of the people; still lower, perhaps, relics of Canaanite occupation. Tombs hewn in the rock are also sure to be found. The village in its name Sebastie perpetuates the Greek name Sebaste, which was given by Herod. The only mosque in the village was formerly a church of the Crusaders.

The excavations at Oxyrhynchus are now at an end, though the publication of the vast store of Greek papyri from the site will be the work of many years to come. The Græco-Roman Branch lacks funds to continue excavations, and therefore has suspended spade work for the present season, but hopes to resume in fresh fields in the winter of 1908-09.

Vol. V of the *Oxyrhynchus Papyri*, recently issued by the Egypt Exploration Fund, contains only five documents, comprising extensive fragments of two previously unknown works of classical Greek literature, and two familiar compositions, but of much earlier date than was hitherto known. There is also an uncanonical gospel of forty-five lines, detailing an interview in the Court of the Men of the Temple at Jerusalem between the Savior and one of the chief priests, a Pharisee. Of the classical fragments, the first presents remains of the lost Pæans of Pindar; the second consists of some twenty-one columns of a history of Greece, composed on an elaborate scale. These fragments pertain to the years 396-5 B. C. The two papyri of works previously known are of the "Symposium" of Plato, and the "Panegyric" of Isocrates. It is the largest literary papyrus found at Oxyrhynchus.

"The History of Babylonia and Assyria," contributed by Professor Winckler to Helmholt's "Weltgeschichte," has been translated by Professor J. A. Craig, of the University of Michigan. He reproduces the original faithfully and yet in idiomatic and excellent English. The translator has supplied a number of notes, and not always agreeing with the author. For instance, when Winckler happens to mention the slaying of Goliath by David, Professor Craig adds the footnote: "We may, perhaps, refer to

the fact in passing, that David's claim to this honor is very doubtful. II Samuel 21:19 makes Elhanan of Bethlehem the hero, in opposition to I Samuel 17. The author of I Chronicles 20:5, noting the contradiction, changed 'of Bethlehem' to 'Lahmi, the brother of,' in the interest of harmony."

Colonel C. R. Conder in a recent number of *Blackwood's Magazine* has an interesting article on the Hittite discoveries at Pterium. He says that the Hittite writing is very important, because it appears to have been the original script from which the Greek and Phœnician alphabets were developed. It is found in use all over Asia Minor, and also in Palestine, and even (on foreign pottery) in Egypt, as early as 2,000 B. C. It appears probable that, in the end, it will be proved that the very letters we now use owe their origin, neither to the Egyptians nor to the Babylonians, but to the sturdy race of Mongols who spread from the upper Euphrates to Syria and to the west; and their influence, not only in Greece, but very probably as Etruscans in Italy, renders the study of their history of general interest, as affecting our conception of the origin of both Greek and Roman civilization. There were many other influences—Babylonian, Egyptian, Phœnician, and Persian—but the oldest, and perhaps the strongest, was that of the civilized inhabitants of Asia Minor. This view steadily gains ground among scholars, and accounts for increased interest in the subject. They await with much expectation the results of the latest discoveries of written records at Pterium; and there can be no doubt that French, German and British explorers will continue more and more to direct their studies to the innumerable mounds of Syria and Cappadocia, which still hold in them secrets of the highest interest concerning the history of ancient civilization.

Dr. Edwin Mayser of Stuttgart will soon publish the second and final volume of his monumental "Grammatik der griechischen Papyri aus der Ptolemaergeit," which includes a discussion of the Ostraca finds and the Egyptian inscriptions of the same period. The first volume, of 538 pages, which appeared some months ago, deals with etymology and forms, and the new volume will deal chiefly with syntactical problems.

E. Amelineau begins the publication of his "Prolegomenes de la Religion Egyptienne" by a volume on the mythology of Egypt. The author is lecturer on the subject at the Ecole des Hautes Etudes, and will be remembered for his excavations at Abydos.

An investigation of the prehistoric remains in the island of Sardinia has been made recently under the direction of the British School of Archæology at Rome by M. Duncan Mackenzie, formerly associated with the excavations at Knossos in Crete, and Dr. T. Ashby, the head of the school. The most important results relate to the so-called "Tombs of the Giants" and the Nuraghe. These Nuraghe, as they are called by the natives, are huge prehistoric structures, probably fortifications, built of large blocks of stone similar to those used in the "Tombs of the Giants." They are four-sided, completely covered, and have an entrance at one rounded angle. In the middle rises a large circular tower. The tombs were found in many cases in such near neighborhood to the Nuraghe as to suggest a close relationship between these two forms of monuments, and to make it seem probable that the "tombs of the kings" were the burial places of the rulers of the inhabitants of the Nuraghe. In some cases remains of other habitations were found near the Nuraghe, but never more than one such tomb. This fact suggests the theory that some other form of burial was adopted by the humbler inhabitants—a problem still to be solved. A full account of Dr. Mackenzie's investigations will be given in *Ausonia*, the review published by the Italian Society of Archæology and History of Art.

Contents of the *American Journal of Archaeology*, Vol. XIII, No. 1: Thomas Day Seymour, with portrait—"The Mausoleum at Halicarnassus." Wm. B. Dinsmoor—"Codrus's Chiron and a Painting from Herculaneum." F. W. Kelsey—"Unpublished Latin Inscriptions." G. N. Olcott—"Fragment of a Panathenaic Amphora with the name of the Archon Neaechmus." D. M. Robinson—"New Manuscripts of the Bible from Egypt." H. A. Sanders—"The Heads of the 'Scipio' Type." F. Hauser—"Lost Fragments of a Group Representing Artemis and Iphigenia" V. Studniczka.

Dr. David Randall Macivers, who has been recently excavating in Egypt, has reported the discovery of several Christian churches built within two or three centuries after Christ's time. These ancient sanctuaries were carefully cleared of the heaps of desert sand which have covered them for centuries, and photographs have been made of them.

As a rival of the famous Cleopatra vase, discovered at Anibek, which is now in Cairo awaiting shipment to the University Museum at Philadelphia, Dr. Macivers has discovered near the Sec-

ond Cataract of the Nile a number of carved columns and a cornice sculptured with the emblem of the ancient Egyptian monarchy. Dr. Macivers believes these newly discovered pieces of architecture represent the finest works of their class in existence, and for beauty of design and execution, he says, they rival the work on some of the most famous of the Grecian temples.

Professor Herman V. Hilprecht has issued a volume of some 350 octavo pages, containing his answer to the charges made against him by other Assyriologists three years ago. These charges consisted at first in the statement that Prof. Hilprecht had published as objects found in the Nippur "Temple Library," objects which were not found in what he himself described as the "Temple Library," but had been purchased by members of an earlier expedition. There was also the charge that Prof. Hilprecht retained property belonging to the University of Pennsylvania. The trustees appointed a committee to investigate these charges, and Prof. Hilprecht's accusers were invited to appear before it. Two hundred and seventy-two pages are devoted to the record of this inquiry, and from this the reader may form his own conclusions. After this exhaustive trial the committee promptly acquitted him of the charge of literary dishonesty, as well as of the charge of misappropriating property belonging to the University. They also acquitted him of the charge that what was found at Nippur had no just claim to be called a Temple Library, although this is a matter which we think only expert Assyriologists can pass upon.

In Part II of this book Prof. Hilprecht pays his respects to two of his chief accusers. He says: "In all of this controversy thrust upon the public and me I have had but two real antagonists. Dr. John P. Peters and Dr. Morris Jastrow, Jr., have either originated or inspired everything that has been done, said or suggested. In the industrious promulgation of the charge that I have been dishonest as a scholar and scientist and even the vulgar purloiner of property belonging to others, Dr. Peters has avowed his motives to have been anxiety for the good name of American scholarship. And yet my mind persists in seeking the real cause of the doctor's animosity in those chapters of that fateful book of my authorship which deals with the management and results of the expeditions to the Far East of which he had charge. I would be a hypocrite did I avow anything but the strongest resentment of the course Dr. Peters has seen fit to take. Nevertheless, Dr. Peters, in all his enormous activity against me, has been open and above board. It has not been so with Dr. Jastrow. He has at times fed a hidden stream that has come to

the surface only in many a swamp and morass without willing disclosure of the parent source. His activities have been persistent and untiring, and his method and means employed by him surely most contemptible. Under the pretext of righteous indignation, he sets himself to work gradually to poison the minds of both laymen and scholars, who do not happen to be familiar with Assyriological discussion, and by taking words and sentences out of their context, in which alone they are intelligible; by posing as an authority in certain branches of Assyriology, as to which his statements and declarations are lacking the necessary foundation, and, therefore, carry no weight among Assyriologists; by making his personal views appear as facts, when they are but malicious insinuations and unjustifiable accusations."

We trust that this unfortunate controversy has been settled, but we are afraid not. Undoubtedly the whole controversy will be reopened, after such a severe attack on Dr. Peters and Prof. Jastrow. A careful reading of this book leads us to believe that the charges brought against Prof. Hilprecht have not been sustained. Even if the few tablets which have given rise to much of this unhappy controversy are eliminated, there is no doubt but that the University of Pennsylvania has a magnificent collection of tablets of priceless worth. They are likely to prove a collection of literary as well as of scientific value. Prof. Hilprecht is an able and brilliant scholar, and credit should be given him for his great work already accomplished in the field of Assyriology.

Prof. Hilprecht refers to the effect of the controversy on his health. He concludes with: "If I acknowledge that the anxieties I have suffered have impaired my health and caused me great mental anguish, it is more because I fear that I may not have the years and strength left to complete my task, than for cause personal to myself. These lines are the last I write in connection with this book. I know the reader will understand why I make this claim for sympathy, as my book itself is only an appeal to the calm and dispassionate judgment of my audience." The title of the book is:

"The so-called Peters-Hilprecht Controversy, Part I. Proceedings of the Committee Appointed by the Board of Trustees of the University of Pennsylvania to Act as a Court of Inquiry. Part II. Supplemental Documents, Evidence and Statement Submitted to the Public by H. V. Hilprecht. Philadelphia: A. J. Holman & Company."

The "Palastinajahrbuch" of the German Archæological Institute in Jerusalem appears in its third annual volume, edited

by the leader of the school, Prof. G. Dalman, and published by E. S. Mittler & Sohn, Berlin. The principal article is the study of the Church of the Holy Sepulchre, by Prof. Dalman. He endeavored to show that the tradition which makes the church the site of Christ's burial and resurrection is correct—a position at variance with that generally entertained by modern scholars. Other papers treat of Jerusalem in the times of the crusaders, and the economic condition of the desert of Judæa.

The second year's work of the expedition organized through private liberality to carry on excavations in Egypt, on behalf of the Metropolitan Museum of Art, began on November 1st, following a plan which includes both a continuation of the excavations begun a year ago at the Pyramid of Lisht, and also work on sites of other periods which increases materially the scope of the expedition. In the clearing of the pyramid of Amenemhat I, at Lisht, a force of three hundred men, beginning at the north-east corner, carried the excavation westward along the northern face until the middle of February, when the greater part of the debris and drift sand had been removed. The number of workmen was then reduced to about one hundred, and the final work of clearing in detail has since gone on.

In order to take advantage of the favorable conditions which exist now in Egypt for the investigation of the remains of the later periods—Græco-Roman and Early Christian—the expedition is now extending its work to cover this field, through a valuable concession recently granted to it by the Egyptian government, at the Oasis of Kharga. There is every reason to believe that the systematic excavation of the cemeteries and sites embraced in this new concession must eventually yield results of the fullest scientific value and that the material resulting from the work will place the Egyptian collection of the Metropolitan Museum on a sound footing in its representation of this latest phase of Egyptian civilization and art.

The expedition has also begun this year the formation of a series of records of the inscriptions, wall paintings, and relief-sculptures of Egyptian tombs. Mr. N. de G. Davies, who for ten years past has been engaged in Egypt for the Archæological Survey, has undertaken this work and is now carrying out the full-sized reproduction, in color, of the tomb of Nakht, at Thebes.

Professor Richard Norton of Boston, a son of Charles Eliot Norton, and late Director of the American School of Classical

Studies at Rome, has recently returned to Rome after an expedition into Asia Minor together with Prof. D. G. Hogarth of the British Museum. They landed at Beirut, whence they went to Aleppo afterward, continuing on horseback along the right bank of the Euphrates. They visited Aintab, where there is a flourishing American Methodist College which instructs several hundred students, mostly Armenians. With a physician, Dr. Sheppard, Profs. Norton and Hogarth camped for one month in districts practically unknown. As they even succeeded in correcting the best existing maps and proceeded to make important excavations which gave most satisfactory results, they were able to carry back with them some treasures unearthed, especially inscriptions and carvings on basalt, demonstrating the existence there of towns at 2,000 B. C.

AN ANCIENT GREEK STATUETTE.

Mr. Joseph Offord has sent a photograph of a marble statuette in the collection of E. E. Pither, Esq., of London England, which, though sadly mutilated, is an excellent specimen of ancient Greek art, particularly interesting because of the arrangement of the hair. The way in which the locks are all cut off straight at a certain distance looks as if the sculptor had in view some coiffure similar to the greased or waxed wigs of the old Egyptians, and suggests that the statuette was carved in very early times at Naucratis, or some Greek settlement in the Delta. All students of ancient Greek sculpture know how the early Greek statues of Apollo, such as the "Strangford" Apollo statue, are replicas of the Egyptian style of art, and it would seem that in this statuette we have the same evidence of Egyptian models for an early Greek female figure.

This is not exactly a new event in Greek art discovery, for in the *Archaeological Anzeiger* for 1901, p. 21, in an article upon "Parosculpturen and Mykene" is an Egyptianized Greek head of a male statuette with the same style of hair, but more distinctly of Egyptian type.

BOOK REVIEWS.

ANCIENT JERUSALEM. By *Selah Merrill*. New York: Fleming H. Revell Co.: 1908. Quarto, pp. 419; price \$6.00.

For many years Dr. Selah Merrill has been regarded as the foremost authority in matters of Jewish archæology and antiquities. For over thirty-five years he has been engaged in the study and exploration of ancient Palestine. During the sixteen years that he was the American consul at Jerusalem, and the work that he did in connection with the Palestine Exploration Society, he had exceptional opportunities to investigate thoroughly the topography of this ancient city. Readers of the annual reports of the Palestine Exploration Fund are aware of his many discoveries, not the least of which was that of one hundred and twenty feet of the second wall of Jerusalem, outside of which Christ was crucified; and many other discoveries which have been attributed to others should in all fairness have been credited to Dr. Merrill.

Of the vast amount of literature on Jerusalem and Palestine put forth every year but little is authoritative, and a good deal of it is untrue and often absurd, and many books are written in order to carry out some preconceived theory. It is evident, however, that Dr. Merrill, in pursuing his archæological and historical investigations, has not started with a theory and endeavored to make such facts as he may gather go to confirm that theory: in fact he strongly disapproves of the method of those who begin the investigation of important subjects with a decided partisan bias toward one theory or another.

In his archæological research Dr. Merrill begins with the siege of Jerusalem by the Roman army under Titus in A. D. 70, his point of departure, and from that date he worked backward as far as it seemed possible to go. Dr. Merrill considers that Josephus has given us a connected and in the main a correct account of the events which he records, and he considers that in a work of this character no progress whatever could be made without the writings of Josephus. Every portion of the city has been thoroughly investigated over and over again, and confirmed with Josephus, Nehemiah, and with all of importance that has been written on the subject, and he has shown, beyond successful controversy, where the besieging army of Titus approached the city, where the army encamped, the plan of Titus

for capturing the city, his methods of siege, the locations of the various city walls, where the first attack was made, the topographical division of the city into three portions, and the order in which these succumbed to the attack of the besieging army.

Among the forty-one chapters of the book are interesting ones on governor and procurator, royal burial places, the sites and building of the temple, and a very illuminating one on the rocks and quarries about Jerusalem.

While Dr. Merrill has great confidence in Josephus as a historian, he has not that confidence in Nehemiah. He says: "At the first glance we think that we have found an invaluable guide to the politics, religion, internal affairs, and topography of Jerusalem for the period which it covers, a very important period—namely: the middle of the fifth century before our era. After a careful study of it with all the helps that exist—and the helps are very few because commentators and other writers cannot tell us more than is known—we find that it is a work of curious construction, that it is not by one hand, that records of various other dates have been incorporated into it which prevent it from being a continuous narrative of actual events, that it exhibits a lack of sequence and of logical arrangement—a most prominent characteristic, to be sure, of the Jewish mind, but which, nevertheless, is exceedingly troublesome—and that, in general, it is not so clear and definite as we thought. Chapters III and XII have been declared to contain the most valuable materials for settling the topography of Jerusalem to be found in Scripture. But so far from elucidating Jerusalem's topography, they form a puzzle to solve which requires more than ordinary skill.

Dr. Merrill has gone over thoroughly Nehemiah's account, and has shown wherein he was often at fault, and that although the hints imparted by Nehemiah are invaluable, and show that certain things existed, their localities and relative positions may not readily be determined.

This comprehensive work of Dr. Merrill's will no doubt be recognized as authoritative, and it will not soon be superseded. The illustrations are important and interesting, consisting of over one hundred charts, maps and photographs, and are remarkable for their excellence of execution. D.

ODDS AND ENDS FROM PAGODA LAND. *By William C. Griggs.*
1907: American Baptist Pub. Society.

This book covers about the same ground as many others. It gives information which has been furnished by missionaries. It is, however, well illustrated, and is new.

BY VELDY AND KOPJE. *By W. C. Scully.* London: T. Fisher Unwin: 1907.

This book is full of descriptions of hillsides once covered with forests, of the crescent moon, the limpid African night, Wizard's Rock, and persons with romantic names and adventures. It consists of short stories, each complete in itself, but all of African life.

PASSING PROTESTANTISM AND COMING CATHOLICISM. *By Rev. Newman Smyth, D. D.* New York: Charles Scribner's Sons: 1908.

The author of this book says: "The distinction between home and foreign missions is rapidly disappearing. It is international Christianity with which everywhere the church has to do." It is a happy omen that in some ways the practice of church unity is becoming prevalent. Evidence of this is to be seen along the advancing missionary line. Modernists are learning an answer for us all. The dogmas of the church are successive developments of the reflective life. Christian life is the language of each age, but to find a common meeting ground is the demand of the age. This is the coming Catholicism.

HISTORY OF ANCIENT EGYPTIANS. *By J. H. Breasted, Ph. D.* New York: Charles Scribner's Sons: 1908.

Prof. Breasted is a very industrious man, and has furnished to the world an immense amount of information in reference to Egypt, its history, its civilization, monuments and inscriptions, which are still to be seen and studied. This book, which is the fifth of a series for Bible students, describes the early religion of the old kingdom, also the change which came in the middle kingdom, in the feudal age. The empire was at its height when Amenhotep, the son of Thothmes, was born. The Tel-el-Amarna tablets have preserved to us glimpses of the kingdoms of Asia, as well as of northern Africa. They were 300 in number, written in Babylonian cuneiform. They were discovered in 1888.

THE GOSPEL OF JOHN AND THE SYNOPTIC GOSPELS. *By Fritz Barth;*

NEW TESTAMENT PARALLELS IN BUDDHISTIC LITERATURE. *By Karl von Hase;*

THE MIRACLES OF JESUS. *By Karl Beth.*

New York: Eaton & Mains: 1907.

These small books begin with the parallels in Buddhistic Literature and New Testament Theology. Van den Bergh is surprised at the agreement of the New Testament narratives with Indian legends. The Buddhist influence upon the formation of the history of Jesus is given. The contrast between the two sys-

tems is not brought out by this book so thoroughly as it ought to be. The opportunity of drawing a contrast should have been used to better effect, for those who are familiar with Buddhism and Christianity know that there is a great difference. The one belongs to heathenism, which is a thing of the past; the other brings a revelation of the future. The "Miracles" and the "Gospels" show this clearly.

THE DATED EVENTS OF THE OLD TESTAMENT. *By Willis Judson Beecher, D. D.* Philadelphia: Sunday School Times Co.: 1907.

Prof. Beecher, who has written many valuable articles for this journal, has published the volume on chronology with tables. The materials are of four kinds—cardinal numbers, time-words, the order of events narrated, and their nature. The year of the Babylonians and Assyrians was the one used in the Bible. The relation of the events and feasts to the equinoxes is referred to. The flood of Noah as recorded in the Bible suggests the division into months. The theme is suggestive, but it is difficult to follow the line of reasoning through the tables, which number forty-nine, with explanations on alternate pages. The book must have required an immense time to prepare, and will undoubtedly be valuable for reference in the future.

CHINESE THOUGHT. *By Dr. Paul Carus.* Chicago: Open Court Publishing Co.: 1907.

The wonder which is awakened by reading this book is, how does Dr. Carus, the author, find time to edit two magazines and get together so much information in reference to Chinese thought and put it into so good a shape? The cuts scattered through the book are in themselves alone very suggestive, and yet one wants to know how the Chinese zodiac arose and why it should differ so much from those of other nations. The Chinese architecture is no more mysterious than the Chinese occultism. The nine personalities correspond to seven planets plus Rahu, a headless form, and Ketu, a trunkless head. The astrolabe is weird, but the Hindoo zodiac has some familiar figures. The zodiacs of the different nations are described, and this alone, if nothing else had been written, would give great value to the volume. The book carries us back to a very early period when the destinies of mankind were entrusted to one family and one race. But the lead of mankind has changed since the dawn of civilization. The Accadians and Sumerians dwelt together in Mesopotamia and gave us the cuneiform writing. They were neither Semites nor Aryans, and may have been Turanians. The Aryans took possession of Iran and Elam and acquired dominion over Mesopo-

tamia, but they spread over two continents and left the Semitics behind them. The Hamites were supposed to have been one of the races who undertook to build the Tower of Babel, but it is difficult to follow them in their migration, or to say how they reached Africa.

CODES OF HAMMURABI AND MOSES. *By W. W. Davies, Ph. D.*
Cincinnati: Jennings & Graham: 1908.

This little book carries us back to a period before Abraham left Ur of the Chaldees, and shows the state of civilization and the character of government-at that time. The Hammurabi code was a bloody one, for beheading and death were the penalties for what seem to us trifling offenses. Stealing was a minor offense compared with taking away a slave, or taking property from the temple or palace. It was sovereignty with a vengeance which prevailed. The laws covered all departments of service, as well as of government, and they bring to light the prevailing condition of society.

THE NEXT STEP IN EVOLUTION. *By Isaac K. Funk, D. D., LL. D.*
London: Funk & Wagnalls: 1908.

This book contemplates a new creation. The spiritual type of life lifts the natural man, as the type life lifted the animal and the vegetable and the mineral. The law of continuity holds. It is not necessary to have heard with the outer ear the words of God or the name of Christ. God broods over every soul waiting for desire, and for invitation. Punishment comes, but it is largely within. The book is vague, but it will be understood by many.

ASSYRIAN AND BABYLONIAN CONTRACTS. *By J. H. Stevenson;*
MYCENAEAN TROY. *By H. C. Tolman and G. C. Scoggin;*

HERODOTUS AND THE EMPIRES OF THE EAST. *By H. C. Tolman*
and J. H. Stevenson.

American Book Company: 1907.

These books belong to the Vanderbilt Oriental Series, and are published by the American Book Company in uniform style. Taken in the order which accords with the date of the nations which are considered, they represent the progress of civilization and of history, from the earliest times up to the siege of Troy and the days of Herodotus. They cover about the same subjects as the works of Max Muller and Rawlinson and many other authors, but from a more recent date. The first volume brings together the cuneiform texts with the Aramaic readings, and reference is made to Prof. Robert F. Harper of Chicago, Rev. C. H. W. Johns, of Cambridge, England. It consists merely of translations and descriptions of tablets. The second one gives a description of Mycenaean Troy and contains a number of plates and cuts

which show the stage of architecture and of art which were described by Dörpfeld's Excavations. The third, Herodotus, treats of the empires of western Asia, of the customs, religion and language, as described by Herodotus. They are all full of instruction, and very brief, so that the person whose time is limited can secure information about a period which is becoming better known, but is after all quite obscure. The publishers have really conferred a favor by putting them in such a shape that they can be read by Bible and classical students without the expense of securing larger and more formal reports.

CHRIST AND BUDDHA, *By J. N. Cushing, D. D., Ph. D.* Philadelphia: American Baptist Publication Society: 1907.

This little book brings out the contrast between Christianity and Buddhism better than the one by Karl von Hase, mentioned elsewhere. The author for thirty years was in constant contact with Buddhism. He describes the birthplace, the youth, the early life, and the surroundings of Gotama or Buddha. His birth was 542 B. C. He was surrounded by wealth. The great renunciation was one of the three great events of his life. The ethical teachings are lofty and noble. His moral conduct was correct, but the system of Buddha is practically atheistic. The little book is candid, but the stage of sanctification and the "Eight-fold Path" are described. Better than sovereignty over the earth, better than lordship over all worlds is the reward of the first step in holiness. But what is the reward? Complete emancipation in which the mind, purified and exalted, is within any emotion of pain or pleasure. Having no longer any bond attaching him to Karma, at death he will experience no rebirth. Such is Buddhism. Its contrast with Christianity is enough to reject the one and choose the other.

THE
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BY STEPHEN D. PEET, PH. D.

Editor of "The American Antiquarian and Oriental Journal."

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The author holds that there was a contact between the Southern Mound-Builders and the so-called civilized races of the Southwest, and that trade was carried on with all parts of the continent, but he thinks there was a decided difference between the hunter tribes and those which constructed the great earthworks which are scattered along the Ohio River and in the Gulf States.

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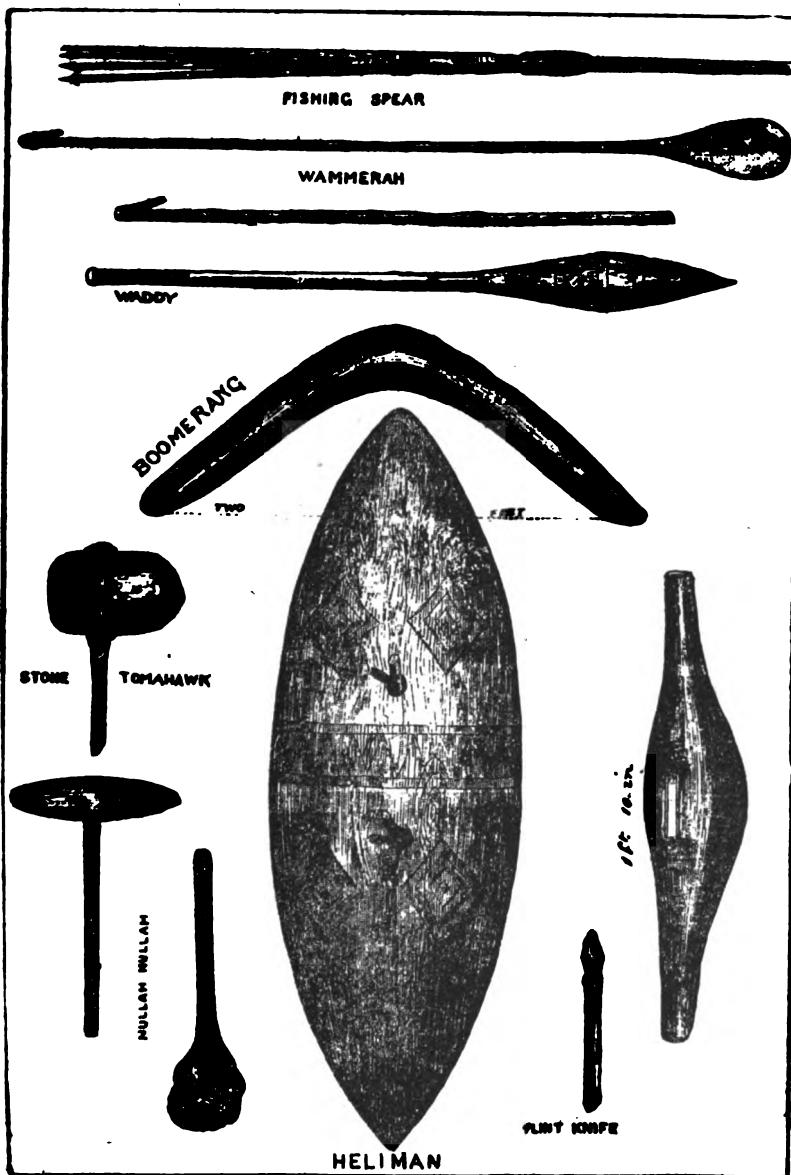
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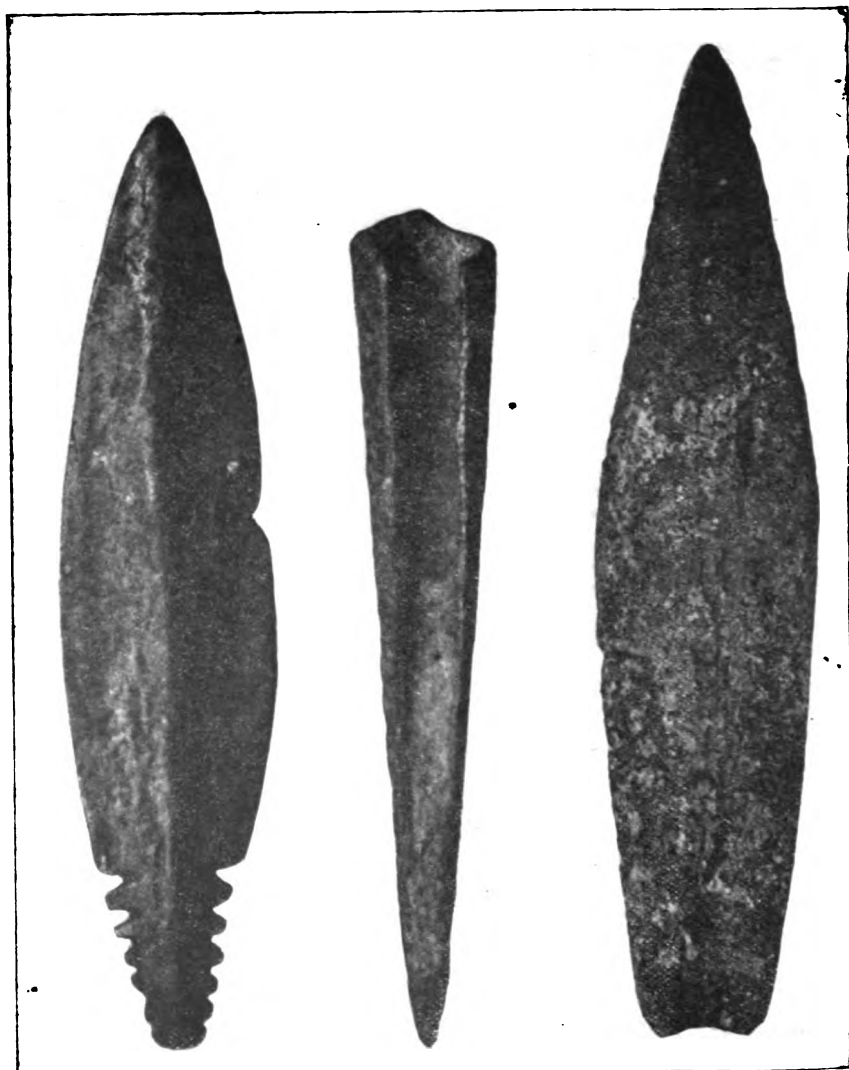
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SPEARS, WAR CLUBS AND BOOMERANG.



COPPER SPEARS FROM TENNESSEE.



THE

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No. 5

ARROW HEADS AND SPEAR HEADS.

BY STEPHEN D. PEET.

In treating of arrowheads, it will be necessary to draw a distinction between them and spearheads, lances, daggers and other weapons made of flint. It is not always the case that arrowheads are made of flint or chert for obsidian, copper and other materials were used. Still flint is so commonly used for arrowheads that it really marks the dividing line between them and other weapons. Mr. C. C. Abbott was one of the first writers to describe the arrowheads and to show the difference between them and knives, dirks and spear points and has given a number of illustrations showing their shapes and sizes. Other authors have described the arrowheads and have written concerning their distribution throughout the continent. Among them are Daniel Wilson, W. H. Holmes and W. K. Moorehead and persons connected with the U. S. museum.

I. The material of which arrows are made will depend upon the locality in which they are, and they can be identified in this way better than by their shape or size. Some have supposed that the shapes of the arrowheads would indicate the tribes to which they belonged and imagined they could classify them according to tribe as well as locality and material. It is easier to identify the locality than the tribe for generally the material of which they are made is a good index—better than the shape. Yet there are so many accidental finds of pieces of flint scattered over the country that even this is a very uncertain criterion by which to judge their origin or identify the tribe that made them. Mr. Abbott has given cuts of seventy-nine arrowheads and spear points, nearly all of them found in New Jersey. He has given also twenty-two cuts of flint scrapers, twenty-five drills, awls and perforators, twenty-six knives. This of itself will indicate the number of flint weapons of various kinds which were to be found in this single locality. But it would require a strong

imagination to give the number which have been found scattered over the Mississippi valley and still stronger to describe those formerly to be found in different parts of the continent.

II. The difficulty in describing the arrowheads and identifying them with any one tribe does not consist in their shape or material, but in their immense number and wide distribution. In fact there is no relic so difficult to identify as belonging to any particular tribe, not even the spear point, lance, or flint knife; and the very collecting of them is attended with embarrassment because of their number and similarity of shape. There is another point to be considered, the distinction between chert, flint, chalcedony, obsidian and other materials. It is quite difficult to identify so that it is almost impossible to decide as to the locality from which the arrowhead may have come or the tribe to which it belonged.

We must remember that many flint quarries have been discovered in various parts of the country and these were resorted to for material from which knives, axes, spearheads, lances, as well as arrowheads have been manufactured. Besides the quarries



the outcropping of rocks have furnished the material from which arrowheads were made, and the arrowmaker might be found in almost any locality and it would not be necessary for him to go great distances to secure the raw material or to make himself known as a source of supply.

It is true that quarries have been discovered in various parts of the country and described by those who have visited them. The most celebrated is at Flint Ridge, Ohio. Another has been found in Missouri and has been described by W. H. Holmes.

Quarries have been found in Minnesota, from which axes, spearheads, and probably arrowheads have been taken. The caves in Missouri and Arkansas, visited by Peabody and Moorehead, have furnished material for arrowheads, spearheads and other weapons. There were many places scattered along the Blue Ridge where flint and chert could be quarried and material for arrowheads and other weapons and tools could be found.

If we were to imagine the country between the Atlantic and the Rocky Mountains to have been occupied by different tribes

in constant warfare with one another, we would find no difficulty in deciding as to the source of the ammunition, to be found and used. Of course there was a great deal of waste of arrowheads, more so than of axes, spearheads or lances, almost as much as of powder among civilized races. But the ammunition could be easily secured, almost as easily as powder was before there were powder mills, for every warrior could make his own arrowheads, and furnish his own weapons.

III. This takes away the poetry which has gathered about the arrow maker, and makes him quite a common character, though his skill might be celebrated among the tribe to which he belonged. There is another element which is to the white man of some account. It comes from the sense of beauty which prevails in the red man as well as in the white man. Arrowheads are attractive to those who have this sense so strong as to recognize and admire the shades which may be seen in them as well as their shape and finish. The imagination may picture the arrow-maker surrounded by his admirers and waiting for the products of his skill, but it is more likely that the majority of arrows were made by those who had found specimens of flint which could be easily worked and spent their time in chipping out arrowheads from such pieces of flint as they had discovered.

The bow was as important as the arrow, but that was always supplied by the warrior himself and was used for three purposes—for warfare, for shooting animals, and for shooting fish. The supply of food depended upon the bow and arrow, but there were other weapons useful for this purpose. The dart, the spear, and the hook, all of which were made of flint, but different from the arrow in shape. As to the use of the arrowhead we are to remember that in the conflicts between the tribes, different weapons were used, the spear, the tomahawk, and the war club, and that the arrowhead sunk into insignificance compared with these. Still the arrowhead was as useful as any other weapon.

IV. The shape and size of the bow is next to be considered. This varies among the various tribes even though the use of the bow was common among all the tribes. How it was that the shape and size came to vary so much is not quite plain. It may be that the use to which it was put might produce the change in shape. To illustrate: A bow which was light and easily bent might be useful in shooting birds at a short distance, but of no use for animals of larger size. It was said of the tribes who dwelt on the Gulf coast that they were able to shoot their arrows with great force. In one case a warrior shot his arrow entirely

through the body of a horse carrying a Spanish soldier. It was not owing altogether to the skill of this warrior, but to the strength of the bow and sharpness of the arrow. In their battles with the Aztecs and Toltecs, the Spaniards found that the natives were armed with very dangerous weapons, almost as dangerous as their own firearms though the smoke from the fire cast terror into the minds of the natives who were rallied to resist. They were armed with crossbows and they used metal arrows instead of stone. That of itself would indicate they had passed from the stone age into the copper age, and were progressing toward the bronze. The term, Ganowanian, then would indicate the difference between the tribes in the stone age and those in the copper age. The bow and arrow was the weapon which the warlike Indians used, but the crossbow that of the so-called civilized tribes of the southwest.

The size of the arrowhead depended on the use to be made of it. A hunter who was shooting small birds would not need the same kind of arrowhead as the one who was seeking for larger animals. There are pictures of Indians on horseback chasing buffaloes. This of itself shows they belonged to a recent period. But it is probable even in prehistoric times that the Indians hunted buffaloes and killed them by means of bow and arrow as well as by the spear. The hunters on the mountains were likely to come in contact with wolves and bears and many other wild animals. The elk also abounded among the mountains. Deer were found in many localities. Nearly all of the tribes were in the hunter stage and they regarded their bow and arrow as the chief weapons in securing game. Cornfields were common in many parts of the country, but these were more likely to have been cultivated by the women. The garden beds, found in various parts of the country, were evidently cultivated by the squaws. There are pictures of garden beds as well as cornfields, which represent the villages scattered along the Atlantic coast. Garden beds were found around the villages near the cornfields. Flint hoes were evidently used in these but the arrowheads were used by the boys in shooting birds.

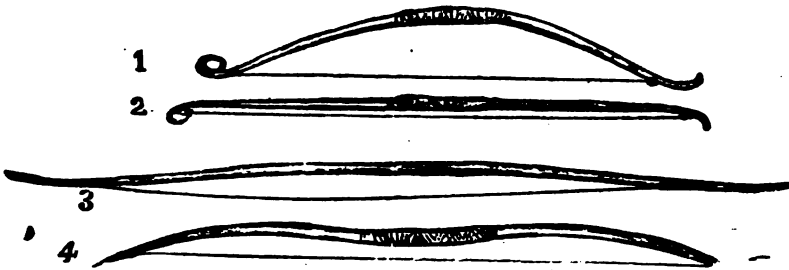
We can realize that industrial pursuits prevailed throughout the whole continent and that the stone age had its industries which were as varied as the iron age was in other countries. The arrowhead is supposed to be a symbol of warfare, and an index of a savage condition, but in reality, it was the emblem of peace. Villages were guarded by stockades but cornfields surrounded them. The arrows were used to scatter the birds that might flock to the cornfields.

V. As to the method of making arrows various authors have described this: The following is a good description. The Indian seated himself on the floor and placing a flat stone on his knees with one blow of his agate chisel, he broke it into two parts, then with another he split a slab of flint. Holding the piece against the "anvil" with the thumb and finger he chipped off with the chisel fragments until the arrow assumed the required shape. After finishing the base he began striking gentler with skill and dexterity.

This can be said of the arrow making: it was generally the work of the men rather than the women though the moulding of pottery and weaving of cloth was the special work of woman.

As to the material from which arrows and spear heads were made it is evident that it was sometimes found in the locality where the arrow was used, though there were flint quarries in various parts of the country from which the material was gathered.

Flint ridge in the State of Ohio was the chief source of the material but there were also flint quarries in Missouri which



were worked by different tribes and material carried to a distance. Mr. W. H. Holmes has described these, and refers to certain obsidian quarries in California. There were also other quarries in Central America. It is probable that the majority of the arrow and spear heads were made near the quarries, some of them on the northwest coast, others in different localities.

VI. The distribution of the arrowhead is to be considered. It was not merely on the Atlantic coast that villages abounded and cornfields were numerous, but others were scattered over the prairies and beside the rivers. Far to the west there were pueblos, occupied by whole tribes who had all things in common and a supply of food was necessary for them. It is supposed that the men cultivated the cornfields as well as the women, but they followed the game from which the supply of meat was secured. Even the cliff-dwellers used the bow and arrow for their subsistence, as well as the stone hoe. On the northwest coast

there were villages surrounded by forests in which the birds were numerous. The bow and arrow were necessary in shooting these. It was the hunter's weapon as the lance, harpoon and spear were those of the fishers, though the harpoon was restricted to deep waters, while the bow and arrow were found everywhere. Far to the southwest, there were many tribes, some of which were quite advanced in civilization, but the arrow was common among them. The spear-thrower was a weapon of warfare, but the bow and arrow were weapons used for the supply of food. The cultivation of the field either here or elsewhere did not interfere with the use of the bow and arrow. Throughout this entire region, there were many cities, some in the midst of lakes; but the people had not advanced beyond the use of the bow. Mr. L. H. Morgan has invented a term to describe the people of the stone age, especially those living in the Mississippi valley and who were both hunters and agriculturists, but they used the bow and arrow. He calls them the Ganowanian race. The term has not come into general use, yet it identifies the people who used the bow and arrow, just as the scimitar identifies the warlike races of the east and the musket, the soldiers of the army, the harpoon, the fishermen, the balsas, the seamen on the Pacific coast. It does not, however, restrict the bow and arrow to any one tribe or race or locality for this was the weapon in common use throughout the two continents of America, and the term might be used instead of aborigines, and American Indians and be appropriate for all of them used the bow and arrow as their chief weapon. There is one thing about the mound builders that is noticeable. There are very few bows and arrows found in the mounds and it is questionable whether the term Ganowanian could be applied to them. If not, we must regard them as more advanced than the ordinary hunter Indian with his bow and arrow. This is not saying that the bow and arrow was confined to any one locality on the continent. But if certain tribes used the bow and arrow and the mound builders did not, the distinction between them would be indicated by the term, Ganowanian.

In reference to the distribution of bows and arrows, it may be said that they are found in all parts of the two continents from Alaska to Florida and from Greenland to Mexico. The bows and arrows however, differed according to the locality. Mr. Adolph Baudelier has described those in Mexico; Mr. Morse, those in New Jersey; Mr. Coville those in California; Mr. Mason those among the Cherokees, Blackfeet, Apaches, and the Esquimaux and Alaskans.

The different districts are mentioned, varying from Mexico to Alaska, and from the northwestern part of the United States to the western and far to the south. The material of which the bow was made varied according to locality. The cotton wood, willow and juniper, abounded in Mexico; hickory, oak, ash, walnut from the northwestern to the southwestern part of the United States. Mesquite in the south, evergreen woods and spruce in California, Oregon and Alaska; birch, willow, maple and cedar in western Canada; drift wood and timber from ships among the Esquimaux. The bow-string was made of the following material: raw-hide, hemp-sinew, intestine of animals, gristle, twine and twisted yarn. In Oregon the sinew backing is at the extremities. The string of the Cherokee bow was made of twisted bear's gut.

VII. As to the type of the bows, Mr. Otis T. Mason says the western type is broader and flatter than the Arctic type, but the Arctic type is often bent as in the Tartar bow. The Alaskan type is broad and flat and straight but narrowed and thickened at the grip. The Cumberland, Gulf type has the sinew cord passed backward and forward on the back. The warrior and hunter tinted their bows with much care. The Esquimaux was careful to unwind and straighten his bow when the hunt was over.

The savages of America were right handed. The skill of sending an arrow into the vital part of any game varied according to the tribe. Cabreu de la Vaca describes an Indian in Florida who shot a bow entirely through the body of a horse on which was a Spanish soldier. This shows the force and strength of a bow especially when in the hands of a warrior. It was superior to a spear in that respect, though spears were frequently used by the American Indians, especially in battles.

VIII. In reference to the shape of the arrow it may be said that nearly every tribe had a different one. The California tribes had one, the Pueblo's another, the Apaches another, the Texans, the Dakotas, the Sioux, the Alaskans, the Esquimaux, Flatheads, each had one. The bows also varied, some of them had a single bend and others a double bend. The double would have this advantage that it would be stouter and thicker in the middle, but the ends could be drawn so as to give greater force to the arrow. The arrow itself varied more than the bow in shape. It was sometimes short with a single short tang sometimes long with a short one. There were arrows which had no tang, occasionally an arrow with three tangs on one side—others with retiring barbs or compound barbs.

Esquimaux arrows had long feathers fastened to the shaft, sometimes without any barb at the other end and sometimes with three or four barbs. Harpoon arrows were used by the Esquimaux; some of the arrows from California and Washington, resembled those of the Esquimaux. Others from California were very long and sharp and had a very graceful beautiful shape. Dakota arrows were always short and sharp, but had feathers extending more than half the shaft. The Apache tribes had arrows without tangs but with feathers some of them extending half way up the shaft. The number of feathers on the North American arrow is variable. The Esquimaux, have two, sometimes three. The Sioux tribes have a short arrow with three eagle feathers. The Blackfeet made bows, of the horns of the Elk. The Iowas have iron headed arrows with three long feathers. The Sioux carried quivers which were very elaborate. The Beothucs had bows made of sycamore. The Apaches had arrows made of obsidian and jasper, the bows are lashed with sinew. The Carolina Indians had long arrows, headed with flint and later with glass. The Apache has a triangular piece of hardwood, shaped like a serpent's head. The Bauldric is a band of buckskin decorated with quill work. The fire bag was a pouch in which the Indian kept his flint. The quivers of the Esquimaux were made of seal skin. The notches on the end of the bow for the bow string were essential. The bow should be described with the arrow. It was made of different materials of hickory, willow and bone, sometimes with sinew on the back, sometimes with the braid extending the whole length of the bow and wrapped with cord, but the ordinary bow has no sinew and no wrapping. The arrow case or quiver is another article which goes with the bow and arrow. The quiver varies in shape and size according to the tribe. The Sioux have one kind, the Dakotas, the Apaches, the Navahos and the Esquimaux each have quivers peculiar to their own tribe. The material of the quiver varies also. It is sometimes made of skin with the fur upon it. Again it has tanned skin. Nez Perces have long slender quivers. The Shoshone's quiver is made of bear skin, the Dakota quiver of buffalo skin, the Sioux quiver is made of cow skin, the Nez Perces of beaver skin, the Cheyenne of mountain lion skin, the Navaho quiver is lined.

PERSONIFICATION OF THE NATURE POWERS.

As Observed in the Myths and Folk Lore of the Natives of
New Zealand.

BY ELSDON BEST.

The animistic conceptions of the more primitive of the races of mankind illustrate a peculiar mental condition from which the most advanced peoples have, apparently, not yet wholly emerged, inasmuch as many examples of such concepts may still be noted in modern literature and thought. The universal animism observed among all primitive races assuredly dies hard, showing that the tendency, or impulse, among them to endow inanimate objects with divers faculties, as also to create personifications of the elements, etc., must have been remarkably strong. The many instances of personifications met with in native myths, beliefs, etc., is most striking, and forms a quaint and attractive feature in all Polynesian folk lore.

In studying Polynesian anthropogeny we find that the *anima mundi* theory is essentially a Polynesian idea, for both earth and sky are, in native myths, endowed with the faculties of speech, thought, feeling, etc. RANGI, the sky parent, and PAPA, the earth mother were, in the night of time, closely attached to each other, so much so indeed, that light could not penetrate between them, hence the offspring of this primal pair dwelt in gloomy darkness upon the breast of the earth mother. These offsprings were somewhat numerous, the better known ones being the origin, tutelary deities, or personifications of war, peace, wind, cultivation, trees, birds, etc., etc. Man is descended from two of the most important of these wonderful beings. TANE and TU. But the latter is also the origin and personification of war and strife, while the former was the parent or origin of birds, trees and all vegetation, as well as of man. It is of interest to note that TANE bears different names. He is known by one name as the origin of man, by another as the origin of trees, and by another as the origin, or parent, of birds. This peculiarity in the nomenclature of gods carries the mind back to the old time myths and religions of India and Chaldea.

Among these children and grandchildren of heaven and earth were many other weird beings, such as WAINUI, the origin and personification of water, of rivers, streams, lakes and oceans

Also TANGAROA, the Maori Neptune, origin of all fish. Many of these are still identified by natives with whatever descended from them, or which they represent. If a native sees a tree fall, he says "TANE has fallen." If he takes a haul of fish, he will cry "TANGAROA is slain." When engaged in felling a tree which over-hung my tent, one day, a native passed up the trail, paused and said "You are interfering with your ancestor TANE."

When the offspring of the primal parents wearied of dwelling in darkness on the breast of the earth mother, they rebelled against their parents and forced them apart. Then were heard the wailings of RANGI and PAPA as they were torn apart. Even so their love for each other still continues, as you may see for yourself. The sky parent still sheds tears for the earth mother, and those tears descend in the form of rain, while the tokens of PAPA'S affection are the white mists which are seen, at early morn, ascending from her broad breast.

In some of the old Maori myths we note that man was also descended from the sun, for the sun was another descendant of the primal twain, heaven and earth. And it fell upon a certain fine day that the sun thought to confer some boon upon man who dwelt in the world below. Even so he sent his own son to earth, and this son dwelt there for a space with one MAHUIKA, a lady of parts, and this woman gave birth to five children. These were the Fire Children, and their names corresponded with those of the five fingers. Hence this woman became the custodian of fire for all time. When men saw what a fine thing was fire to possess, it was MAUI, the hero, who went to MAHUIKA in order to obtain the same. But MAUI, who seems to have been a bit of a buffoon, played such scurvy tricks on the fire queen, that she caused the fire to pursue him. The fire seeker was now in a sorry plight, until he called on the gods to send a rain storm, which quenched the fire. And the fire fled into certain trees, thus finding a refuge for all time. For it is the wood of those trees that has ever been used by the Maori people when generating fire. Thus fire is ever known to natives as the Fire of MAHUIKA.

There are several personifications of the rainbow in Maori folk lore. One of the principal ones is VENUKU. A hero of this name, who dwelt on earth in times long past away, while taking his walks abroad one fine day, hied him to the banks of a stream wherein he espied a most beautiful maid. This fair virgin had descended from her celestial abode in order to bathe in the waters of the lower world. She became the wife of VENUKU, but never abode with him during hours of daylight. She came

to him after the shades of night fell, and returned to realms above before dawn. By means of a cunning trick her husband detained her one morning until day broke, in order that he might exhibit her to his people. Hence the heavenly maid left him and returned to her former abode in the heavens, nor did she ever return to him. Hence her husband became sad of heart and wandered for many years in far lands in search of his wife, but never again the twain met. Even so our hero at last died in a far country where the sky hangs down, and may be seen by man even to this day, as he appears in the form of a rainbow. His fair bride is said to be the personified form of the white mists which are seen rising from these forest lands when dawns the day across the green earth.

WAINUI, the personification of water, shelters and cares for all her charges, such as fish and aquatic plants. In the beginning of time the freshwater fish asked her: "What are we to do?" The mother of waters replied "When you see a red glow in the sky that is a sign that you are to return to me, that is to the ocean, in order that you may bring forth young." Hence we see these fish hurrying down to the sea when winter approaches.

There are also personifications of floods, gales, lightning, the different winds, etc., to be met with in Maori myth, in fact almost everything had its animated form, which all appear to be viewed by natives as being of an anthropomorphic nature and possessed of human faculties.

The sun is spoken of as a male being, who has two wives named the Summer Maid and the Winter Maid, and he dwells half the year with each wife. The stars are also spoken of as though they were persons, the more conspicuous stars and planets are termed the chiefs, the smaller ones are the common people of the heavenly tribe. For instance, REHVA (Antares) is an important chief, who has two wives who are represented by two small stars near him. WHANVI (Vega) is another important star, and his appearance above the horizon was the signal for the lifting of the sweet potato crop.

In studying Maori folk tales we often find that inanimate objects, such as mountains, trees, etc., are therein gifted with powers of speech and locomotion. Thus the mountains of the North Island are spoken of as marrying, their offspring being rain, snow and hail. Some of them migrated to fresh pastures, as Mts. Egmont and Edgecombe.

Again, many forest trees, and even rocks, are looked upon as being demons, usually of a somewhat malevolent or mischievous disposition. Such items are endowed with certain supernatural

powers, and the indwelling spirits were, in former times placated by offerings by travelers. The spirits of the land were supposed to dwell in certain rocks or trees, or to be represented by such, and travelers, when passing such objects, would cast an offering, such as a stone, or branchlet, at the base thereof, repeating at the same time a brief charm. This rite would ensure them freedom from being molested by the spirits of the land during their journey.

The above notes represent but a portion of the animistic concepts of the ancestors of the Maori people of New Zealand. Ever throughout the traditions, myths and religion of the old-time Polynesian race we find innumerable instances of a belief in the male and female principles in nature. This line of thought has been followed in a highly curious manner, some of the resulting ideas and beliefs being of a somewhat startling nature. But these views and beliefs will never be placed on record, for modern civilization is overwhelming the Maori, and the white invaders can never grasp the true inwardness of the native mind.

GLIMPSES FROM ANCIENT ARMENIA.

T. B. KHUNGIAN, B. D.

The modern antiquaries, in the light of recent explorations, tell us that the first rulers of Assyria were priests and kings, who reigned from 1800-1500 B. C. and that many of them were tributaries to the Pharaohs of Egypt, whose dominions had extended as far as the River Tigris. Then came the original Assyrian kings, who, after having been liberated from the tributes of Egypt, and having brought Babylon under their sway, began to make conquests, at the middle of the 12th century, and the surrounding countries were made tributaries. From that time on, the inscriptions throw light upon the histories of those countries, that have come in contact with Assyria, and Armenia is one of them that grappled with her; hence we take up the history of Armenia of that period, to see what light the monuments throw upon it.

According to the inscriptions, ancient Armenia was a confederate kingdom comprising many principalities in her boundaries. Among them, the important possessions occupy: *First* the kingdom of Urarta, which was at the center of the country, and by her power and extensive territories, her influence was felt in the surrounding kingdoms. *Second*, Manna, or Minni of Jeremiah 51:27, (now called Van) on the southeast shore of Lake Van. *Third*, Musasir (now Moush, or Mush), or Arsisa (now

Arjesh), northwest of the same lake. *Fourth*, Nairi, in the upper part of the Euphrates and Tigris, comprising the two (Altzri and Tzop) southwest states of Armenia. *Fifth*, Millit, on the west of Nairi, with her capital Melitene (now Malatia). *Sixth*, Miltis, which is supposed to be the modern province of Erzeroom.

Of these confederate states, Musasir and Miltis were always connected with the central kingdom, Urarta, and led many campaigns against the Assyrian conquerors to liberate the southern part of the country, i. e.: Manna, or Minni and Nairi, from the influence of Assyria, as some part of it was possessed by the monarchs of Nineveh. Tiglath-ha-pel-aser I. (1130 B. C.), the Tiglath-pi-le-ser of the Scriptures, wanted to subjugate the entire country and led a campaign, the result of which we find on a monument, that reads as follows: "I passed the inaccessible precipices, and entered the impenetrable land, which 'from days immemorial, had not known subjugation, and where none of the former kings had ever trodden. I went through impassible roads, and thick forests; and like a flood of deluge, I overwhelmed, I fought, and a destruction of them I made."

The tribes that lived on the eastern banks of the upper Euphrates, did not make much resistance, and were subdued, but the difficulty arose when Tiglath crossed the Euphrates, and entered into the land of Nairi. Twenty kings of Nairi gathered up their armies, and bravely fought against the common enemy, the Assyrians; but having been badly defeated, their sons were taken into captivity, and their cities were destroyed. In the region, from whence the river Tigris takes its waters, there is a monument erected by this monarch Tiglath-Pile-ser that he has conquered the land of Nairi three times. The inscription, however, is sufficient to prove that the people have been constantly fighting for their freedom; and that they were always watching for an opportunity to throw off the yoke of the alien, and indeed in the days of the coward successors of Tiglath, Nairi regained her independency, and was free from Assyrian interference for a long time.

Asshur-Izir-Pal (882-857) was the first who attacked Western Armenia, or the upper part of Nairi. The inscriptions on his monuments say, "The nations, not being able to fight in open fields withdrew themselves into the inaccessible mountains, and sought refuge in the lofty summits, so that I may not pursue them, for their majestic heights pierced the skies like drawn swords, and only the fowls of the heaven, could soar up to their

tops. After three days, I ascended upon the mountains, and terrified them in their shelter. Their corpses covered the slopes of the mountains like the leaves of trees; and the remnant fled into unapproachable caves." He then attacked the district Garki or Gurkie, where "I drew my sword," he says, "and cut off 260 heads of warriors, and made towers of them." This attack was repeated in 880-879. After this, he entered into the land of Garki for the second time of his expedition. He says, "They left their strongholds and fled for their lives, toward the strong land of Madni. I pursued them, and spread the corpses of thousands of their warriors upon the mountains. I covered the hills, filled the trenches with their dead bodies. I captured 200 of them alive, and cut off their heads."

Asshur-Izir-Pal, then directed his weapons toward the east, against the kingdom of Manna, or Minni; but not finding any accessible way, he left his chariots and horses, and went forth on foot, as he tells us; "At the mountains of Arima (Armenia), a difficult district, which was not suited for the passage of my chariots, I left the chariots, I took the lead of my soldiers." While he was thus fighting for some part of Minni, he learned of another rebellion in the western district and falling back from that hard task, he wanted to march on Nairi for the second time; but another more dangerous rebellion compelled him to return home.

This warrior was succeeded by Shalmeneser II, (857-822), who conquered Nairi and kept it under his sway, till his death.

Shalmaneser made preparations for the conquest of Minni, and a great war broke out between the kings of Urarta (Ararat), and those of Assyria, that lasted many years, and caused much bloodshed. According to inscriptions, the kings of Nineveh, though they had some brilliant victories yet they could not subjugate Urarta, the central government of Armenia. For the first time the Assyrians entered into the land of Urarta in 841 B. C. During that time, Aram was reigning in Urarta, and went forth with his confederates, to measure himself with Shalmaneser, but was defeated and the same thing happened to Saturi, his successor. Shalmaneser defeated the latter twice, once in 832 and again in 829. But, notwithstanding all these campaigns, the country yet remained unconquered, for not only the kingdoms of Urarta, but also those of Nairi and Minni kept up the battle against the Assyrians.

Shamas-Vul II, (822-810), the son of Shalmaneser led two important campaigns against Minni, but with very little result.

Shahmanezor III, (780-770), was quite busy in fighting with Urarta during his reign, leading six great campaigns against this powerful kingdom of Armenia; but he was not crowned with any victory, as none are to be found recorded on his monuments, as he always did his other brilliant engagements. From that time on, Armenia was free from the interference of Assyria, until Tiglath-pileser II mounted the throne (745-726). This conqueror marched twice on Urarta, defeated King Sardu, and made him tributary.

This close relation of the Armenians with the civilized nation like the Assyrians, produced invaluable results, i. e., they adopted the latter's culture, the trade, the architecture, the civilization and the science of lettering. Beliguris brought scribes from Nineveh, to record his achievements in cuneiform inscription in their own tongue, which they did in a style characteristic of the Assyrian monarchs, i. e. full of eulogy, and titles due to immortal beings only. Thus the language of Nineveh was once the classic of Armenia, until in the reign of Ispuinis I. who made some necessary changes in the cuneiform characters to fit the vernacular; and who began to record the royal achievements in Armenian. This, as a matter of fact, opened a new era in the Armenian literature and culture.

Ursa, (according to some, Heratchie, the fire eye) the king of Urarta, was one of the most formidable enemies of the Assyrian empire. At the head of his faithful allies he endeavored to liberate Southern Armenia from the Assyrian influence, and devised every possible means to obtain the end in view. So he attempted first to alienate the king Iranza of Minni, from Assyria, and when he failed in that, he then secretly caused his people to revolt against him, in which he was successful. King Sargon of Assyria (721-704) hastened to help his ally, Iranza, and promptly captured the cities Swantakul and Durduka of Minni, that had united with Ursa, and set them on fire, and the population he removed to Assyria, in 719. He then determined to carry on his war against Ursa, but was compelled to retreat home, on account of some uprisings that took two years to put down; and when he came again to Armenia, he found that Iranza was dead and was succeeded by Ulusun, who had given twenty-two fortified cities to Ursa, as an indication of his loyalty.

Sargon marched on, and having put Ulusun to flight, devastated all the country that lies between Lake Van, and that of Urumia. Bagadathy (Diodatus), the king of Miltis mountain fell into his hands, and he was skinned while he was yet alive, and Ulusun, having been terrified by this act "fled like a bird"

as the monument says, but afterward came back and kissed the conqueror's feet and Sargon pardoned and re-established him on his throne. Ursa, too, was about to fall into Sargon's hands, but another commotion constrained the latter to carry his weapons toward the south, in 716. During this retreat, Ulusun revolted once more against Sargon by the inducement of Ursa, but the reappearance of Sargon in the field was sufficient to suppress the rebellion. After having conquered the northern regions of Media, Sargon finally entered into the lands of Ursa, the fire-eye, in 714; and the latter went forth to fight him but was terribly defeated and fled into the mountains where he wandered five months. His land was devastated by plunder and fire; and the cities were handed back to Ulusun. The King Urzana of Musasir, the last ally of Ursa, was likewise defeated by Sargon, and when Ursa received these tidings, he committed suicide in the arms of his lords.

These incidents are brought to light by the Khorsabad inscription which contains exceedingly interesting details, and we think it is of sufficient importance to give it here. It reads as follows: "While Ironzu of Van (Minni) was alive, he was loyal and faithful to my sovereignty, but destiny took him away. King Ursa of Urarta, united with the people of Miltis, of Zigardu, of Mist and mountains, and the chieftains of Van, induced his subjects to revolt. They left their master's corpse on the mountain. Ulusun of Van, Aza's brother, was placed on the throne. He adhered to Ursa, and gave him twenty-two strong cities, with their garrisons, and in the warth of my heart, I mustered the whole host of Asshur-god, and went to attack him."

"Ulusun of Van, having heard of my approach, came out with his soldiers, and stood in a safe place, in the strongholds of high mountains. I captured his capital city, and laid it in ashes, and the strong cities, Izibia and Armid, and slew all that belonged to Ursa of Urarta. I slew them in their high mountains. I seized 250 persons with my own hands from his family. I captured fifty-five walled cities, of which eight were common cities, and eleven were inaccessible castles. The twenty-two cities of Ulusun, that Ursa had captured, I took and united with Assyria. Then Ulusun came down from the high mountains, with the swiftness of a bird and fell at my feet. I forgave him his innumerable faults and gave back his country. I established him on his throne in his kingdom. I gave the strong castles, and the twenty-two cities that were taken by Ursa, and tried much to pacify his land. The King Urzana of the city of Musasir, relying on the King Ursa of Urarta, refused to obey me. I took the city

of Musasir with my almighty power and sagacity, and he (Urzana) fled to the mountains for refuge. I dealt masterly with Musasir. I took his wife, his sons, his daughters, his castles, and all the treasures in his palace. I led 2,000 men into captivity. I took Haltia (Khaldis), and Bacabard, the gods of Urza, as well as the gods of Urzana and their sacred vessels. Having heard of the capture of Musasir, and the gods of Haldia and others, Urza stabbed himself with his dagger, and dies in the arms of his lords."

Urarta, was not, however, conquered with the death of Urza. His brother, Argistis (Sgaworti) succeeded him, carried on many successful campaigns against Assyria, and recovered the lands that were lost by his brother. The Assyrians could not maintain in their possession even the land of Minni, for which the war had been started. Argistis drove them out of the provinces that they had occupied, and having united them with his dominions, built a new city for his residence, on the shore of Lake Van. For this purpose, he brought many architects from Nineveh, who enlarged the citadel with many beautiful and important edifices. Argistis' name, and especially his achievements, cover a large space in the Vannion cuneiform inscriptions, and leave the impression, that the city built by this monarch, was the present city of Van, which is full of ancient ruins. After these events the inscriptions are silent pertaining to Armenia, until the fall of the Assyrian Empire (708-606); and their silence for a century, may be for one of the following two reasons; viz.: Either Armenia was entirely independent of Assyrian influence and contention, or the engagements between the two powers, if there were any at all were very likely disreputable to the Assyrians and were therefore not put on record.

Armenia, however, has an indisputable record, with which it may be said, that she was absolutely free from Assyria in the VII century; and it is this, that Adrammelech and Shareser having killed their father Sennacherib, sought an asylum in Armenia, and found a cordial reception there by Sgawarty, King Baruir's father, in 680 (2 Kings 19:37). This incident clearly shows, that if Armenia was connected with, or had been under Assyria in any way, neither would the assassin princes have dared to flee there; nor would her sovereign Baruir have received and given them settlements in his dominion.

WORSHIP AMONG THE DRUIDS.

"The simplest, purest and most ancient form of public religion of the Druids seems to have been the worship of the celestial luminaries and of fire. The sun appears to have been adored under the name of Bel or Baal, by which he was distinguished as a divinity in the paganism of the East.

Another most remarkable principle of the primitive Druidism appears to have been the worship of the Serpent, a supposition so widely extended, as to evince its derivation from the most ancient traditions of the human race.

"Caesar, 48 B. C. saw a similarity between the Bruts and Persians in their mode of warfare." See Cabinet History of England by McFarlane. There are symbols in the upper half of pictograph, see page 190, C.D., that belong to Druidism. The goat for instance. This is the symbol capricorn in the Zodiac. This is claimed as such in our M. S. and there is also a chart calendar. Symbols used for numerals in marking the same thus; representing 90 degrees, 45 degrees and 23 $\frac{1}{2}$ degrees respectively. These same symbols can be seen as belonging to those found in the Mississippi Valley. See Connant's Foot Prints of Vanished Races, or Adams' Vanished Races of the Mississippi Valley. They are in one, if not in both.

BOOK OF THE DEAD COMPARED WITH THE BIBLE.

BY JOSEPH OFFORD.

"The Book of the Dead" was the oldest of the sacred books of Egypt. It was in universal use and in reality was the Bible of the Egyptians. It differed from the Bible in that it had to do mainly with the future life, and contained very little history. Whatever articles of belief the Egyptians held, they hoped to travel the regions that lie beyond the tomb. These was a progress in the thought, for a new ritual arose in the Theban period. The book of the other world was one in which the text is illustrated by pictures. An apocalyptic chart resting on an astronomical basis is contained in it. Each hour is represented as a separate locality in the world of darkness, but the barque of the Sun-god glides along. The gates are opened by the magical power of the words which the Sun-god utters, and other guardians receive him in peace. There were dangers to the soul, for the river of life is a duplicate of the Nile with its banks, its fields and its cities; but there was no land of everlasting happiness except that to which they could look forward. In this the

"Book of the Dead" corresponds with the Bible, or at least the view which is drawn from the Bible, though there is no such personal God as is described in our Sacred Book. Their supreme end was to accompany the Sun-god in his barque, as he passed each night through the twelve regions of the dead. The most of them, however, were stopped in the regions through which they passed. It was only the friends and followers of Ra who accompanied him in his journey through the other world. The banks of the Eternal river were lined with strange and terrible monsters. Fire breathing serpents are prominent. These light up the darkness for the friends of Ra, but they burn up his foes with their poisonous flame. The gates which shut the hours off became fortified pilons guarded by serpents, breathing fire. Now in this we find striking analogies between the Bible and the Book of the Dead. It is true that the solar theory or horology was prominent in the Book of the Dead, and the sacred numbers such as the triad and twenty, are prominent, but along with the doctrine of the resurrection of the body, there is the idea of a judgment to come. There are other analogies between the Book of the Dead and the Bible, for there were foregleams of the Son of Righteousness. An Egyptian priest had said, "A King shall come from the south, the 'Truth-declarer' by name. He shall be the son of a woman and will be born in the south. The people shall rejoice and establish his name for eternity. They shall be removed from evil, and the wicked shall be humble for fear of him." There was even a belief in the "Virgin birth" of their God, which goes back to the 18th dynasty.

Another point of resemblance is found in the thought of the future which was very prominent in the "Book of the Dead." The objects which the dead had loved in this life were laid in the grave. Toys for the children, mirrors, and jewelry for the women, the staff and seal for the men. The dead were no longer mere ghosts, able to play havoc in the realms of darkness, for the Lord of heaven claimed power to raise the dead to life. The gods were with men beyond the grave as they are on this side. In other words, there is a life in the next world beyond the grave. It may be a very shadowy life but it is, nevertheless, life. There comes a time when the ghost is transformed into a soul, whose nature is the same, as the gods themselves. This conception of the soul had already arrived in the age of Sargon, who was the founder of the Semitic empire which extended to the shores of the Mediterranean.

The deification of man and a belief in the higher destiny of the human soul can be traced back to an early period in the Semitic history. To the Egyptian, the present life was but a preparation for the next life, not only a spiritual but a real life beyond the grave, for the Ka, or soul, was supposed to live in the unseen world but to be near the friends who were still living. It was on this account that the tombs were built in such a way that the Ka, or soul, could emerge. There was also a place in the tomb in which the living could sit about the table and partake of food while the Ka, or soul, could come out from the tomb and partake of the viands which were sculptured on the walls.

There are other analogies between the "Book of the Dead" and the beliefs which we have inherited, but which have come to us from the Bible. The seven days of the week were derived from the period of the lunation and the revolution of the earth upon its axis and in its orbit. The Egyptians name the seven days after seven planetary bodies. The dedication of the days to the planets originated in Egypt, though the names which we give to the days of the week came from the Teutons.

THE HISTORY OF COINS AND COINS IN HISTORY.

The earliest coins represented objects of nature, such as trees, serpents and other creatures. The lion and lamb, symbols of sacrificial rites, were also used. One coin had a griffin's head and a sitting figure of the griffin with curved wings. At Obdera, a lion's head and a fish were placed on the standard of Cyzicus. The Lydians were the first to coin gold. A coin with a ewe lamb, a bull and lion has been found at Sardinia.

Ancient Greek shows an advance. On these may be seen the lamb, clover-leaf, the winged horse or pegasus, a bunch of wheat, the wild boar, and swastika. Later on the Greek coins began to have the heads of emperors. The punch mark of Alexander, King of Macedonia, with date, 500 to 450 B. C. on one side, a horse and warrior with the Macedonian hat on the other. The coin of Getas, King of the Edoneans, was similar to that of Alexander of Macedonia near Thessaly where there was an abundance of silver ore. They were of great weight and contained inscriptions in Ionic letters.

The simplicity of the early coins well represented the early stages of art and literature as well as mythology, for literature and mythology were in reality synonyms. Later on, there appeared coins which represented a much higher stage of art and thought.

The Hellenic colonies of Sicily and Italy, seem to have carried art with them, thus confirming the story told by Virgil. There were at this time coins in Italy which showed the owl. Greek coins appear with winged griffins, and horses drawing chariots, a lion attacking an ox. The crowned heads of Jupiter, Persephone and Archelaus of Macedonia were also given on coins.

Archaic art was demonstrated by coins. The head of Minerva, of Bacchus, with centaurs, rudely designed as compared with the eagles of Tarentum and of the Ptolemies, and the bull and lion of Greek workmanship. Athens in which the acropolis was named after Cecrops, being supposed to be founded by him, possessed coins, which at first were rude, but the animals on Greek coins were not without elegance, and the wreath of olive showed much delicacy of touch. These coins show the sacredness of the olive tree, as the figure of the palm tree in Assyrian art showed the sacredness of that tree to the Assyrians. There was a growing tendency toward anthropomorphism. The same tendency appeared in prehistoric America, but was manifest more by the sculptured art than by the coins. The mythologic art of the remote ages is shown in the coins. The fylfot is not found in Egyptian or Babylonian monument. Its place is taken by human and animal figures. In America, nature powers were transformed to men of strength. Hitzilipochtli was a humming bird, Tezcatlipoca was a tapir, but finally, Quetzatlcóatl was a royal youth who suffered wrong from the hands of an enemy. There were no coins in America to represent these figures. But the coins of the far east represented the divinities which were worshipped.

Arsaces-III, a brother of the founder of the Arsacidae and the grandfather of Mitlindates, left coins which represent the history of that period. Artixerxes did not affect the coinage so much as his predecessors but the coins are of similar weight to those of the Arsacidae. Sassanian coins are found in India and even Afghanistan. The portraits on the coins of this race wear above the tiara a massive drapery of circular shape. The same may be easily recognized on the rock-cut sculptures described by Porter. This history of the early coinage would not be at all complete, but for the coins of India. It appears that the Greeks with their conquests under Alexander overran not only the entire Syrian empire, but even Bactria, Parthia and India. Alexander the Great extended his conquests far to the east. His cities bear figures wearing a headdress formed from the skin of an elephant and the tusks just as the coins of

Antiochus represent him with the same drapery, one evidently borrowed from the East Indies. After the Greeks, there arose in the east the Scythian conquerors who seemed to have swept the last remnant of Greek and Parthean power from Bactria and India, yet they adopted the coinage, which they found in use just as Darius the Persian adopted the Greek coinage he found in Asia Minor; Scythian coins, however, appear about this time. It was not necessary that letters should have been placed on the coins, or even figures, though the figures may be essential as indices of the time or period to which the coin belonged.

It appears that there was, on the early coins a strange mixture of animal figures with numerals and inscriptions for dolphins play a secondary part, when ranged around the heads which represent the sea kings, just as crowns of sedges set off the heads of river deities. These dolphins may indeed be mingled with quadriga of four horsed chariots on a small scale, yet treated with the skill that Phidias expended on the larger works of art.

EGYPTIAN ANTIQUITIES IN HUNGARY.

The collections of ancient Egyptian monuments in the national museum of Hungary at Buda Pesth, are not so well known as they deserve to be. From time to time they have been described by Dr. Ede Mahler in the *Archeological Ertesito*.

The sepulchral *Stela* are well represented by a series of specimens of which the most valuable is that of Noferrhmit who was commander of a regiment of Matoi mercenaries under Thothmes III. This Matoi tribe, or nation, lived to the south of Egypt and was of negroid type. We hear of them in the Egyptian records as far back as the sixth dynasty, at which date they were useful as "dahabieh," or boat-builders, for the Egyptian Nile flotilla.

Noferrhmit's tomb tablet is of red granite, rounded at the top and inscribed in a somewhat ordinary style with three zones of scenes and hieroglyphics. The upper one has a winged scarabeus, and an invocatory text; the central one shows the deceased offering the funerary feast to Amen-Ra; and the lowest part a standing figure of the defunct and eight lines of a religious formula.

A second stele is of one Sehotep, an overseer, or inspector, under Amenemhat III. The monument is of limestone, and its pictorial and inscribed face may be divided into four registers. First; the royal cartouche with two guardian figures of Anubis, Conchant, and a short text offering provisions to the king. Then three lines of inscription, giving a sacrificial ritual; followed by figures of Sehotep and his wife, seated before a table of offerings, with two of their children in front of it, presenting the meal to them. The fourth, or lowest tablet shows ten of their offsprings also all supposed to be taking part in the function, and their presence on the memorial in effigy doubtless was magically considered as insuring the annual repetition of the funerary meal, should they omit to actually celebrate it.

Another interesting stele is that of Nefer Ameny, who was scribe, or recorder, of the palace of a Pharaoh, probably of the twelfth dynasty. It is made of terra-cotta. Another specimen of the nineteenth dynasty era; the memorial tablet of a person named Pet-hru Hr-ms, depicts the "Table of Offerings" three times. First the deceased presenting it to Osiris; then he, and his wife, receiving its foods, and thirdly three of their sons and three of their daughters, seated around the table at the repetition of the funerary feast.

One stele is memorable because it shows Anubis as a jackal. "The guide to the way of the west," not proceeding on foot up a *wadi*, or valley, to the western hills, but journeying sunsetwards in a boat.

A fragmentary tablet with four lines of hieroglyphics is, judging by their style, of very early date, about the sixth dynasty. It was found in 1852 when excavating for building a house in Buda Pesth, how it arrived there is quite a mystery.

The museum also possesses two kneeling figures of eighteenth dynasty priests of Amen, presented by Prince Antal Esterhazy. One of the finest relics in the Buda Pesth collection is the bust portrait head of black granite of a Pharaoh, possibly Amenemhat III, about 1430 B. C. The face is somewhat mutilated, but the serenity of the features, so marked a characteristic of the royal portrait statues of the period, is well indicated. The side lappets of the head dress fall down upon the shoulders and are pleated, whilst at about the middle of each lappet it bends forward at a slight angle as it passes above the level of the ears, in order Mahler thinks, to give the appearance upon each side of the head, of the neck of two asp serpents, indicating the Pharaoh's power to strike his foes.

RECENT DISCOVERIES IN GREECE.
ORIENTAL NOTES.

By DR. C. H. S. DAVIS.

Recent researches which have been made by the German Oriental Society at Babylon and Assur have resulted in the discovery of what are believed to be traces of the destruction of Babylon by King Sennacherib of Assyria, in 689 B. C. The German scientists were able to unearth the so-called "Southern Castle" in Babylon, a splendid example of a magnificent Babylonian royal palace. They have also ascertained that the "Wall of Babylon" really consisted of three walls, all built of clay bricks. The inner wall was nearly twenty-three feet thick, then came a space of thirty-nine feet; then a second wall twenty-five feet; then another space, and finally an outer wall nearly eleven feet thick. Many private houses were unearthed which contained valuable relics of the distant past. At the greatest depths hitherto dug, were found the remains of human bodies without coffins, which by their position in some cases suggested that they were the skeletons of those who had been killed. Prof. Koldewey believes these skeletons are those of the defenders of Babylon from Sennacherib. The researches at Assur have resulted in the discovery of a large portion of the fortifications erected around the western outskirts of the town. The length of the unearthed fortifications is about two and a half miles. They consisted of clay and brick walls, also stone walls, bastions and towers flanked by a deep moat. The investigation of the temple to the gods Anu and Adad has not been completed.

The news from Dr. Evans at Knossos is exceedingly good. He has been working all the season in the large house which lies to the west of the palace, but unfortunately is deeply buried under the talus of a hill. With great labor Dr. Evans has now reached the further limit of this building, and on his way has found much. A magnificent steatite vase in the shape of a bull's head, with inlay of cut shell about the nostrils, and with crystal eyeballs, the iris being painted on the back of the crystal, reveals to us a new technic.

In another quarter, on the north, a great hoard of bronze implements and utensils, including a large tripod cauldron in perfect preservation, will much increase our knowledge of the finer domestic apparatus of Minoan civilization. As Dr. Evans speaks

of having unearthed a great number of early vases with these tools there should be no difficulty in dating the latter and thereby getting standard forms.

On the south of the palace a range of buildings has been found at a lower level, largely buried under debris of the palace itself. The latter includes a mass of ivory fragments, the remains of carved caskets and of fresco paintings. Inside the south building, under a staircase, a small hoard of silver vessels has come to light—some bowls and a jug. These will be welcomed as first fruits of that work in precious metals which so greatly influenced the ceramic artists of the middle Minoan periods, but has generally disappeared; we hear, too of fine vases of various kinds, one with papyrus plant ornaments in relief and others in the best "palace style." Work is also proceeding actively on the restoration of the royal apartments on the east of the palace, and every effort is being made to get into the great dome tomb found last year, and to find other tombs.

In a handsomely illustrated volume entitled "The Palaces of Crete and Their Builders," Prof. Angelo Mosso presents an account of the excavations in Crete, which carry the history of the Cretans back authentically to the neolithic period and furnish much interesting material for archaeologists, historians, anthropologists, and antiquarians generally. According to Prof. Mosso, the excavations in Crete ought to make a final end of the exploded but still popularly taught and generally believed "Aryan Race" myth invented by Bopp and spread abroad by Max Mueller, the theory which argued from certain similarities of language, the common origin of what is termed the Indo-Germanic nations.

Skull measurements supported by other archaeological evidence found in the Cretan excavations show that the Cretans of the neolithic age were of the Mediterranean type of long-headed folk still found in the Mediterranean countries, and the same archaeological remains prove conclusively that throughout the so-called Minacan and Mycenaen epochs of Cretan civilization the human type remained identical. "They lack the characteristics of the hypothetical Indo-German race," says the author, "yet they are the ancestors of that stock which has revolutionized the world by means of intuitive reason and aesthetic feeling." In other words, the culture and strength of the Mediterranean civilization did not come down out of the German North or have its far away beginning in the lofty regions of the Pamir.

The Cornell University's expedition of exploration to Asia Minor and the Assyro-Babylonian Orient has arrived after a fourteen months' campaign in the Sultan's domains. The expedi-

tion consisted of Dr. A. P. Olmstead, B. B. Charles and J. E. Wrench. It left America early in 1907 and spent the early spring visiting the main historic sites in Western Asia Minor. To the south of East Konia a large number of prehistoric sites was discovered. The party traveled overland from Aftun-Kara and Hissar on the Anatolian railway to Bagdad, and returned the same way.

After visiting this country of Phrygian monuments, a short time was spent in Ancyra, making a squeeze-paper impression of the "Monumentum Ancyranum," one of the largest classical inscriptions known. Then a few days were spent in Boghaz-Keni, the capital of the Hittite empire, whose history has become known only during the past decade, and whose language is still undecipherable. The party next visited Caesarea, whence it made the ascent of Mount Argæus, the highest mountain in Asia Minor (15,000 feet). After studying the northern slopes of the Taurus, during this time they discovered a number of new Hittite inscriptions, as they also did at Aerosa, in higher Cappadocia. At Malatia, a place mentioned on the Assyrian inscriptions of the eleventh century B. C., the party uncovered a large Hittite lion in half relief.

From Malatia to Bagdad the post road was followed as far as Diarbekir. Throughout this region, as well as in Assyria proper, which was especially studied, the party was able to make vast additions to the knowledge of Assyrian topography. During the stay in Bagdad the Americans spent some time with the Germans who are excavating in Babylon, where they have uncovered the great palaces of King Nebuchadnezzar and his father, together with the city walls and many temples. In the Tektek mountains a ruined fortress and a bas-relief of Buddha were discovered.

One of the expedition's unique fields of labor has been the collection of fragments of pottery from the various historic sites visited. Such work on so large a scale has never before been attempted. The pottery on over 300 sites was studied, and enough fragments were collected to rival the results of the ordinary excavation. The route map of the expedition covered a distance of over 3,000 miles. Many corrections were made in existing maps and many unexplored localities were crossed. In addition to these main lines of work, many squeezes of Latin, Greek, Syriac, Arabic and Assyrian inscriptions were secured, thousands of photographs taken, and many temples and other buildings placed.

Professor A. Deissmann, now of the University of Berlin, has recently published at Tubingen, "Licht vom Osten." In this work he will utilize the wealth of recent finds, especially in the papyri

of Egypt, that throw so much light on the language, literature, civilization, and religion of the first decade of Christianity. A large number of important texts are to be reproduced in facsimile, some for the first time. The book is written not only for the specialist, but for scholarly readers in general.

The Imperial Ottoman Museum of Constantinople is making systematic excavations of the territory of Notion, south of Giaurkjai, in Asia Minor. Up to the present time the work has consisted chiefly in laying bare the remnants of the temple of Apollo Clarios. Thus far the finds include inscriptions showing the purpose of the building, tombs of various kinds, jewelry, some of pure gold, instruments in bronze and terra-cotta figures.

The American Exploration Society will publish the results of excavations by the Wells-Houston-Cramp expeditions to Crete in a form attractive to collectors as well as to archaeologists. The publication is edited by Mrs. C. H. Hawes (Harriet A. Boyd), who headed the three expeditions. More than 500 objects are classified and illustrated on twenty-four photogravure plates, eleven in color. The yield of the soil at Gournia, Vasiliki, and other prehistoric sites is fully described (with plans), and readers are given a synthesis of Cretan discoveries and the links which connect these discoveries with the ancient civilization of Egypt and with the youth of Europe.

The German Emperor has given Professor Dorpfeld, director of the German Archaeological Institute in Athens, \$1,250 for the purpose of starting excavations on the site of the ancient Pylos, which Dr. Dorpfeld places at some distance from the modern Pylos. A portion of a palace, believed to be that of Nestor, was discovered there last year.

The British excavators at Sparta have made an important archaeological discovery. In the precincts of the Temple of Artemis Orthia and partly beneath the sixth century temple discovered in 1906, was found a smaller temple of the eighth or ninth century before Christ. It was constructed to contain a primitive wooden image of the goddess. It was roofed with painted tiles and built of unbaked bricks set in a framework of wooden beams. It is apparently the oldest Greek temple yet discovered. It was at the temple of Artemis (Diana) Orthia that the annual ceremony of scourging the Spartan boys to test their courage took place.

The treasures brought to light by building operations in Rome the past year have been abundant and important. In the convent garden of Santa Susanna, the site of the new Ministry of Agriculture, a section of the so-called Servian wall, the remains of a prehistoric necropolis, and some curious gold bracelets were

found; outside the Porta Portese a number of tombs of the period of the empire, a fine statue of a woman, a portrait bust of a man, fragments of bas-reliefs with inscriptions, and the cover of a sarcophagus bearing a full-length reclining figure with a boy standing beside it; at the Villa Patrizi, an amphora containing 4,000 splendidly preserved silver coins of the third century. Among them was a very rare Antonine of the Empress Cornelia Supera. A circular base, probably a part of a large candelabrum, carved with acanthus leaves, lizards, snails, crabs, frogs, locusts, and other living things, was also found there. On the ancient Via Colatina, near the gate of San Lorenzo, workmen discovered a magnificent sarcophagus about twenty inches high, with bas-reliefs of unusual skill on the sides and ends. It was protected by an outer case, and is perfectly preserved. It bears no inscription, but a portrait supported by victories between barbarians and armor on one side, and the subjects of the other bas-reliefs suggest that the donor, who has not yet been identified, was a conqueror of barbarian tribes.

After many years of discussion and delay one of the most wonderful and precious relics of antiquity is about to be restored to Romans and incidentally to the whole world. All who are interested in antiquities identified with the Eternal City have heard of the two galleys of Caligula, but none but a diver has ever seen them, as they are still submerged in the waters of the picturesque Lake of Nemi in the Alban Heights, near Rome. The historian Suetonius tells us that the Emperor Caligula squandered in less than a year almost 3,000,000,000 sesterces, or about \$150,000,000, that had been left him by Tiberius.

Among other things he constructed galleys of cedar and adorned them with jeweled prows and sails of purple silk, with reception rooms and bathrooms, and even miniature vineyards and orchards. The discovery of the two galleys in Lake Nemi not only proved the veracity of Suetonius' record, but is now about to present it with the most precious archaeological treasures, inasmuch as these are the only hitherto discovered specimens of Roman nautical construction.

Since the fifteenth century various attempts have been made to recover the two vessels. In 1895 Signor Borghi, the learned antiquarian, obtained permission to make another attempt. He brought up several objects, among them wonderful heads of animals holding rings for anchoring in their mouths. At last the Minister of Public Instruction stopped what was really a piecemeal destruction of the galleys.

With the exception of the injuries caused by the various attempts to recover them, the two great ships are entire, and will probably bear the strain of being raised on cradles worked along an inclined plane to the shore. Therefore the Italian government has now decided to make a serious effort to restore them as far as possible to their ancient splendor.

A new journal entitled *Hakedem* (The East) and conducted by Prof. I. B. Markon and A. Sarsowsky of St. Petersburg, has been started. It is chiefly devoted to Assyriological researches in their relation to the question raised by Talmudic literature. The French Assyriological magazine "*Babylonica*" is now in its second volume. Recent numbers contain articles by Prof. Sayce on the Cappadocian cuneiform tablets; by Prof. J. D. Prince, a note on the name of the famous hero Gilgamesh, and by Dr. St. Langdon some observations on the syntax of compound verbs in Sumerian and on Sumerian loan holds in Babylonia.

In "*Literatur der Babylonia und Assyriar*," Dr. Otto Weber, in a series of twenty chapters surveys the whole field of study describing the various classes of Babylonian and Assyrian literary works, and giving quotations and extracts from the more important of them. The value of his work is considerably enhanced by the reference to authorities, which he gives at the head of each section, for by this means the reader is enabled to extend his knowledge at first hand in any branch of the subject.

Interesting reports on the renewed excavations at Gezer have been published in the last two Quarterly Statements of the Palestine Exploration Fund. In the first of these Mr. Macalister records the finding of some new tombs, a Roman bath, and a new "High Place;" and in the second report he gives a brief account of the discovery of a large subterranean gallery cut in the rock. This he was at first inclined to class as a sewer, but, on the appearance of steps leading down into it, he abandoned that theory in favor of regarding it as a secret means of entrance to or exit from the city of Gezer. The whole of the tunnel was filled with earth and stones, and, as the excavation is still proceeding, it is too soon to attempt to pronounce definitely on the object of this interesting find.

THE STATE HISTORICAL MUSEUM OF WISCONSIN.

The anthropological collections of the State Historical Museum at Madison, Wis., are growing rapidly in importance and value. The appointment as its chief of Mr. Charles E. Brown, a well known and experienced museum man, has done much to increase the number and character of its archaeological and

ethnological exhibits; no other man in that state has a wider acquaintance with local collectors or has done so much to promote the idea of the need of small museums in that state. As curator of the Wisconsin Archaeological Society which has long favored and in various ways actively assisted in the establishment of local public collections and museums throughout Wisconsin, he has been in an excellent position to actively engage in and direct this work, and although this movement to thus save Wisconsin's Indian and other treasures to future generations of students and the public is yet in its infancy, great progress has already been made. Public collections or small museums already exist at Oshkosh, Green Bay, Menasha, Manitowoc, Appleton, Fond du Lac, Baraboo and at other points in the state.

In the founding of these, various members of the Archaeological Society and other public spirited citizens have helped. These are housed at present in public libraries and other public buildings, The collections in Beloit, Ripon, Milton, Milwaukee, Downer, and other colleges, at St. Francis Seminary and Lawrence University are growing. Beloit has made the most decided progress of these, its archaeological collections being already very extensive.

Recent important additions to the state Historical Society's museum include: The L. H. Fales and W. D. Smith collections of ethnological specimens from the Igorot, Bagolo and Moro of the Philippine Islands; the T. R. Roddy collection of Wisconsin and Nebraska Winnebago materials; the W. B. Hinsdale collection of Iroquois and Chippewa specimens, and a large number of single specimens representing various American Indian tribes. The additions to the archaeological collections include a fine series of materials from old Mandan village sites in North Dakota; a collection of Stone Grave earthenware from Tennessee, a collection of Wisconsin flint quarry site and workshop materials and a fine collection of Florida keys and other materials from mounds and sites in the Southern United States, generously presented by Mr. Clarence B. Moore. There are also now on exhibition through the courtesy of the owner, Mr. Thomas R. Roddy, a series of eleven valuable Six Nations and other wampum belts.

It is expected during the present year to add a large number of other valuable collections and necessary specimens to the collections. Many persons are taking an active interest in the museum's growth and have promised their aid. It is hoped to thus place at the convenience of students every facility for the conducting of anthropological research and to further the interest of the thousands of visitors who each year pass through its halls.

THE NATURAL AND THE SUPERNATURAL.

BY STEPHEN D. PEET.

The study of the various myths and folk tales which have come down to us from the ancient races of the east has great interest to the present generation, but for different reasons. One reason is that the discoveries which have been recently made have brought to light records which have been long buried, but which really carry us back to a proto historic age and the early beginnings of human history.

It is true that there are parallel lines which lead back to the early periods, but the best light is that which comes from the Bible which is supposed to be an actual revelation. There are, to be sure, other records which lead us to the supposition that Adam lived long before the flood, and even made much progress. In fact we may call it a period of civilization, one which was full of the signs of human progress. We do not need to dispute over the question whether God actually made himself visible to the first pair or talked to them face to face and could properly be represented as a "voice *walking* in the garden," for this was evidently figurative language, but conveys reliable information. We are to remember that such expressions as the "word," and the "voice" are often used in the Bible to show the invisible, personal nature of God; at the same time to convey the idea of his gracious presence and his unseen powers.

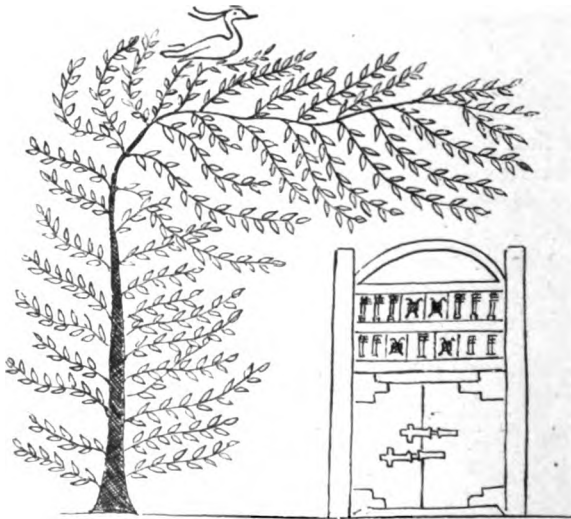
It is, however, to the material forms and the visible manifestations that we are to refer, and especially those which show the "beginnings of human progress and the first steps of human history." It is a common supposition that the story of the Garden of Eden is only imaginative and belongs to the realm of fable and folk-lore, and is to be looked upon only as a picture; but a better view is that which treats it as a reality, and makes it a part of human history.

It is certain that the picture of the "Garden" corresponds to that which is presented by nature in all parts of the world and commends itself to every one who has ever admired the scenery of earth. It may be that artificial changes have come into many places, but some are so narrowed down in their visions that they can form no idea of what is included in the story, and cannot tell whether it was on a mountain or in a valley, or even whether in the eastern continent or the western.

It is, however, not our purpose to treat of geography, or any such subject. On the contrary, it is to make the effort to interpret the meaning of each Bible story so far as possible and yet make it suggestive of the starting point of human progress.

It will be noticed that each story is brief and somewhat fragmentary, and yet it progresses rapidly from one point to another, and brings out word-pictures like a moving panorama, and illustrates the progress of mankind and God's watchful care, and especially of his exalted power and his moral grandeur.

The antediluvian world was not as far advanced in the arts and mechanical contrivances as modern times, nor was it as full of illustrations of the power of man over nature; but there was, after all, perhaps as many manifestations of God's presence and of his interest in man's moral and spiritual growth and progress, as well as his physical and external welfare.



THE HINDOO TREE

It is difficult for some to imagine that God could reveal himself to the human eye, or could make himself heard by the human ear; but this is not necessary, for it is everywhere taught that there is within every man a silent monitor, which makes known the will of God and bestows peace or fear according to man's conduct, whether good or bad, innocent or guilty.

It is, however, to the external events, and not the inner experiences, that our attention is called. There are many

valuable morals and religious lessons to be learned from these early scenes, and at the same time hints as to the primitive customs, and even human inventions, which appeared among the people of the East.

In entering upon the field of research, we are to take the narrative in Genesis, and compare it with what is brought out by recent discoveries in the East, and especially by the folk-lore and myths which are found among all the primitive races of the earth. It may be a matter of astonishment that the continent of America should be brought into the account, as well as Europe and Asia and Africa, but the Bible is a book which makes the whole world akin. We are to remember that it was a real scene which is described, when the Garden of Eden was the home of the first pair, and were described as thoroughly human as any living at the present time. It seems also likely that the trees were real trees and the rivers whose names are given were as real as the rivers are at the present day, though it is possible that the picture includes the smaller seas—possibly the Persian Gulf, as well as the Tigris and Euphrates, for the very same bodies of water which were involved in the great deluge were the seas and rivers which first became known by name to the human race. This throws light on the origin of the human race and helps us to understand man's location, his birth-place, as well as his early history. It shows the sacredness of natural science, geography, physiology, botany, astronomy, as well as mechanics and all related subjects. The first chapters in Genesis are full of word-pictures, but they are correlated to the external scenes, and are replete with stories about man in connection with animals and plants and trees, as well as human inventions, and the evidences of human progress.

In fact the antediluvian world was real and full of human inventions and evidences of the world's progress, and belongs to the period of human existence as plainly as does either the nineteenth or twentieth century.

America is not so far away from Asia, nor is the valley of the Mississippi so unlike the valley of the Tigris and Euphrates, as to be shut out from the horizon. Some may be inclined in a visionary and desultory way to wander into the remotest parts of the earth to find the traces of the first man and evidences of the Tree of Life, and possibly of the serpent which tempted the first pair.

It will be found, however, that natural science is in harmony with revelation when properly interpreted, but a visionary, fictiti-

ous view of the Bible narrative is no better than Mohammed's vision described in the Koran, nor Joseph Smith's revelation described in the Book of Mormon.*

II. We shall leave out the story of Creation as too elaborate and as referring to events too early to be embraced by history, or by the evidences of human progress, and begin with the story of the Garden of Eden, and especially with the story of "The Serpent and the Tree." It is to be noticed that this story begins with a garden, and a garden which was surrounded by certain bodies of water whose names are given, both of which, are familiar to every Bible student. This of itself fixes the location, and we do not need to go to the mountains, nor such distant regions as China or Egypt or Europe or Africa, and certainly not to America. There are stories in each of these distant regions, which remind us of "the Serpent and the Tree," but they only show the tendency of folk lore as well as Bible stories to float into the uttermost parts of the earth and there become mingled with native mythology. But the Bible was designed to give moral lessons and teaches us about the unseen universe and the holiness of God, and the savior of mankind. God is not represented as a monster, but rather as a father whose voice was heard in the garden, but his abode was in the Shekinah. The scientific bearing of the subject is difficult to present in connection with the religious lesson, but the honest effort leads one to look at both sides and seek for the truth, even though it seem hidden.

It will be remembered that there were similar stories among nearly all the ancient nations, and the story of The Tree and Serpent is told by all people.

This of itself is suggestive of its superiority as a revelation, even if the story has been replaced and adapted to superstition by Pagan nations and made to represent their own strange divinities.

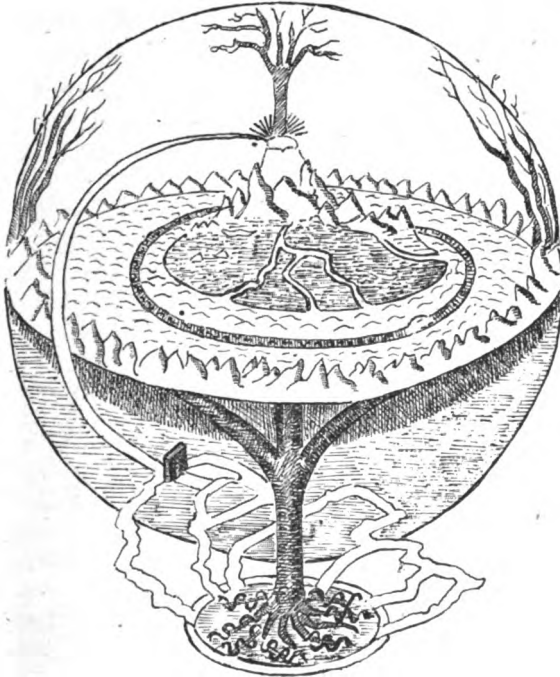
The holiness of God is, however, the key-note which goes through the book from Genesis to Revelation and makes the Bible superior to all other books and worthy of diligent study.

This brings up the subject of comparative mythology, and suggests the idea that Bible stories and Pagan myths are everywhere closely connected. In fact, there is no great continent

*The book of Mormon was found in a printing office in Pittsburg, and was probably written as a novel by Rev. Spaulding, formerly of Conneaut, Ohio, and is not a revelation at all.

and scarcely an island which has not some myth and some secret mystery which reminds us of the Bible stories.

This is not saying that Adam and Eve were like the savages, or that the Bible story belongs to the realm of savage folk lore, but it does suggest that the very locality to which we are to look as its original starting point is the very one which is recorded in our "sacred book," the Bible. Other books have been written; some of them form the foundations of religions which are very ancient, and others very modern—Mohammedanism and Mormonism being separated by many centuries of time and thousands of miles in distance, but the pretensions of either of them show that they are not revelations from God, but are as absurd as are the practices and impositions by which they have been



SCANDINAVIAN WORLD TREE

propagated. It is a travesty that makes one shudder when the Bible is replaced by either the Koran, or the Book of Mormon, for the morals of each are on the same low level and gratify the same *bestly* passions and lusts, and yet they are called revelations from God. The leaves from the "tree of life" are not, and never have been, poisonous to youth or corrupting to society, for they reveal the character of God.

The Bible is a sacred book which grew out of the innocence of the early patriarchs and the faith of the prophets, and may be taken as a revelation for the future.

It is a common saying that "ignorance is the mother of devotion," but the most intelligent nations of the earth have adopted the Bible as their sacred book, while the Mohammedans in Arabia and the Mormons in America are on a plane of barbarism in the midst of a devout and intelligent people. The difference between the Bible and the false revelations and strange customs is manifest. Bible stories do not take away the innocence of childhood or corrupt the morals of manhood, but do support the best standards of virtue and bring forth the purest and holiest influence to every nation which accepts it and makes it their religious book. It is also destined to do away with Paganism and Heathenism and bring enlightenment to all people.

History begins with the story of Eden, and all nations have taken up the refrain. In Europe and Asia and Africa and in America the story is told and retold. The oldest records which have been dug out from the depths of the ruined cities contain descriptions and present pictures of "the first pair," and the "Tree and Serpent" and prove the antiquity of the Bible and the correctness of the book of Genesis, and at the same time illustrate the beginnings of history as well as the earliest stages of human progress.

We pass by the "ancient mysteries" which are so wide spread, and so well known by primitive races, and turn back to the traditional home in Eden, and listen again to the story of the first pair, as well as to that stranger story of the serpent and the tree, and the temptation and the fall, and the consequent banishment. The gates were guarded by the mysterious Cherubim, which have been described over and over again. It was not a mere incident, but an important event and one which had great effect upon human history. A common opinion is that primeval man appeared in different lands, and was perhaps a descendant from the lower animals, but the Bible brings out another story. The question, however, is: Are these stories merely the personifications of nature or actual scenes which belong to the early history of the human race? There are books which refer to the gravel beds which are scattered over the world, some of them in the continent of Europe, and others in America, and still others in distant places. In these gravel beds skeletons have been found which were evidently human beings, and yet there is a strange mystery about them. They show that

creation is broader than was at first supposed, and the race of man was scattered to distant places before history was written.

The Bible is not a scientific treatise and was not intended to teach us about the connection of man with animals. It is to be noticed, however, that no such picture of the dwelling place of God is found either in heathen mythology or ancient history, or even in Greek poetry, for it would seem that the very spirit of God had whispered in the voice and interpreted the words to those who are childlike in character and have the spirit of adoption in their souls. It is not in what is called "profane literature" that these mysteries are explained, but they "who are humble in spirit shall dwell in the secret place of the most high and become acquainted with the Almighty."

It will be noticed that folk lore generally is found among an unlettered class and is rarely put into type, but on the other hand it is repeated from generation to generation, the children catching the tale that is told in the home, and they in turn transmitting it to one another, and to those who are younger, until many generations have passed. It is true that the barrier of language sometimes prevents the folk tales from being transmitted, and yet such is their charm and interest, that all barriers are overcome and the tales go from family to family, until many generations and even centuries have passed. It is, however, to be noticed that no picture of the Shekinah or the "Dwelling Place of God" is presented either by Pagan mythology, or ancient history, nor even in the sacred mysteries, nor in the midst of the grandest temples buried in the depths of the ancient cities, for one may wander into the very regions where it is supposed that the Bible stories were revealed to the Patriarchs and Prophets, and find evidences of the strangest superstitions, "Spools" and seals and inscribed tablets bear the evidences of an early system of writing which have been found and translated and, the pictograph interpreted, but the dark side of Heathenism is given, rather the light of divine revelation. One thing is in favor of their transmissions; the attachment which every one feels to his childhood home and the delight which he has in recalling the early scenes, even catching the echoes of the sounds which seem to linger in the early home of the human race.

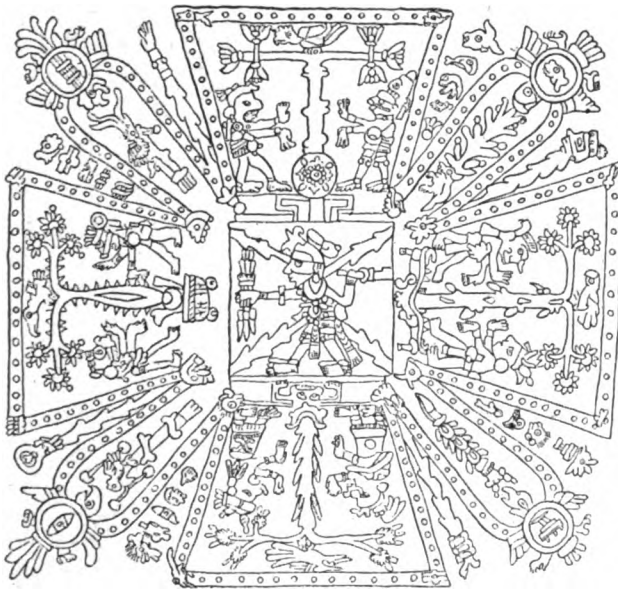
We shall not undertake the task of collecting the folk lore, in which there are so many and varied subjects, but shall confine ourselves to the stories contained in the Bible in reference

to the Garden of Eden, the Serpent and the Tree, the voice of God walking in the Garden, the Cherubim which were placed at the entrance, and the events which occurred between the creation and the flood. It will be remembered that there were images in the ancient palaces of the East, which seemed to have the qualities of animals and birds and human forms combined in one. They may have been patterned after creatures which, according to tradition, prevailed in antediluvian times, or they may have been the products of a strange mythology, resembling that which the Greeks had when they undertook to describe the tree with the golden fruit, guarded by the dog Cerberus, and yet the Dragon is often pictured as combining all the parts of animals and serpents and winged creatures, but without the human face. The Dragon is also said to have guarded the tree until it was slain by the giant Hercules. These stories come from Greek mythology, and seem to have been drawn from the same source as the folk lore of the East, but the spirit of inspiration was that which guided the sacred writers. It will be remembered that the "Dragon's Throne" is still occupied by the Chinese Emperor. The tales of the olden times are echoed among the most distant nations, among the tribes of America as well as the people of the eastern continent.

II. We would here call attention to the "World Tree" which, according to the Scandinavian mythology, grew beside the waters of the sea, but it sent its roots down to Muspelheim. Around the tree is a great circle which has the form of mountains (see cut). This is above the earth. Below is another picture. Here the roots of the tree extend below the river into the subterranean depths, but there are many serpents gnawing at the roots. The tree above is the Tree of Life, but the roots below represent the lower world, and the snakes correspond to the serpent which proved to be the tempter to the first pair.

Another myth represents the fable of the lost Atlantis, which is said to have been situated in the Atlantic Ocean, over against the Pillars of Hercules, which after being the seat of a powerful empire, was engulfed in the sea. This has been made the basis of many speculations; in fact, as many as the Garden of Eden and the Tree of life. Cylinders and seals have also been gathered by travellers in the lands of the East, and others have been dug up from the ruins of the ancient cities on the Tigris and the Euphrates. These represent the progress of civilization, for the art of writing was already known, but fabulous creatures are represented as attached to wheeled vehicles.

and are driven by Gods and Goddesses which have whip and lash in their hands. The interpretation of these figures is difficult, but the evidence is plain that "nature worship" was prevalent, for the moon is in the sky, and the altars are on the earth. Dogs and other animals are mingled with the figures of priests, clad in long garments, while other figures with spears and weapons behind them become the symbols of power. The interpretation of these seals have been undertaken by a few scholars, but they evidently belong to the Paganism which pre-



AZTEC WORLD TREE

vailed and emphasize the value of the Book of Revelation by their very contrast. It appears that the plow was already in use, and domestic animals abounded, and even wheeled vehicles drawn by strange creatures which have claws and wings; but the body of a four-footed beast is seen above a Goddess handling lightning and thunder bolts. These seals are of the highest antiquity. They are now in the Metropolitan Museum of New York. They present a background to the history of Paganism.

The story of the Lost Atlantis is recorded in Timaeus and in the Critias of Plato. Even Socrates, the philosopher, discussed the story with his disciples. It is said that Solon visited

the city of Sais in Egypt, and learned from the priests about the islands of Atlantis, and its overthrow by a convulsion of nature. The world, like a child, has accepted the tale of the island, as well as the story of the Tree; but the Bible story has taught a lesson to millions, while the story of the island of Atlantis is counted as a pleasing dream, or a fanciful tale. The sacred volume is interpreted for the benefit of the human race, but there is always a moral and religious lesson in every Bible story. Everyone feels his accountability. It may be that the personification was a habit at an early period. Lessons were learned in the childhood of the world by looking at sun, moon and stars, without realizing that the world was round, or that it revolved on its axis. Copernicus discovered one of the great laws of nature, just as Herschel, the astronomer, did another. Morse found a new use for the electricity which was contained in the lightning, and made it flash from continent to continent, and deliver messages to distant parts of the world; but the book of Genesis refers to the days and weeks, and leads us to worship the Creator. We realize that we are accountable to God for the proper use of time, and that we are dependent upon nature for the supply of our physical necessities. The Bible is not a work on natural philosophy, nor a book for civil engineers. It is at least a safe book, and there are no mistakes in it, in reference to either the powers of nature or the power of God, but every one is led to realize his moral accountability, and the importance of worship as well as of work.

The personification of the nature powers is only one method of teaching object lessons, but it is a method which was very useful in the childhood of the race. According to the Greek mythology, the dog Cerberus is represented as guarding the tree which bore golden apples, but neither the dog or the Dragon ever taught any such lesson as the tree of knowledge of good and evil. No earthly creature has ever uttered a voice like the "voice of God." If it were a personification, it was fraught with a most valuable lesson, and one worthy of the spirit of the Creator. Is it not strange that personification should be the chief element of the Egyptian religion? It took great varieties of form. It was the source of all the mythology and led to the worship of the Sacred Bull which was kept in the secret place of the great temples. It also led to the erection of that strange object, the Sphinx. The Sphinx was silent, but silence was the mystic spell, which showed the control of the Gods over the elements of nature. It was the "still, small voice" that showed the control of God over all creation, as the silence of

the heavens above showed his supremacy over the universe. It was natural that man should be made in the image of God, but silence of the the heavens is the great mystery of his being, for the heavens do not break the silence until the day of eternity begins. A great significance is found in the fact that the divine and the human were combined in Christ, who was the son of God.

To the observant eye the steps are plain, for the realm of material conditions is seen in the land and sky, but the advance from one kingdom to another is rapid, for God, the creator, is not so very distant from the creation. He dwells in light, unapproachable, and full of glory; but the spirit of inspiration whispers in the gentle breeze, and no cloud drives the brightness away. The first pair were like children; they were not afraid of the Shekinah which was the shining place of God's presence. They were not deaf to his gentle voice.

The question arises again and again whether it is personification only. Is there no personality in God, the great creator? The Greeks made the marble statues to represent their deities, both male and female, but the Bible student knows better than to worship a statue, admire it as much as he may. The pillar or column stands between the carved figures of two lions over the gateway at Mycenae; but the lions are guards for the tomb. The spirit of God sweeps around the earth, and here and there men made in the divine image stand in awe, and yet they know not what or whom they worship. Paganism is supposed to prevail in every continent. The nations of the earth are mainly Pagans. The inner penetralia reached by those who are clad in garments which represent their devotion, but the multitudes remained silent because of their fears. The marts of trade are not silent, for there are human interests at stake. The government may be administered in great halls, where men lift up their voices and make known their thoughts; but the silence that rests at times upon an audience is a sign of the eloquence of man. Some are inclined to ascribe all Bible stories to the habit of personification, but the most remarkable peculiarity of the book is that it is full of emblems which are reminders of the Divinity. The most remarkable proof is that childhood may approach the Shekinah, and be accepted and permitted to draw near the sacred presence; but to the profane the words are echoed Procul! Procul! profani.

It is certainly strange that the echo should be heard coming to us from every side, even from far-off pagan lands, as

well as among Christian nations, and are found lingering in the forests and among the waters which surround the islands of the sea. There are allusions to the first pair as dwelling in the Garden of Eden, but the disobedience of Adam and Eve resulted in their banishment. The death of Abel, and the sin of Cain are reminders of innocence suffering at the hands of the guilty.

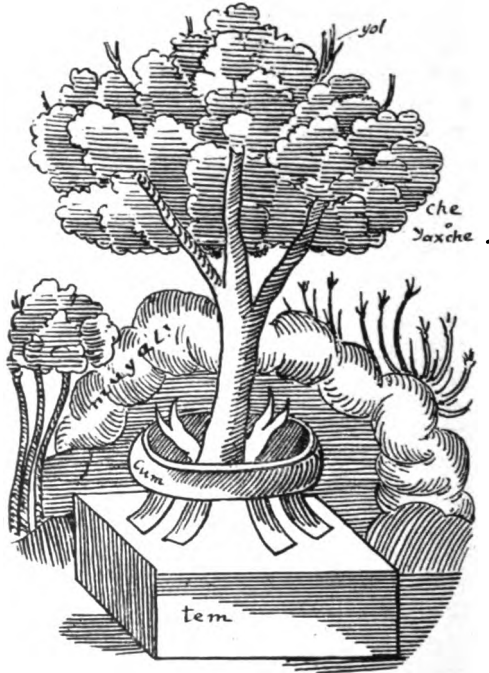
III. The next point is one which relates to the beginning of civilization. There are in Genesis allusions to the different metals and instruments of music and edged tools, all of which are signs of the beginnings of civilization. The Cherubim which stood at the gate of the garden were signs of civilization, for there were images in the palaces of Babylon which had the same appearance. They were in the forms of animals with human heads and the hoofs of oxen and the wings of eagles, but crowns upon their head. They symbolized the kingly powers, and suggest the Old Testament, imagery taken up again in the very last book of the Bible, the book of Revelations. A strange fact is brought to light by the archaeologists, that the tree and the serpent are common symbols among the aboriginal tribes of America. According to Greek mythology, the various elements were under the control of different Divinities. Saturn was supreme and was supposed to dwell in the sky, as is indicated by the name Uranus. Neptune was a God whose dominion was over the sea in which Naiads and sea-nymphs were supposed to sport. Hephaestus, or Vulcan, ruled over the world below, and forged the thunderbolts which dart across the sky. He also made the armor in which the heroes were clad when they marched to victory. To the Greeks all nature was peopled. The mountains which stood on the horizon above which the clouds are seen was supposed to be the abode of the Divinities. Olympus was the chief seat of the Gods, and the place where they assembled for their counsel. There were jealousies and intrigues and strange plots, yet the prayers and sacrifices were offered to these very Divinities, and were supposed to reconcile the Gods with men, and men with the Gods. Homer seems to have been devout, when he described the Trojan War and represented Pagan priests as offering sacrifices, and especially represented the power of prayer, the prayers which were attended with sacrifices.

The study of comparative religions brings out the fact that the personification of the nature power was almost universal among the different pagan nations, but did not in any place carry

the idea that a holy God rules on high, who cannot look upon sin with the "least degree of allowance." In the Bible holiness and purity are described as the chief element of the divine nature, and the essential feature among all worshippers.

The mythology of the Old Testament was the beginning of the world's story. In India, China, Corea and other lands of the East, there are symbols of the serpent and the tree, and other personifications of nature, but the worship of Adam and Eve, as well as of Noah and the Patriarch Abraham, and all others who followed their example, was directed to the holy God, who is a person. Even in China, Corea, India, in ancient Egypt and Greece, there were personifications which symbolized such objects as the serpent and the tree. The Shinto Gods were among powers personified. They were addressed sometimes as ancestors, but there was a double current of religious thought. Two great sources of religions are manifest, personification and deification. The nature powers are personified, but the human powers are deified. There is a "Sky God." There is also a God of fire, and a God of the sea; but the storm, the sun, moon, earth, wind and sea are alive. The sun is a father; the earth is a mother; the stars are the children (see cut). The form of a goddess, according to the Egyptians, stretches over the earth, and spans the blue vault above, while stars below are seen. Boats float above the body, but the hands and feet rest upon the solid earth. The Oriental nations in Corea, Japan, China, India worship divinities which are represented by the human form, but the antagonistic powers are represented by the serpent. The storm cloud, the wind God, the sun are all divinities. The Heaven Shining Deity, Ohokami, is the Sun in the sky. Sometimes the earth is represented as a great egg. If it objected that it has no arms or legs, it is answered that neither has the air or wind. The Hindoos have a sea god which resembles Neptune. In the Vedic hymns the sun, moon and stars are considered gods; so in China. The mythology of the nations of the East, as well as of the tribes of Peru, Mexico and other parts of America, give to us an idea of the antiquity of civilization, but the divinities are nature powers deified. The Mexican codices contain the picture of the tree with a bird perched on the top and a serpent at the roots (see cut). This reminds us of the mythology of the Greeks and the Romans, for the tree is prominent in it. It is remarkable that in the ruins of the ancient cities of BBabylon there are reminders of the same myth which seems to have been scattered throughout the world, among the savage races, as well as among the civilized. In the time of

Hammurabi, a glorious temple was erected for Marduc and a magnificent throne of gold and silver for the God dates as early as 2200 B. C. The stamped brick of the temple builder, Urgur, dates back to the year 2700 B. C. He was the king of Accad and Sumer, the man who built the house of Bel. This temple shows three stages; it had an immense causeway built out from the lower terrace. The means of ascent to the top of the platform did not extend beyond the first stage. It is, however,



ANCIENT WORLD TREE

very remarkable that in Mexico and Central America there were pyramids standing at the time of the Discovery which had steps reaching every story. But the ascent to the top was made by passing around the pyramid until the procession reached the top. Here was the shrine consecrated to the sun Divinity. An altar was placed upon the summit, and a portrait of a face, which was the face of the sun, was near the altar. Human victims were placed upon the altar and the priest opened the body with his knife and tore out the heart of the victim and thrust it into the face of the sun. This was called washing the face of the sun. The body was afterward thrown down the

side of the pyramid and was taken by the people below and and fed upon, as something sacred, resembling the sacrifices offered in the Oriental lands.

The analogy between the worship of the sun in Central America and Peru and the worship of the nature Divinities among the nations of the far East is very close. It would seem that the superstition of Pagan races had some of the elements of the ancient religions for sacrifice and the shedding of blood was not only essential but very significant.

This idea of sacrifice is at the base of all human worship, whether among the Pagans or Christians. It was prominent among the Greeks, the Romans, the Egyptians, the Hindoos, the Persians, the Chinese, and nearly all the wild tribes of America and of Asia and the islands of the sea. But on the other hand, the life that was hidden in the tree was significant of life as the gift of nature, but it comes from the great creator. The life is in the blood; the fundamental idea of nearly every religion upon the face of the earth is that the shedding of blood is necessary to the acceptance of the worshipper. The difference is that some tribes and nations think that the sun is a Divinity and the nature powers are all personal beings to whom sacrifices are to be offered, and to whom prayers are to be addressed. In the time of the Prophets, Jonah was thrown overboard from the ship that was near being wrecked by the storm; he was offered as a sacrifice to the God of the storm. The experience that he had when in the belly of the whale led him to do his duty, for he went immediately on his mission to the Heathen and Pagans of the East. The Gods of the Pagans and Heathen nations of the earth were all of them personifications of the nature powers, but the element of holiness was not recognized as important, either in the Gods which were worshipped, or in the people who worshipped them.

It took all of the efforts of the Patriarchs, the Prophets, the Apostles and the Christian fathers to make this element of holiness prominent. It is, however, the key note of the Bible from the first chapter of Genesis to the last chapter in Revelations.

The personification of the nature powers properly understood bring all creation into a higher level and makes it a home in which the spirit of God dwells, but when this brings down the personality of God to a level of the material and physical, and dismisses the idea of holiness, it reduces all religion to the low level which prevailed when Paganism was supreme. The tree of life which was in the Garden of Eden has been symbolized

and perpetuated by the religion which was revealed to the Prophets and Patriarchs is fundamental. There are those who maintain that life has a material basis, and exists in every plant and animal, and flows in the veins of men, and is not a gift of God. Generation after generation have passed without changing this law of nature, but the difference between revelation and science is that we are taught that the life is a gift of God, and is to be consecrated to him. The tree that stood in the garden symbolized this, and every tree which has grown on this green earth has the same lesson to those who believe that God is the creator and the preserver.

It is strange how near the Pagans and the Heathen nations of the earth have come to this truth, and have not realized its significance. In Hindustan there are pictures of God and Goddesses floating on certain living creatures, as if they were boats, which around them are temples which are sacred to the sun, or to the heavenly bodies. The same conception, or a similar one, prevailed among the North American Indians, when they imagined that a serpent twisted around a stump was a Divinity, which was worshipped as the life-giver. The ancestor or Culture Hero of the tribe dwelling on the shores of Lake Superior is said to have escaped from the flood which was sent by the serpent Divinity by climbing a high tree. Three times the water rose and covered the land, but each time Manobozho climbed higher, until at last the water receded, and he escaped from the attacks and plot of the serpent, his great enemy.

It is strange that this story of the tree and the serpent should have extended so far and been the center of the systems of religion which prevailed, and the chief object of their mythology. The symbol is found everywhere and in every corner of Asia, Africa, Europe, North and South America, Australia, and many of the islands. There are variations to the story, and yet the fundamental ideas are the same. Personality was attributed to the animals as well as to the Gods, but it reduced it to the same low level and failed to elevate the human race above material things.

IV. The personification of the nature powers has its advantages, for it may be offset against the materialism which would make a basis for life which is very different from the spiritual element which is bestowed upon God, who is the Father of all such as put their trust in him.

The symbol of the serpent is on the ridgepole of the houses

in American as well as in China and Asia. It is often made into the shape of a serpent crawling along the top of the houses and stretching the head over the end of the roof, sometimes with the open mouth and the crest above the upper jaw. It comes from the old Pagan conception of the serpent which has been handed down and made a fashion or a pattern for mechanics and house-builders. It is probable that the story of the serpent originated in the mythology, but the first source is found in the story of the garden, in which the serpent and the tree was so prominent.



CODICES WORLD TREE

The Spaniards who discovered America found these symbols common among the tribes here, and the story of the serpent and the tree. How it came here is unknown; but it was so widespread and so full of variations that everyone who has studied archaeology is surprised. In Mexico the trees became a symbol of the multitude of tongues. There are engravings, the male and female Divinities are represented as seated at the foot of the tree, while a bird is in the top of the tree, apparently throwing out words in the shape of tongues to a group near the tree. The central figure is the face of the sun. It may be that it was intended as a personification of the nature powers, but if so, it was very elaborate and complicated, and yet suggestive of the same tradition which has been handed down from the Patriarchs and Prophets in the Bible itself, which is our sacred book.

Archaeologic Notes

SAND DUNES OF LAKE CHAMPLAIN.

The geologist who saunters along the shores of Lake Champlain finds many traces of a pre-historic upheaval. This section is rich also in Indian tradition and remains. On this beautiful lake, which reflects the peaks of two mountain ranges, the canoes of the Iroquois and other tribes were wont to gather; and the shores are strewn with arrow heads and Indian ornaments. In this connection, the sand dunes near Plattsburgh have long been considered tribal burial places, or mounds. Here small finds of Indian relics have rewarded the curious who have burrowed a few feet below the surface, and there is little doubt that a rich field awaits the serious explorer. Near this group of sandhills rises a sharp bluff, which is dotted with unexplored caves. Along the stretches of winding shore road, one sees in the rocky formation the occasional imprint of a prehistoric bird or animal, nature's own intaglio. This region, pregnant with modern history, is full of treasure for the antiquarian as well, if he will seek it along the rugged shore, and in the heart of the sandy dunes that for centuries have awaited his coming.

LAURA NICHOLS GRAHAM.

REPORT OF THE SUPERINTENDENT, ARCHAEOLOGICAL SURVEY, BURMAH, FOR YEAR ENDING 1908.

Office of Government Printing, Burmah, 1908.

The report of the superintendent of the archæological survey of Burmah is interesting and valuable. Twelve monuments are proposed to be preserved. Several shrines are objects of solicitude. Inspection of thirty-one buildings has been made. The palace buildings at Mandaley and the pagodas at Pagan have been visited. It will take five or six years to complete the archæological survey. Fresh discoveries have been made.

The Biblical World for March has an article by E. W. G. Mosterman on Jerusalem and Gennesaret, with maps, which is very interesting and valuable.

JOHNS HOPKINS UNIVERSITY STUDIES IN HISTORICAL AND POLITICAL SCIENCE.

Series XXVI, Nos. 1, 2 and 3, has an article on trade and plantations in 1622 and 1675, by Charles M. Andrews. Shows much research and is very valuable.

THE ANCIENT TRINITY OR TRIAD AMONG THE HINDOOS.

The chief gods of the Hindoos were represented as three persons and were painted in three distinct colors. They constituted the triad which resembled the triad of the ancient Britons and which by some have been confounded with the trinity. But they probably were personifications of the nature powers or the elements, water, fire and air. The names were Brahma, Vishnu and Siva and were painted differently. In fact all the gods of the Hindoos were represented as gaudily decorated according to the imagined colors of the planetary system, or at least the various castes were distinguished by different colors, it being the duty of the Brahmins to mark the crowd of votaries on the forehead with a painted symbol according to the sect to which they belonged, whether of Brahma, Vishnu or Siva. All the deities in the pagodas were decorated with colors as were those of their forefathers, the Chaldeans. The seven colors represented the seven planets. These distinctions may have come from the valley of the Euphrates though in that region, the man-headed bulls and lions were worshipped as well as the kings; whether these gods were derived from the constellations or the constellations derived from the gods is a question. In ancient art there were birds and animals which probably represented divinities and were the symbols of the nature powers. The gods of the air were eagles, the four-footed creatures were gods of the earth, and the reptiles including the scorpion were gods of the lower world. Composite creatures were common in Babylonia, wolves' heads, rams' horns, tail and forepaws of a lion, legs, feet, and wings of an eagle, the four divisions among the animals as well as the three elements, fire, air and water, and the three visible spheres, the sky above, the earth and the fire below the earth. This trinity of the ancient days was, however, very different from that which is taken in modern days as symbolizing the divinity who was worshipped. Maspero and Perrot have described the animals which were worshipped in the east, but these were very different from those which were worshipped by the oriental people, for when we study their religious conceptions and usages we find them to be the common property of a group of kindred people and not the exclusive possession of the Hebrews.

As to the language, there was a sacredness as well as to the art among the ancient people. The Sumerian was used as a sacred language by the Semitics. It was a language which was understood only by the priests. The scribes and priests combined to use it in the temple service until the close of the Babylonian history. The Hebrew was the language of the common people in Abraham's day. The confusion of tongues may have been owing to the two languages which prevailed, the sacred and the common, the universal and the official, the Sumerian and the Semitic. These were not used in prehistoric times but prevailed in the proto-historic. The earliest reference to Babylon was in the time of Sargon I, 3800 B. C. The Sumerian language was agglutinative and was pre-Semitic. It may have been preserved in the cuneiform. Prof. Sayce was one of the first to decipher it. Oppert published a grammar and called the language Accadian. Lenormant, Oppert, Jensen, Hommel, have written upon these. The earliest inscriptions show that the Semitics encroached upon the Sumerians.

The difference between the languages of Babylonia and those of Egypt is to be noticed here.

WISCONSIN ARCHAEOLOGICAL SOCIETY.

The Fourth State Assembly of the Wisconsin Archaeological Society will be held in the city of Baraboo, on August 7 and 8, 1908. The principal event of this year's assembly program will be the dedication with appropriate ceremonies of Man Mound Park, and the unveiling with appropriate ceremonies of a bronze tablet marker, commemorating the purchase and preservation by the Wisconsin Archaeological Society, the Sank County Historical Society and the contributing clubs of the Wisconsin Federation of Women's Clubs, of the celebrated Man Mound.

On the second day of the assembly a pilgrimage will be conducted to the groups of pre-historic Indian earth-works about beautiful Devil's Lake for the preservation of which the several societies are also working. Prominent members of the several societies will participate in the two days program which will include other features of interest to be announced.

It is expected that hundreds of visitors and guests from all parts of Wisconsin and adjoining states will attend. The Sank County Society will act as host and will care for the comfort of all who attend. The assembly will have the effect of greatly increasing the interest now taken by public spirited citizens throughout Wisconsin in the presentation of its archaeological treasures.

Funeral Papyrus of Ioniya.

BOOK REVIEWS.

In the June number of the *AMERICAN ANTIQUARIAN*, an account was given of "The Tomb of Ioniya and Toniyaon," the parents of the famous Egyptian queen Tiya, as described by its discoverer Mr. Theodore Davis in a beautiful volume embellished with colored plates. The same generous explorer has now had edited by Professor Edouard Naville the long and perfectly preserved funeral papyrus "Book for the Dead" of Ioniya. It has been produced by the same publishers, Messrs. Wm. Archibald Constable for whom Messrs. Dutton & Co., are the New York agents.

The new book is a worthy successor to its precursor, especially in respect to its thirty-four prototype plates which accurately reproduce every hieroglyph and vignette of the lengthy manuscript. Whilst for the purpose of worthily printing M. Naville's valuable commentary upon the text, hieroglyphic type has been employed wherever necessary. The result of these efforts is that the volume is one which a student of Egyptian religion and mythology will find indispensable and commentators upon the "Book for the Dead" will find it gives them a rendition of the text of the utmost value.

For several reasons this papyrus will always be celebrated, chiefly because it is so complete, and legible throughout, and can be so accurately dated—it being of the time of King Amenophis III of the eighteenth dynasty and so was inscribed in the fifteenth century B. C. Further, it contains one absolutely new chapter which M. Naville places between the 110th and the 144th chapters of the so-called Theban edition; and also a copy of the 101st chapter which, hitherto, has only been known from a single papyrus exemplar, except in some imperfect versions of Saitic times.

This Ioniya papyrus gives forty chapters of the book in all, and a few rubrics to them, and it is interesting to remember that these were all written before any changes may have been made in their texts owing to the religious innovations of the Solar Disk adoring Pharaoh Akenaten.

Theodore M. Davis, Excavations at Biban-el-Molouk. The Funeral Papyrus of Ionia. Introduction by Edouard Naville. London, Archibald, Constable & Co. £2-2-0.

The writing itself is also notable paleographically because it is in an elegant style of linear hieroglyphics clearly indicating the transition towards the later hieratic script. When describing the inscriptions upon the funerary furniture of Ioniya's tomb, I explained that his honorary official titles therein were probably those of sinecure offices bestowed upon him subsequent to his becoming a notable personage because of his being father of the queen of Amenophes III.

Archaeologists have been very busy in Egypt during the past season. Professor Petrie began some excavations at Sheik Hamid, on the edge of the desert west of Suhag, and later, when the water had receded enough, in the beginning of the great excavations at Memphis. Professor Sayce as usual passed up and down the Nile on his dahabiyeh, gathering archeological knowledge everywhere. Dr. Bochard, with his assistant Dr. Wrizinsky concluded the great work at Abusir. Professor Reisner, whose work at the pyramid necropolis is not yet finished, was in the Egyptian Sudan. Mr. McIver was far up in Nubia among the unknown hieroglyphs of that mysterious region; while the tomb excavations, supported by Mr. Theodore Davis, have progressed most encouragingly under the supervision of the Department of Antiquities. Dr. Melvin Grove Kyle spent some time at the Necropolis of Memphis, from the Great Pyramid up to Abusir, and a visit was made to the mounds of Pithom where Professor Naville laid bare the store-chambers built by Israel more than thirty centuries ago. Some time was spent up the river, mainly at Luxor and Abt-el-Gurna, where some excavations and special re-work was done. M. Naville, the veteran explorer, was not in Egypt this season.

At the last meeting of the Academie des Inscriptions in Paris, a report was read by M. Merlin, the director of the excavations at Tunis, on some important discoveries made at the bottom of the sea. Divers had come on ancient ruins at a distance of about four and one-half miles from the shore. These proved to be marble columns, bronze statues, etc., some in comparatively good preservation. Several of these, especially a fine statue of a youth, have already been secured by the divers. It is hoped to recover the rest of the objects, though it will probably involve considerable expense and time.

The American expedition under Mr. Albert M. Lythgoe, intends to take advantage of the favorable conditions which exist in Egypt for the investigation of the remains of the later periods—Greco-Roman and early Christian—and the expedition is extend-

ing its work to cover this field through a valuable concession granted to it by the Egyptian government at the Oasis of Kharga. This is situated in the Libyan desert about 400 miles southwest of Cairo and 120 miles due west of the Nile valley at Thebes. Dotted over it are a considerable number of ruined structures of various types, of which the most important are the Temple of Hibis, dating from the Ptolemaic Temple of Nadura. The greater part of the smaller ruins, however, are of the Roman and early Christian periods. Nestorius, bishop of Constantinople, was banished to the Oasis in A. D. 434, and it is probable that some of the later constructions are due to him and his followers. On a pile some two and a half miles north of Kharga village is the largest of the Christian cemeteries, of which the tomb chapels are in an unusually perfect state of preservation. At other points in the concession are the remains of early monasteries, one of which, about half a mile north of the cemetery, has its walls still preserved to a height of about fifty feet, and inside the remains of at least three floors of vaulted cells. The expedition also began this year the formation of a series of records of the inscriptions, wall paintings and relief sculptures of Egyptian tombs. Mr. N. deG. Davies, who for ten years past has been engaged in Egypt for the Archaeological Survey, has undertaken this work and is carrying out a full-sized reproduction, in color, of the tomb of Nakht, at Thebes.

Hitherto the frequent recurrence of ears, modelled in clay, or carved in relief on stone tablets throughout Egypt, had been ascribed to the same votive origin as the small objects which were a common offering in the Roman world. For instance, in the treasures discovered by Mr. Hogarth in the temple of Diana of Ephesus there were numerous eyes, hands, ears, and occasionally a leg, whose intention was undoubtedly that of a votive thank offering for some cure, or else a petition for cure. But in Egypt other human members were missing, and only ears were found, suggesting that perhaps the most obvious explanation was ill-founded. Now the tablets discovered by Prof. Petrie at Memphis have cleared up the question. On some of them there is one ear only, on others many ears, without an inscription. In one case the tablet is covered over with roughly incised outlines of a multitude of miniature ears. But on others there is the explanatory inscription: "Listen, oh! Ptah," or "Ptah, listen to the petition made by such an one." It is clear that the ears were not those of the worshippers, but extra ears intended for the god. Probably the petitions were prayed into the ear, which was then left in the temple, charged with the prayers. Very probably

the sale of carved or modelled ears was a recognized source of profit to the temple. There was one rather delicately carved tablet which placed the solution beyond a doubt. On one side was the kneeling figure of the suppliant, with his name and inscription, and on the other side the standing figure of the god Ptah, who, besides his ordinary ears, had two enormous supplementary ears carved one on each side of his head.

Professor Petrie, who is at work at Memphis, calculates that the exposure of the whole surface of Memphis and its excavation at lower levels will be the work of another forty years. It is carried out with the greatest difficulty, as much pumping is required, and all the loads of earth and rubbish have to be handed from one coolie to another along a line. So costly is this exploration that it remains a greater matter of regret that the British government resolutely refused any subsidy to so good a cause.

Gout has generally been looked upon as an aristocratic form of disease, and its ancient lineage has now been demonstrated at a recent meeting of the London Royal Society. The foot of an Egyptian mummy exhibited there, makes it clear that the ancient Egyptian of the days of Pharaoh suffered from its refined tortures. The calcareous secretions that cause gout are plainly shown in the foot, which is described as forming the earliest known instance of the disease. Prof. Petrie says: "There is every reason to suppose that the old Egyptians suffered from many of the diseases that are common to-day. In present-day researches, however, it is only possible to discover traces of those diseases which cause malformation of the bones."

The interests of archeologists obviously centers round the African orient and Western Asia, which is the cradle of humanity and its civilization. As private initiative is unable to cope with the political and financial difficulties besetting their work, the leading nations have organized special societies under the auspices of their respective governments and sovereigns. The German Orient Society, founded just ten years ago, under the patronage of the Emperor, and which boasts among its members the foremost scientists, as well as leaders of society, has been successful in contributing to a large extent to an ever-increasing knowledge of ancient civilization. Mesopotamia, the Two River Land, situated in the valleys of the Euphrates and Tigris, forms the main center of the work of the society. The city of Babylon, with its walls and canals, and the royal citadel of Nebuchadnezzar and Nabopolassar, his father, have now been excavated almost

entirely. Esagila, the national sanctuary of the Babylonians of old—the temple of Marduk, their supreme deity—has been restored to light as well as the majestic double gates of the goddess Ishtar. After having been hidden by the earth for thousands of years, the towers of the gate now again rise to a height of forty feet and the reliefs of bulls and dragons decorating its walls, with variegated enamel tiles, still give an idea of the ancient splendor of its colors. Koldeway, who for ten years has lent the society his valuable assistance, that the complicated and extensive plans of this giant city, which had been so long the ruler of the world, will soon be reconstructed in their entirety.

His papyrus proves that he held additional posts in the hierarchy of courtiers to those recorded in his sepulchre. Thus he was chief of the Rekhhit, or peers; and the person official who acted as functionary who conferred the investiture upon persons entering the select circle known as the "Friends of the Pharaoh."

In addition to these high official titles the papyrus gives his minor honorific ones by courtesy such as "The Well Beloved of the Royal Palace."

Strange to say not once in the manuscript is his name spelt precisely in the same manner or in any of the numerous variants of it upon his funerary monuments. The hieroglyphs engraved upon the papyrus according to M. Naville read Ionya. He suggests that the many different spellings of his name indicate it was a foreign one to the Egyptian Scribes, that each writer reproduced in the manner in which it sounded to him.

To enumerate and comment upon the forty chapters, would be very monotonous except to persons already familiar with this old Egyptian magical treatise. As in many of the rescissions of the text it commences with the first chapter and then passes on to the well known seventeenth one. This copy is one of those containing the supplementary commentaries upon the mysterious sentences, following the uninitiated reader's expression "What is that?" and also the variants introduced when necessary by the phrase "Or else."

The new chapter does not seem to be of very particular importance. It is called "Chapter of coming out of the day" and apparently is merely a commentary upon its illustration which depicts nine large serpents. Probably it served as introduction to the two succeeding ones for it certainly belongs to the series of guides to the gates and pylons of the underworld of which the deceased has to possess a knowledge of the names of their warders, demon guardians, heralds and monsters, and pass words.

Frequently in the pictorial panorama of the Book of Pylons, in the royal sepulchre chambers, a huge snake guards each gate and there appear to be nine of them. The text, however only refers to seven of the serpents and these certainly correspond to the seven gates of the familiar 144th chapter which here properly succeeds the new one, though in a much abridged form, giving merely the three names of occupant, warder and herald of each gate and its enclosure.

The permanent fame of this papyrus will not, however, depend so much upon its literary contents as upon the exquisite miniatures with which it is illuminated. These vignettes, as M. Naville terms them, are beautifully drawn and colored. They were emblazoned upon the manuscript before the text was engraved, because in some cases they have not left sufficient space for the chapter which they illustrate, and the scribe has accordingly omitted some parts of the writing he thought least important.

In these documents generally where the pictorial work is good, the calligraphy is poor, but in Ioniya's papyrus both are excellent. The commencement of the book is occupied with a picture the whole width of the papyrus representing Ioniya adoring Osiris and being at the end of the roll is somewhat destroyed. The vignette to the first textual chapter, however, is well preserved and shows the catafalque placed upon a sleigh, and drawn by oxen to the sepulchre. The miniatures for chapters 83 and 84 and 86, are drawings of birds, a heron and a hernshaw, or sort of gull, and a swallow. These are most accurate representations of the birds; their peculiar attitudes being closely caught and would be valuable representations for an ancient Egyptian natural history book.

The picture also of the deified Falcon or hawk, god horns, is a perfect gem of draughtsmanship. For the "Chapter of the Lotus" a colored drawing showing the blue variety just bursting from bud into full flower is given. The vignettes of the four succeeding chapters all contain paintings of Ioniya himself, either in the presence of deities, or before some of the dreaded gates of the next world; he is robed in white as becomes a deified being in more theologies than one.

The miniature to chapter 153, which is a very difficult story to interpret both in this, and in other papyri, is of quite an unusual scene. It illustrates "the coming out of the net which is in the valley" and shows the soul of the deceased in the form of a human headed bird: such as is also to be found upon the well-known "Harpy tomb" relief from Asia Minor which are of

Lycian or Greek, origin, soaring out of a net held by two fowlers, and welcomed by Anubis in human form.

This concept of a net which enmeshed and held the spirit in bondage was well known in Babylonia, where the dread net of Nergal is often met with. The Book of Habakkuk 1:15, indicates that the Assyrians worshipped the net of the gods. But the Hebrews themselves held some similar views as to the net of the underworld. Bildad speaks of the wicked being "noosed" in a net in Job. Whilst the Psalms chant despairingly of being caught, or entangled, "in the net of Sheol" and the snare of death's entoilment, and even speak of many such dread devices where they say "the nets of Sheol" "seized me."

Plate 18 gives a facsimile of the most lavishly illustrated chapter, for it being that which describes the supernal serenity of the Elysian fields the artist felt he had a theme worthy of his pencil. We here see the fields of Aaru, or heavenly fertile delta, which was so intersected with watercourses as to cause the intervening plots of ground to be entitled "the isles of the blessed."

Space will not permit a description of all these vignettes but especial attention must be called to the picture of the weighing of the soul in the "Hall of Double Truth" with Ioniya humbly and anxiously surveying the operation and Maat, goddess of verity, and Osiris god of mercy present at the function. Also to the perfect little picture of Ioniya in a Nile sailing boat, seated sculling near the prow, and another of him and four deities in the sacred ship of Ra.

BOOK REVIEWS.

ANCIENT HEBREW LITERATURE. Vol. I and Vol. II.

J. M. Dent & Co., London, E. P. Dutton & Co., New York.

These two volumes with the pretentious title are really nothing more nor less than the Old Bible in a new form reproduced; for there are no chapter headings and no divisions into verses and paragraphs. One would not think it was a Bible from the binding or reading the title page, certainl ynot when the book is represented as published by two different firms, one in London and the other in New York. If the book had been arranged so that the last chapter should be the first and the first chapter the last we might realize that it was a reproduction of the Old Testament, but in as much as the title is entirely different and the arrangement of the chapters follow the modern style rather than the ancient it is nothing more or less than the O'd Testament. The difference between these

volumes which is called ancient Hebrew literature and the ordinary Bible is that it is arranged in paragraphs with the numbers of the chapters and verses omitted. Occasionally a political quotation of the speech of the Patriarchs is arranged in a poetical form and all the poetical books such as the Psalms, Job, Ruth, and Esther and the prophetic books are omitted. It appears that a modern criticism is not content until the Old Bible which has become to most people a household treasure, is laid aside and something which has the least resemblance to it substituted for it. We cannot say it will take its place for very few would consider a book which is arranged so differently as an improvement upon the old style but on the contrary would consider it a travesty.

The Hebrew Bible is arranged so that it reads backwards.

NEW YORK STATE MUSEUM.

JOHN M. CLARKE, DIRECTOR.

Bulletin 108.

Aboriginal Place names of New York by William M. Beauchamp, S. F. D.

There are difficulties in determining Aboriginal names, for the English, Dutch, Germans, and French, had different ways of spelling the words spoken by the Aborigines. The author of this book does not undertake to give new spelling to the Indian languages but confines himself to the place names of the single state of New York—which have been borrowed from the Indians, and gives the translations in English, and the Indian right spelling. The names are arranged according to the counties rather than the alphabetical order, and so give to us the location of the places as well as the true ways of spelling the names according to the Indian language and the meaning of the names. This was a very important thing to do, and Mr. Beauchamp is well qualified for the task. The book will no doubt be taken as a standard for no one is better authority on the subject than is the author. It must have taken a vast amount of hard work, diligent study as well as a long time to have accomplished the task and no one is better qualified for it than the author.

It is strange that some native American, who was familiar with his own tongue and had inherited the traditions of his own people, has not undertaken this task before but the discipline of the schools, and the personal attitude have been apparently lacking with all the people who have learned names from their fathers

and have spoken them all their days. This is a comment on the Iroquois which will apply to all the Aboriginal tribes.

There was an Indian who lived in Tennessee who spoke the Cherokee language and who was familiar with the mythology, who has immortalized his name by making known the myths and traditions to the Cherokees, and especially by his making an alphabet for the Cherokee language. He is the only one who has been found among all the tribes of either North or South America, who has ever accomplished the work, although other Indian chiefs have translated the myths and traditions common both in the wild tribes and so-called civilized so that the Aboriginal literature has been in reality put into permanent shape and will be preserved for future generations, and yet the place names and the Aboriginal words.

BOOK REVIEWS.

The Behistan Inscription of King Darius, translation and critical notes to the Persian text with special notes on the re-examination of the rocks by Robert Cushing Tolmay, Nashville, Tenn., published by the Vanderbilt University, 1908.

Vanderbilt University, may well be proud in having professors who are able to decipher and translate the Behistan inscriptions. There are very few universities that are as highly favored in this respect. There are now many articles in the *AMERICAN ANTIQUARIAN* on the subject and notes which give the names of all recent discoveries and it would seem very suitable that there should be closer relations.

THE UNIVERSITY OF CALIFORNIA PUBLICATIONS.

Vol. No. 3, June, 1908.

has an article on the religion of Luiseno Indians, with maps and cuts and musical staves. The figure Wanacot resembles the man effigies of Wisconsin, but is made of milkweed, twine and flat stones, placed at the bottom of a trench, with a cross and trench to accommodate the arms. Wanacot was a "symbol of the milky way." It can hardly be said that human effigies were used for such a purpose, but the figure is interesting, for it shows the variety of superstition connected with the human image in the mourning ceremonies; the Luisena Indians use a human image. They sing and dance all night long, and finally burn the images.

There are numerous myths in reference to the creation. The university at Berkeley is doing good work in the line of Archaeology.

Seton Karr describes the flint implements in a neolithic settlement north of Foyum.

Dr. Budge has issued three new volumes on Egypt and Chaldea, entitled as follows: "The Book of the Underworld," "The Book of the Gates," and "Texts of Egypt."

Vancouver's discovery of Puget Sound with portraits and biographical accounts of men honored in the naming of geographical features of Northwestern America, by Edward S. Manny, professor at the University of Washington. Published by McMillan & Co., New York.

SUNDAY SCHOOL THE WORLD AROUND.

REPORT OF THE WORLD'S CONVENTION AT ROME, MAY, 1907.

PHILIP E. HOWARD.

The footsteps of Paul in Rome are described, even the three taverns are mentioned, also the Basilica of St. Paul's Church is represented by a full page plate. Delegates from Bulgaria and from Denmark, and other localities are also represented by plates.

Another represents the delegates in the coliseum as shown by a plate. Ancient and modern history are brought together. The difference of the Christianity which was introduced into Pagan Rome has spread so far that even representatives from the new world are almost as numerous as those from the old world. The book shows the unity of Christian workers throughout the world.

Ancient Sniopé—An historical account with a prosopographic Sniopé and an Appendix of Inscriptions by David M. Robinson, Ph. D., associate in Classical Archaeology in the Johns Hopkins University, Baltimore, published 1906.

Sniopé is a province in Asia Minor, but it is not so large as the province of Paphlagonia, in which there are many ruins and pieces of sculpture, some of which have made their way into museums, but Strabo and Diodorus thought it the most notable and important of all districts in Asia Minor. Its fortifications were renowned. Its fleet dominated the Pontus. The old Hittite road, afterward the Persian post-road, and the Ephesian highway were a means of transporting goods to Greece. The country around Sniopé was formerly covered with timber, and became celebrated among the ancients. The whole district is rich in copper, iron and silver. It was a natural gateway of a vast commerce.

There is no evidence that the early Phœnicians were at Sinope, but the foundations are probably Assyrian. The code

of Hamurabi was dated 2200 B. C., but 1100 B. C. Assyrian power swept westward through Asia Minor. The name Sinope goes back to "Sin," the moon god. The coins of Sinope are not so ancient as those of many other places, but the Hellenic civilization is in close relation to the rest of Greece. There was here a combination of oriental despotism with Greek culture, though the pirates ruled Sinope with a high hand.

LA GEOGRAPHIE BULLETIN DE LA SOCIÉTÉ DE GEOGRAPHIE, PARIS, 1908.

This journal has an account of the itinerary and on the geographical discoveries in Europe, Africa and America, with maps and cuts.

The Journal of the Royal Anthropological Institute of Great Britain and Ireland, Volume 29, 1907, contains an article by A. W. Howitt on the native tribes of Southeast Australia. Mr. Howitt has passed away, but his works remain and will be valued.

The group relationships are interesting and suggestive, but they differ from the *totem* system which prevails in America. The archæology of America differs from that of Australia in many other respects. The southeast tribes of Vancouver's Island are described by C. Hill Tout, a correspondent of *THE AMERICAN ANTIQUARIAN*.

A cow tribe is described by Rev. J. Roscoe. The people were destroying all their fetishes and temples. The list of kings or princes in various parts of the kingdom is given. Neither the people or the king have any permanent home. They live among the cattle.

Henry Balfour has an article on the friction drum in the same number.

ROMAN CATHOLIC AND PROTESTANT BIBLES COMPARED.

The Gould Prize Essays. Melauchton William Jacobus, D. D. New York: Charles Scribner's Sons, 1908.

These prize essays have a tendency to increase our knowledge of the different versions of the Bible. The Hebrew, Greek, Latin Vulgat, the Protestant version and the Duvay Bible, and "the sources of the English Bible" and the men who translated it. No book in the world has ever received as much attention

as the Bible, and probably none has had as much influence. There is this advantage in having a sacred book which shall be held in common by the different races in the earth: that it brings together all mankind on a common basis, including male and female, young and old, native and foreign.

RECENT EXCAVATIONS IN PALESTINE.

Pamphlet. David G. Lyons, 1908. Harvard Theological Review.

A new era in Palestine exploration was opened by Professor Petrie at Tel el Hesi in 1890. Prepared by long experience in Egypt. Petrie's achievement was the discovery of the various strata at Lachish. The Tel el Hesi lies on the edge of the Philistine plain, about thirty miles southwest of Jerusalem. The latest objects found were fragments of the Greek pottery of the third century B. C. Phœnician abound in the ruin from twenty to forty-five feet below the top. In Egypt the same ware occurs from 1300 to 800 B. C.

Petrie recognized four types of pottery. The pamphlet is very instructive and valuable.

REPORT OF THE ANTHROPOLOGICAL ASSOCIATION. VOLUME I, PART V. Ethnographic and Linqistic on the Paez Indians of Colombia. *Henry Pittier de Fabrega*. Lancaster, Pa., June, 1907.

This pamphlet contains about fifty pages, with four plates illustrating such relics as are found among the Paez Indians, *viz.*, spindle whorls and gold relics, also pictographs of sacrificial places, the costumes of the Paez Indians, the bamboo bridges and the villages.

ARCHAEOLOGICAL REPORT, 1905-6, EGYPT EXPLORATION FUND.

Archæological report describing the progress of Egyptology during the year 1905-6. Edited by E. L. Griffith.

THE OLD DOMINION; HER MAKING AND HER MANNERS.
Thomas Nelson Page. Charles Scribner & Sons, 1908.

THE IOWA JOURNAL OF HISTORY AND POLITICS.

April, 1908, July. Published by the State Historical Society, Iowa City, Iowa.

This journal is growing in interest and value. The notices of publications which are received in exchange are very thorough and interesting. There is scarcely a journal in the country which does not receive a notice from the editor. The historical societies are especially noticed.

THE
MOUND BUILDERS:
THEIR WORKS AND RELICS.

BY STEPHEN D. PEET, PH. D.

Editor of "The American Antiquarian and Oriental Journal."

A SECOND EDITION of this book, containing FIVE NEW CHAPTERS and a large amount of additional material, has just been published. It brings the subject up to the present date and throws much light upon the Mound-Builder problem.

Many large pyramid mounds of the Gulf States are depicted in the Work, also the relics which have recently been discovered are shown by the cuts furnished.

There are certain problems still unsolved, but these are discussed in a candid manner. The question of the age of certain copper relics, and the character of the symbolism which prevailed, is also presented. The book treats of the whole Mound-Builders' Territory, and brings before us the different stages of art and the different modes of life which prevailed in prehistoric times.

The author holds that there was a contact between the Southern Mound-Builders and the so-called civilized races of the Southwest, and that trade was carried on with all parts of the continent, but he thinks there was a decided difference between the hunter tribes and those which constructed the great earthworks which are scattered along the Ohio River and in the Gulf States.

The book contains about 300 illustrations, which represent the earthworks and relics very correctly.

It is an interesting book, and one that will be valued for the information it contains.

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1908

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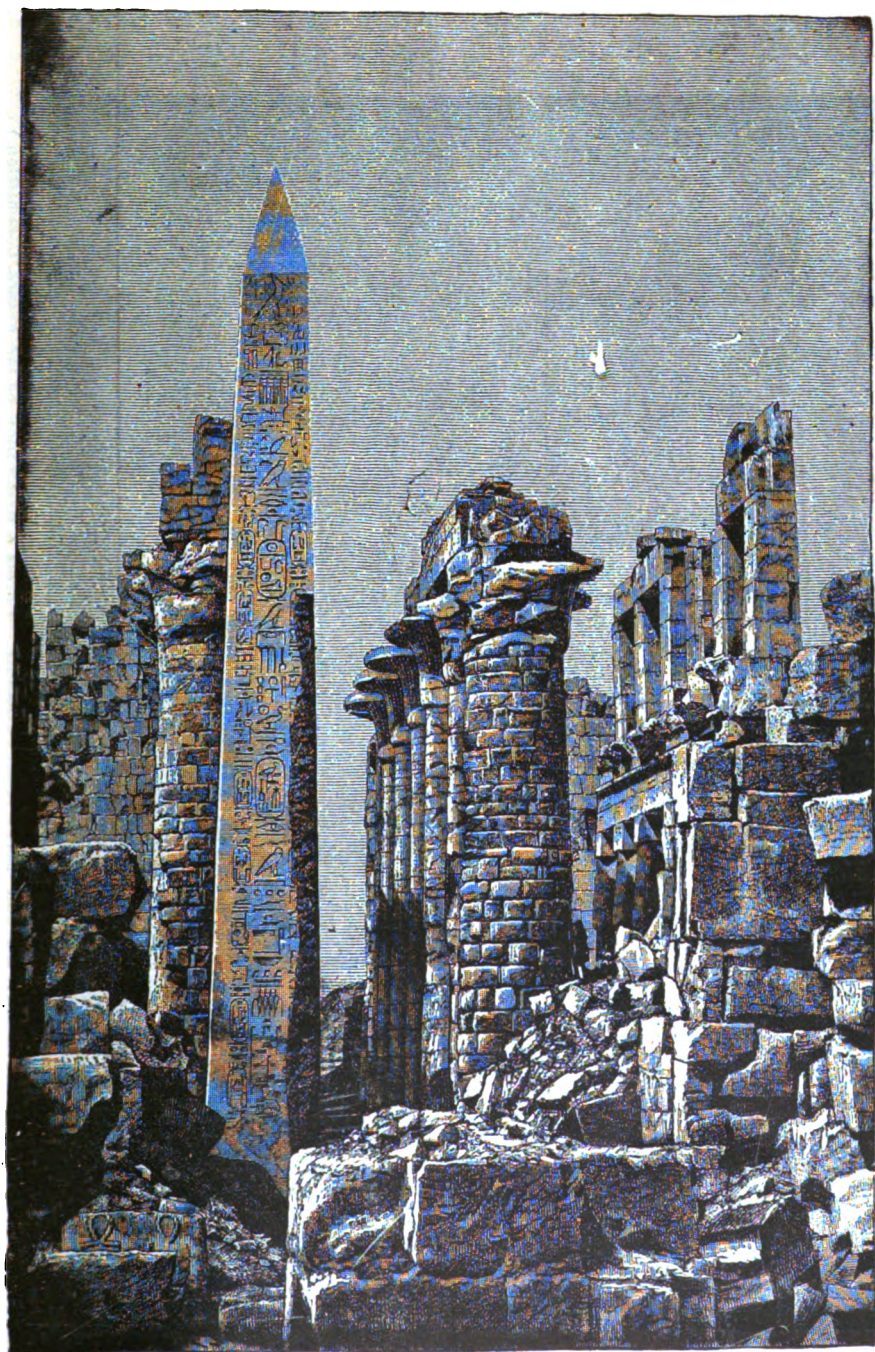
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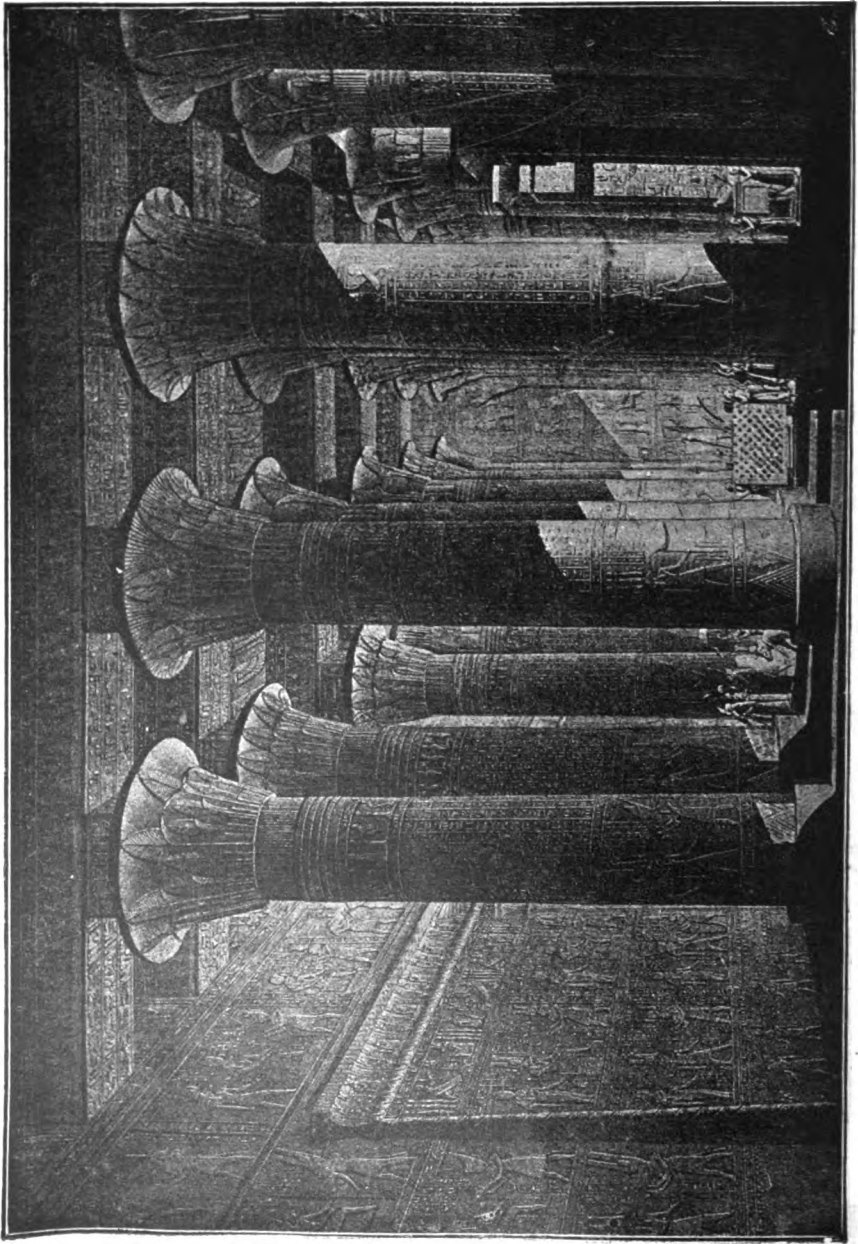
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OBELISK OF THOTHMES AT KARNAK.



CEREMONIAL PROCESSION IN AN EGYPTIAN TEMPLE. (From a Restoration by the French Commission.)

THE
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VOL. XXX.

NOVEMBER AND DECEMBER.

No. 6

THE RELATION OF EGYPTIAN TO CLASSICAL
CULTURE.

BY J. O. KINNAMAN, A. M.

Before entering into a technical discussion of the subject, it is necessary to obtain a general view of the movement of civilization antedating and contemporaneous with the time which we shall study.

Greece the land of beauty! Not only is it so in natural scenery, but in the designs and works of man. If we may ask for a definition of beauty, the answer is simple: the proper ballancing of proportion. This proper ballancing of proportion seems to have always abided with the Greek; it seems to have been a part of his innate nature.

When we come to study the movement of civilization, we are compelled to change some of our former notions. It has been an accepted theory that the civilization of the Greek came from the North, but now we are forced to change to the very opposite, the South.

The oldest extant remains of prehistoric man found in Greece is the Mycenaean. We usually concede that this civilization was contemporaneous with Homer, and that poet to some extent portrays that civilization. This Mycenaean civilization when introduced into Greece had reached its zenith and had begun a period of "decadence."

Further, the Mycenaean cities built in Greece were built by colonists from a foreign land, and settlement made among a hostile people. If this was not true, why were the cities so carefully fortified, for the cities were mere fortresses. The possession of arms was necessary to the inhabitants.

Instead of looking in the north-land for the mother country of the origin of civilization, if we look southward our search will be rewarded. If we turn our eyes toward Crete we will find the cradle of Mycenaean civilization. At Cnossus we find the oldest remains of man so far exhumed. A conservative estimate of the oldest stratum carries us back 1200 years B. C. Even further, for Neolithic relics have been brought to light at this place. Here we

find palace built upon palace. The Great Palace, the Labyrinth, dates about 1200 B. C. or contemporaneous with Tiryns and Mycenae. This palace was not fortified, but was of immense structure covering in all about six acres. The palaces at Tiryns and Mycenae are models of the same type but on a smaller scale. The natural conclusion at which we are forced to arrive is that the march of civilization into Greece was from the South, from Crete.

If the question is asked: from whence the Cretan civilization, we must acknowledge our lack of theory.

If we study the region in which early civilization had its beginning and its culmination, we are forced to turn our eyes to the Tigro-Euphrates valley and survey it as the curtain of history goes up.

Here we see a civilization that is far advanced. States have been established, kingdoms have already existed and fallen. This civilization was housed in cities with fixed laws, manners and customs. Government had become an established fact. In short, when the curtain of history rises here, civilization had already reached a state of crystalization, a process which took centuries to accomplish. How old was the Sumerian civilization? We cannot even suggest an answer.

But careful study of the movement of civilization seems to point to the theory that it was from the East to the West, in other words from the Tigro-Euphrates to the Nile valleys. At this point a difficulty seems to arise, viz: that Menes, the first king of Egypt, reigned about 5000 B. C., or at a time contemporaneous with the first glimpse of history we get in the Tigro-Euphrates. But what of that? The historic Egyptian seems to have been a foreign conqueror and not the aboriginal inhabitant of the Nile. If that is true, whence came the Egyptian? In other terms let us ask, whence came the Egyptian, Greek and Roman, and what relation is each to the other?

There must be a relation between all the civilizations of this period, there must be, as it were, a common thread permeating them all, and pointing out their kindredship.

It is our purpose to carry our research along the line of architecture, especially will we consider the column in Egyptian, Greek and Roman architecture.

If the historic Egyptian was a foreigner, he brought to the Nile his own manners, customs and architecture; but as ever in the conflict of civilizations, the resultant is a mixture. Now the question arises: Is Egyptian architecture the resultant of two civilizations, or is it purely native to the conquerors? Let us examine.

In Egyptian architecture, one thing seems ever to have been kept in mind by the architect, viz.: massiveness, endurance and indestructibility. The architecture is so massive, so eternal in its

structure that it strikes awe and reverence to the heart of the beholder. This effect is obtained by immensity and perfect balance of proportion. The dominant idea among Egyptians was religion. Religion controlled their every thought and action. It was a tyrant that brooked no freedom, no deviation from type.

When we attempt to reduce Egyptian architecture to "orders" we are compelled to recognize eight classes with several subdivisions. From this it must not be inferred that the Egyptian had that many absolute types of architecture, the variation existed in the capital only.

The simplest "order" in Classic Greece was the Doric with which all students of classic architecture are familiar. This order corresponds to the "*square pillar order*" in the Egyptian.

In closely examining the architecture of Egypt we soon see that the Egyptians were not aiming at excellence of finish but general effect, and that effect being massiveness. While the piles on the Nile appear to the eye as massive, close examination displays its weakness. The entablature does not rest directly upon the capital but upon a small piece of stone upon the capital, but this stone is so cleverly inserted as to deceive the casual observer. Likewise the base of the column is so cut away that one-fourth of it is rendered useless. Whether the Egyptians were aware of this weakening or not is a question that cannot be answered positively.

It is probable that there is no connection between the Egyptian First Order and the Greek Doric. The Egyptian square pillars impress us with the idea of door-posts and they were often ornamented with hieroglyphics running down them vertically. But between the Egyptian Second Order and the Greek Doric there seems to be some relation. In this order we find the column fluted or plain in accordance to the position of the column. The Greek took this idea and adapted it in two different orders; the plain column, severe and exact, was adapted to the Doric Order, the fluted to the Corinthian. The Egyptian was ever restricted in his efforts by convention and religion, while the Greek was free to cultivate his imagination to its fullest extent.

While the Doric column and capital may be traced to Egypt for its origin, we are compelled to stop with it, for the other two Greek orders do not seem to have even the remotest relation to any of the Egyptian orders. It would take a stretch of imagination to connect the Egyptian *bud* capital with any of the Greek orders and establish any relationship.

That the Greek came in contact with the Egyptian in the earliest times cannot be denied. We have monumental records of the Greek as early as the IVth Dynasty, but the Greek was not a plagiarist; if he was anything he was original, working out his own civilization in accordance with his own æsthetic ideas.

Leaving the question of column and capital, let us examine the entablature of Egyptian architecture. It is the same or nearly

the same in all orders, consisting of a cornice and architrave without a frieze. The cornice is ornamented with vertical lines something like triglyphs. Between these vertical divisions we find the cartouches of the reigning monarch. The center is usually occupied by a winged god. The architraves are plain, not being broken into fasciæ, and are covered with hieroglyphics.

On the other hand, we find the Greek entablature highly ornamented and carved in relief.

In both types of architecture the arch was not used. It is doubtful if the arch was ever employed in Egypt. The Greeks knew of the principle, but, as I have shown in previous articles, never employed it. The nearest approach we find in Egypt is in one of the pyramids, but in that case the blocks of stone are merely overlapped, then cut away into the form of an arch in order to give more altitude to the chamber. It remained for the Roman to put into general use the principle of the arch.

Roman architecture was in no way influenced by the Egyptian. The historic Roman was influenced entirely by Greece. The so-called prehistoric Roman was indebted to the native Etruscan; from whence came this same Etruscan civilization is another question which would require a separate discussion.

In one kind of construction Egypt stands alone, viz.: its pyramids. These immense piles can hardly be classed as architecture for they rather belong to the engineer's skill, but they probably taught the later Egyptian one thing, the idea of immensity.

Whence came this idea to the Egyptian? If we hold that the civilization on the Tigro-Euphrates is older than that on the Nile, we need not look any further. In the Tigro-Euphrates valley we find the ziggurat, or temple. This was modified into the pyramid built of stone instead of clay and used for a tomb instead of a temple. The idea of the ziggurat may have even found its way into the western hemisphere, how we know not, and taken the form of the mounds attributed to the Mound-builders. But the idea of this kind of engineering never affected the Western European nations; Greece nor Rome ever adopted anything of the kind in building.

The Egyptian and Greek architecture differed widely in their basic principle, Æsthetics. One strove for massiveness, durability, immensity, the other for delicacy, proportion, beauty. One tried to impress upon the people the idea of the power and eternity of the gods, the other the sense of justice and esthetic beauty of the powers it represented.

The Egyptian and the Greek differed so widely in every respect that most writers say that the architecture of Egypt is native, was wrought out from first to last on its native soil, not being influenced by any external civilization whatever, likewise that of Greece was the resultant of the fertile brain of the Greek. The Greek was not a plagiarist, but he adapted to his own use that which of other nations suited him, but that which he received

from Egypt was impression rather than type. We must remember that it is possible that civilization in Greece was as old as that on the Nile. The later historic Greek received impression from the Nile the same as he did from the Tigro-Euphrates, but he was not influenced to the same extent as he was in later years by the Persian civilization. But influence is relative rather than absolute; to tell just where and when it begins or where it ceases is impossible.

We cannot trace a line of descent of the Greek from the Egyptian nor can we form even a connecting link of relationship between them. If there ever was any relation between the two, the relationship has been entirely lost.

NEW GUINEA THE LEAST KNOWN IN THE TROPICS.

BY THOMAS BARBOUR.

New Guinea, the last great area remaining in the tropics which is still almost completely unknown, has a peculiar charm for the naturalist. To be sure its coasts have been, and are still, frequently visited and settlements exist on parts of the island, but great stretches of seaboard still remain unmapped and all but a small part of the interior is a blank on our charts. Lying as it does between the equator and Queensland, Australia, its length is about 1,490 miles, and its maximum breadth is 430 miles. Its area is greater than that of Borneo, being about 300,000 square miles.

The Dutch section attracts the student of zoology, ethnography, or geology particularly. The presence of snow mountains, whose slopes have never yet been trodden by white man's foot, conjures up in the imagination endless dreams as to what new forms of life may there await a discoverer. Several well-equipped expeditions sent out by the Dutch scientific societies or by the government have failed to even reach the bases of these mountains.

Owing to the extremely unhealthy climate and the character of the natives, the Hollanders have not attempted to administer this territory as the English and Germans do theirs. Other island possessions, nearer at hand and far more valuable from every point of view, have done much to retard the Papuan trade, and now only a couple of times a year do subsidized trading vessels visit this coast.

No words can begin to do justice to the splendid scenery of parts of the coast. In the Pitt Passage, between the islands of Salwatty and Batanta, steep wooded hills rise from the sea on each side of the ship. A white coral sand beach and an occasional

house perched on stilts in the water complete this scene, while over the bow the coast of Papua shows as a dim, low bank, as if a forest were growing from the sea. The vegetation is rank in this alluvial land, high timber, matted with creeping vines, covered with masses of orchids and rising from a bed of ferns being the feature which one encounters as soon as shore is reached. We must not forget the birds, splendid lorys, parrots of red and blue and green, white cockatoos, and gorgeous pigeons greet one's first ramble ashore.

In coming to Papua from Malasia it is the sudden contrast in the people which makes the most startling impression on one's mind. The Malay, grave, reserved, and dignified, is as unlike his New Guinean neighbor as a Chinaman is unlike a European. These islanders are a happy, boisterous lot until some little thing offends them, when they at once become sullen and treacherous; but as we had no occasion to cross them, we got along most admirably. They often helped us collect with real enthusiasm, a set of rude drawings of various beasts showing them for what we would barter.

Over all Dutch New Guinea tobacco, or "sembacco," as the natives call it, is the most sought for "trade." Next in popularity comes brass wire, then cloth, red being demanded in some localities and blue in others. Beads and knives are also most useful. The tobacco is put up for this trade in Rotterdam, marked "The Rising Hope" (in Dutch), and contained in a blue wrapper; curiously enough any other sort is absolutely refused by the people. They smoke it and chew it. They are very fond of walking up to you and taking a cigar or cigarette directly from your mouth and walking away, puffing it with perfect unconcern. When going ashore every article of value (from the Papuan standpoint) must be left behind. The conception of the difference between *meum* and *teum* is not definite, and to try to keep a thing from a native by force is—well, a proceeding of doubtful safety.

In the extreme northwest of New Guinea and on the neighboring island of Waigiu the people are similar. Here has taken place the longest intercourse with the Malays, for until the Dutch came, the sultan of Ternate was suzerain of this part of Papua. There has been a mingling of blood, as is shown by some individuals being of a lighter color than is common.

NEWFOUNDLAND CARIBOU.

By A. RADCLIFFE DUGMORE.

The caribou's peculiar build, sometimes wrongly described as "awkward," is wonderfully well adapted to the nature of the boggy country so common in Newfoundland. Probably no other deer could travel with such ease over these bogs, their immense feet preventing their sinking in places where a man would be nearly mired. Their usual gait when traveling is a long, swinging walk, which is very rapid. Occasionally they break into a fast trot, and when suddenly alarmed they gallop with pretty fair speed for a short distance. When people say that the caribou is stupid and almost blind, they show that they have never attempted to photograph him. From my own experience I am inclined to believe that they see fully as well as, if not better than, the Virginia deer, and their senses of smell and hearing are just about as keen. Occasionally they exhibit a peculiar degree of curiosity and will even walk to within a very short distance of a strange sight, especially if it does not move and they do not get the scent of man. I have had them gaze at the moving-picture camera as though completely fascinated, while it ground out pictures. It might be well to state that the old stags keep their curiosity well within bounds.

From the sportsman's standpoint it does not seem that the caribou should be reckoned very high in the list of game animals, especially if they are shot during the migration. I, for instance, could have killed any number with a pocket pistol, and yet they are hunted with high-power rifles. The getting of a large head is almost entirely a matter of chance. You don't go to the head; it comes to you; for you are securely hidden behind a blind on a well-used lead or trail, and as the animals pass you simply select the head that best suits your fancy. The question of marksmanship can scarcely be mentioned or considered, as most of the shooting is done at very close range.—From an article in *Country Life in America*.

THE PATRIARCHAL AGE.

BY STEPHEN D. PEET.

It is generally supposed that the Patriarchal Age began about the time of Abraham, but in reality it dates farther back and may be said to have begun soon after the Confusion of Tongues and the Distribution of the Races. The ancient records and the earlier monuments show that there were three different races which passed from Central Asia in different directions and began the peopling of the world. Those which are known to be descendants of Ham moved southward and westward and became the ancestors of the various tribes which settled in Africa.

Those which were the descendants of Japhet moved both eastward and westward and became the ancestors of the great Indo-European races and some of them became the ancestors of the Finns and Lapps of Northern Europe, the Turks of Central Asia, the Hungarians and tribes of Northern Siberia and the myriads of China and Japan.

Another race made their homes on the table lands of Persia, the plains of Susiana, and the banks of the Tigris and Euphrates. They became an organized nation possessing a peculiar form of writing. Their alphabet, like that of the Egyptians, was at first purely hieroglyphic. Besides writing, these "Accadians" knew the use of the metals, for they had learned the art of mining in their first home. Their oldest tombs contain objects in gold, bronze and iron.

Another race, short in stature, with abundant, dark-colored, curly hair spread every way from Western Asia and settled at the foot of the Hindoo Koosh range. This people spoke a language allied to the Hebrew, Arabic and Semitic idioms.

The fusion of the two races, the Sumers and the Accads, produced the nation known in history as the Chaldeans. It was from this people, who were the descendants of Shem, that Abraham belonged.

I. It was among the Semites who remained in the valley of the Tigris that Patriarchy first appeared, and history began to make its records. The testimony of the ancient writers show that civilization first dawned in this very region, and society passed through its different stages and entered upon a civilized condition, the monuments of which are still standing, and are the source of much information.

The first glimpses of history are gained by reading the book of Genesis, and tracing the events which occurred after the Deluge, and especially by reading the account of the building of the Tower of Babel.

The testimony of ancient writers shows that in prehistoric

times migratory tribes passed from the Valley of the Tigris in different directions. Some are known under the name of Scythians, who, Geikie says, are "regarded as among the most ancient of men."

The earliest inhabitants of Mesopotamia were called Accadians. They became at an early date an organized nation.

The Turanian race was established on the Euphrates and Tigris, but another people disputed their territory and ultimately overpowered them. These were the Cushites. They found their most famous homes in the region of Sidon and Tyre, and were the primitive races of mankind.

Nimrod the mighty hunter was a Cushite chieftain. After a fierce struggle with the Accadians they settled in Mesopotamia.

"The Beginning of his kingdom was Babel, Erech, Accad and Calneh in the Land of Sinar." These two district elements—the population of Chaldea and Babylon—was composed of the Sumirs, or "dwellers on the river," and the Accads, or "mountaineers."

In Babylonia they found neither quarries nor mines from which to extract stone for building and metals for use.

Their first habitations were huts covered with mats, but afterwards they used the wood of the palm tree and sun-dried bricks. They raised immense mounds and built temples to their God, Merodach, upon the summits. One pyramid is said to have been over 600 feet high.

The most interesting structure is a pyramid called the "*Birs Nimrod*," or the tower of Nimrod. This stands on the left bank of the Euphrates at the height of 198 feet, with a vast mass of brick work above the mound, 235 feet in all. Few ruins in the world can compare with the *Birs Nimrud* in simple grandeur. It was called by the Greeks the Temple of Belus, and was consecrated to the seven planetary gods, each step to a separate god—that at the bottom to Saturn, the next to Venus, then Jupiter, Mercury, Mars and the sun, and each step having a different color—black, white, orange, blue, scarlet, silver and gold. The ascent was made by a winding path, with a landing place and seats for resting about the middle of the way up. At the top there was a spacious temple sacred to Nebo, the god.

An inscription reads as follows: "*The Temple of the Seven Lights or Planets.*"

A most remarkable fact connected with the Tower of Babel is that towers and temples as far away as Mexico and Central America seem to have been built after the same pattern, and have traditions connected with them which remind us of this historic tower.

A Mexican manuscript in the Vatican Library has the following sentence: "Before the great inundation, which took place 4,800 years after the creation of the world, the country of Anahuac was inhabited by giants, and all who did not perish in the flood were turned into fishes, though one of the giants, surnamed

Architect, went to Cholulu and built an artificial hill in the form of a pyramid. The gods beheld it with wrath, for it was to reach to the clouds, so they hurled fire on the pyramid, and the work was discontinued." At the time of the Spanish conquest these ruins were called "*the mountain of the unburned brick.*"

The Hebrews were connected by a common descent with the people of Elam, on the Persian Gulf, east of the Tigris; and with the Assyrians on the northeast, with the people of Arphaxad, with the Lydians, with the people of Asia Minor, and with the Aramean, or Syrian, nations on the Euphrates.

The tribe to which Abraham, the great forefather, belonged, had its original seat in the district named Arphaxad. It lies north of Assyria in the mountains of Armenia and south of Mt. Ararat. The name *Hebrew* was given by the Canaanites, first to Abraham, and then to his descendants.

II. Patriarchal life appeared in the migration of another Terah, the father of Abraham. It is probable that Ur became the name of a district as well as of a city.

The ruins of Mugheir rise on the west side of the Euphrates in a vast mound, strewn with the remains of bricks. The plain around is flat and low. Four thousand years ago the city was flourishing, and the arts and sciences were cultivated, astronomers watched the heavens and the art of writing is supposed to have appeared among these people even before it did in Egypt. There were libraries at Sepkevah, Babylon, Borsippa, Calabek and Nineveh. Ur was one of the most ancient cities of Chaldea. The Cushite population on the lower Tigris and Euphrates conquered the Accadians and mingled with them at an early date, and in the course of time formed the race known as Babylonians. Large numbers of stamped bricks reveal the names of the earliest kings who showed their power in the southern regions before Abraham's time.

Abraham could see in the northern part of the city the tower "Birs Nimrud," with its many stories, the lower story measuring 198x133 feet, the second 120x75. It was still unfinished when Urukhd died. The prisoners of war and slaves toiled hard to raise this tower. A sacred observatory arose above the highest story. The oldest astronomers in the world watched the stars from this height. "Numerous priests chanted their liturgies, offered sacrifice, recognized omens, marched in long processions and presided over the temples; while in the city were found all the trades and professions." "The ruins of a temple tower built by King Urukhd stood at Warka with its corners facing the four cardinal points. It rose 100 feet above the plain and was so huge that the whole structure had more than thirty million bricks used in its construction. A succession of receding towers, standing one upon another, with an observatory above all." The style was primitive and simple. In each city a tower was dedicated to the local God, whether

it was the sun, the moon, or one of the planets. Uruk built at Ur the temple to the god "*Šin*," or the moon, and a great palace at Ur was known as the palace of the Supreme Prince. The extent of the city attests its splendor. If the earliest dwellings in Chaldea were simple huts, they had been superseded in the days of Abraham by houses of solid brick, with fanciful designs painted on the outside. The houses stood on platforms and the walls were very thick to shut out the heat. The rooms were long, narrow and gloomy. They opened one into the other. The arts of life surrounded the patriarchs in this region. Clay tablets stamped with figures of men and animals displayed the skill of the artist. Cylinders of serpentine, jasper and other stones were used as seals for impressing the device on clay tablets. One seal represents a royal personage sitting in a carved armed chair. He is dressed in a long robe, reaching to his ankles, and three figures are before him wearing long, flounced, embroidered, striped dresses,—which show great advancement in textile manufactures.

Sun dials marked the hours of the day, which were divided as they now are. Stone tools were still in use but there were implements and weapons and ornaments of various metals.

II. Such is the picture of this region at the time of Abraham's birth. It shows that instead of being a wild, unsettled country, occupied by shepherds with their flocks, it was filled with the tokens of civilization and showed a progress of thought which was, in a measure, calculated to arouse the ambition of men and enlarge their thoughts, and was in this respect favorable to the development of just such a character as Abraham had. The alluvial soil of the Euphrates rivaled the productiveness of Egypt.

The ruins of Ur lie more than two degrees north of the Persian Gulf. But since the time of Abraham a delta has been formed 130 miles north and south and 60 to 70 miles broad. In the time of Abraham the waters were directed into a system of canals and dykes, which enabled the inhabitants to regulate the inundation.

The innumerable canals—once the boast of ancient monarchs—are now dry and well nigh effaced. But Loftus says, "nothing could exceed the beauty and luxury of the riverside and its verdant borders." He speaks of a thick forest of luxuriant date trees which screens the bank on each side of the river. The palm tree, the most beautiful of all with its fruit hanging in clusters, was the food of the poor and the luxury of the rich.

We must remember that there had been a division in the population which occupied the valley of the Tigris before the days of Abraham, and that his birthplace was not in the region where Noah and his three sons first dwelt, but was far to the northwest, nearer the headwaters of the Euphrates, and not very distant from the mountains in which the river had its rise.

This is an important point, for it shows that history had passed through its first stages, and that cities had grown up which were as important as those of the earliest on record. The Tower

of Babel was erected in one place and near the first home of Noah and his descendants, but Ur of the Chaldees, which was the home of the patriarch, was a different place and was far to the north-west.

The Hebrew and Assyrian languages belonged to the same stock, but were very different. The ancient Semitic dialects were two in number, one, the earliest, was in the motherland of Babylonia; the other, or northern, was in the home of the Assyrians, but the Assyrians were more Semitic than the Babylonians, for they were less in contact with foreign elements, and especially with the ancient Accadians, the inhabitants of Southern Babylonia.

The separation between the two kingdoms occurred before the days of Abraham. Babylonia became the name of one district and Assyria the name of the other. The Babylonians and Assyrians had a different government and spoke a different dialect of the same language.

Very little is known of the period which elapsed between the building of the Tower of Babel and the time when Abraham lived. Following this was the Patriarchal Age. The impression formed by reading the Bible story is that Abraham was comparatively independent and free, and that his life had been spent among the works of nature rather than in the midst of the seat of political power, and of artificial society in which idolatry prevailed.

We are reminded of the home life of Abraham, before the description of his remarkable vision which resulted in his call. In fact the home life is the element which gave tone to his personal character and had great influence over his entire career.

The first mention of Abraham is at the end of a table of chronology, in which his ancestry from Shem, the oldest son of Noah, was the first on the table. "*These are the generations of Terah: Terah begat Abram, Nahor and Haran. And Haran begat Lot. But Haran died before his father Terah in the land of his nativity in Ur of the Chaldees. Abram and Nahor took them wives. The name of Abram's wife was Sarai. The name of Nahor's wife was Milcah. Terah took Abram his son, and Lot the son of Haran (his son's son), and Sarai his daughter-in-law (Abram's wife) and they went forth with them from Ur of the land of the Chaldees to go to the land of Canaan, and they came unto Haran, where they remained for a time.*"

III. Abraham had a mission and one that was to have an effect upon the world. It was the effect of personal character rather than of mechanical skill or military courage, and for this reason may well be studied by all.

His domestic life was worthy of admiration and his strong faith may well be sought for.

The supernatural element was prominent with him, for he seemed to have been chosen by the God in Heaven rather than by man upon Earth, and his call was significant, for he was com-

manded to look to the sky and count the stars for multitude, and the promise was made to him that such should be the number of his followers who should worship the true God.

His birth being in a city where civilization had reached a high level, a region where art and architecture flourished, and where learning was prevalent, for it was one of the two library towns of the nation, Abraham was no doubt a wiser and stronger man because of his birth in a place of so many advantages and a land of education. An old Hebrew story says that the family left Chaldea because they worshiped the God of Heaven, and when the rulers of the city cast them out they fled into Mesopotamia. In the seventh chapter of Acts it is recorded:

"The God of Glory appeared unto our Father Abraham, when he was in Mesopotamia, before he dwelt in Haran, and said to him, 'Get thee out of thy land, and thy kindred and come into the land which I will show thee.'"

Abraham was a patriarch in every respect. It was not so much his leaving his home in search of a better one, for he belonged to a fearless race and his ancestors had been leaders and had made new centers for themselves, but Abraham believed, and stepped out into the new regions because he had heard the voice of an unseen God, and trusted Him. He remained steadfast in his obedience to the divine voice. He was called "*The friend of God, and the father of them who believed.*" He went with his caravan and his tents and family to a land that was to him unknown. Doubtless there had come to his ears reports of this distant land, and of its resources; for there were already two races occupying the country. The descendants of Ham had made their way across the desert to the southern portion of the Dead Sea and moved northward. Others were Semites who had already passed up the Euphrates and across the desert and begun to occupy the region near the source of the Jordan.

It seems strange that one person so modest and unassuming should have so much influence that even today we look back to this early period, and this distant land, and picture him as migrating from one region to another, but carrying his religious principles with him, and making his personal character a source of inspiration to nations.

The Christian consciousness has at all times been aroused by the influence of Abraham the patriarch. It is not because of Abraham's creed that he has had such great influence. A book called "*The Shepherd of Hermas*" has been widely read and admired. The commands of the Lord have become history, and have had more effect than the imaginary works which have been written. It was not primitive Christianity, but something that anticipated it and gave to it great force,—*a living and abiding voice which has found echoes in the most distant regions.*

In the household Abraham, as the father of the Faithful, has presided, and the spirit of worship which was awakened and strengthened when God gave him the promise has continued throughout all ages. Every Christian family has felt the influence of Abraham's faith, and the children who have been consecrated to the Lord have become members of that same family.

We know nothing of Melchisedek, except that he was a priest of the Most High God, but Abraham, a worshiper from a far country, has become the father of God's chosen people, the founder of the Hebrew race.

The journey of Abraham from Ur of the Chaldees was remarkable, for it was the first experience which the patriarch had. He was the father of a multitude.

The call had already been given to Abraham before he left Ur of the Chaldees. He was seventy-five years of age when he left Haron. He set forth at the head of a large body of tribesmen—a multitude so large as to enable him a few years later to select 318 trained men to pursue Chedarlaomer, who had invaded the region, and was a military hero.

The journey from Haron led towards the ford of the Euphrates, on a caravan route from Damascus. The country was rough with hills, but pastoral stretches intervened.

He crossed the great river amid the spurs of the forest chain. On the western side he was committed to the journey. The old road to Damascus was open before him. There were camels on which the baggage was heaped high; around them were flocks of sheep and goats. Abraham's wife was in her own tent, and slow-footed camels and still slower flocks turned westward toward the Jordan. The hills of Samaria were in the distance.

The supreme dignity of being called the "Friend of God" was Abraham's—his personal character was the ground of the lofty place in the history of religion. He was to found the true kingdom of God among men.

IV. A view of Palestine, which was to be Abraham's home, will be appropriate here. Palestine and Egypt were already occupied by a settled population. Wheat fields, figs, vinyards and fortresses were already known. Hebron was built seven years before Zoan, in Egypt. The plentifulness of its honey and its palms were known. Its trees were fruit-bearing. Its olives were so abundant that one district had an olive tree for its hieroglyphic sign. The early civilization had become corrupt. Human sacrifice marked the worship of the gods; Sodomy prevailed.

Earthquakes of great violence were not unknown. Floods frequently wasted the valleys. Terrible storms and burning winds from the desert swept over it at times; seasons of drought brought famine; visitations of grasshoppers and other insect plagues were only too frequent. There were cave-dwellers among the mountains—a race of men known as the Rephaims, the sons of Anak; the Zamzummim and the Amorites were numerous,

The Hebrews were struck with awe at their height and bulk of body, and looked on them as giants. The hilltops were occupied. Fortified towns were on the heights. The Amorites were represented as high as a cedar and as strong as an oak. East of the Jordan was the city of the two-horned Ashteroth, the moon goddess, the star of Assyria. An ancient race wearing a long, close robe with short sleeves and a girdle around the waist, hair worn long, ornamented with a fillet around the head, flowing, reddish beards and tawny complexion, occupied the land. In war they used chariots. Their chief arm was the bow. A shield pierced with three arrows was their ensign."

The Amalekites, an Arab race, lived in the south where there was pasturage for their flocks. They were the strongest and most warlike people in Arabia. The Hittites were dwellers in the valley, but were in contrast to the mountaineer Amorites. The Perizites, like the Hittites, were dwellers in the open country. The name Canaanites was given to the Phœnician settlements in the rich valley of the Jordan.

The character of Abraham in the main was amid peaceful scenes and without conflict, either in his native land or the land of his adoption. He was a patriarch in every sense of the word. But there came a trial to his faith which no other father was ever called upon to undergo—it was the sacrifice of his only son.

This was the one event, however, which brought forth the nature of his faith and the grandeur of his character. It is in fact the first event of its kind which ever appeared in human history,—but the faith of his character is exhibited by it more than by any other event.

If he had been a military hero and had led his army in the midst of battles and proved a great conqueror, his career would have been understood and his motive appreciated. But when it comes to a trial which to all appearances was to result in the death of his first-born, the shock came not only to his own faith, but mystifies even those who read about this command, and his obedience. One interpretation of the event has led many to regard it as a type of the sacrifice of Christ, the Son of God, the Savior of the World. The mystery is too great to admit of solution. But the grandeur of human nature is exalted by both events. The human and the divine are mingled together. It was however, an exception so great that no one is expected to follow it, and the religion of the household is expected to consist in mercy, and not in sacrifice.

Abraham's obedience was implicit, and is an exception in the history of patriarchy, for the building up of the household is a command with a promise, and is in accord with both the law of nature and the law of God. It was the only event of its kind that is on record in the Bible.

V. There was a promise connected with patriarchy which was afterwards fulfilled in the history of Jacob and his sons. This,

however, brings us into a new region and gives to us a view of a different nation and a new period of history. Jacob was the Patriarch to whom the "promise" was fulfilled. His twelve sons were born in the Promised Land, but nearly a generation was passed before the promise was fulfilled.

The training school of this patriarch and his family was in Egypt, for civilization prevailed while they were held in bondage, and had reached a high stage before Jacob went down with his sons. It was a mysterious providence which led to the selling of Joseph to the Midianites. Even the dissensions of the household, and jealousies which the brothers felt towards Jacob as the favorite son, were so overruled that in the end a great nation arose which was called the Israelites. This name was borrowed from Jacob, the father, and was afterward given to the entire nation, and is even now used as a sacred word which is applied to all true believers of the promise that was made by God to His people.

The Patriarchal Age continued from the time of Abraham up to the days of Moses, and gave place to the times when the prophets prevailed. A part of the history was written in Egypt, a part in the Wilderness, but the greater part in the Land of Promise. The division of this land took place after the giving of the Law on Mount Sinai, and even after the forty years in the Wilderness, when Moses stood upon the mountain and gained a view, not only of the Jordan but even of the distant sea, and of the whole wide region which stretched between the river and the sea. It was the most singular history ever written. A great nation who had grown up under a system of bondage, and had become civilized while in contact with an idolatrous people, had been led into the Wilderness and there received the Ten Commandments engraved on two tablets of stone; and afterwards were instructed in the ceremonial law and trained in religious habits and thoughts, and then after forty years of wanderings should find the fulfillment of the promises. This was the second part of the Patriarchal Age.

The third part began when the Israelites entered into the Promised Land and began to distribute themselves according to their descent into the various parts of the land.

The descendants of each of the twelve sons chose for themselves a portion which seemed most suitable to their own habits and ways of thinking.

DR. ALFRED WILLIAM HOWITT.

Since the appearance in *The American Antiquarian* of his article on "The Native Tribes of South-East Australia," the distinguished author, Dr. A. W. Howitt, has passed away. We take the following particulars of his career from an article, by Professor Baldwin Spencer, which appeared in *The Victorian Naturalist* for April, 1908.

Alfred William Howitt was born at Nottingham (England) in 1830. He was the son of William and Mary Howitt, whose names were well known in literary circles in Great Britain, during at least half of the nineteenth century. In 1840, when Alfred was ten years old, they went to live in Heidelberg for the benefit of their children's education. In June, 1852, William Howitt, accompanied by his sons, Charleton and Alfred, set sail for Melbourne, ostensibly to visit his brother, Dr. Godfrey Howitt, then settled in Melbourne, as a medical man. The father returned to England in two years' time, but his son Alfred remained in Australia, where he was destined to do ethnological and other work of the greatest importance. He is described as being, when twenty-four years of age, an accomplished bushman and a keen observer of nature. For a time he farmed land, belonging to his uncle, not far from Melbourne, but tiring of this hum-drum state, he turned to the more exciting work of cattle-droving, bringing down droves of cattle from the Murray to Melbourne. On one of these occasions he chanced to meet with Lorimer Fison, who also was then working up-country. They met and parted, little thinking that in future years they would be so closely linked together in their work.

This was the great era of exploration in Australia, more especially in South Australia. Alfred Howitt, being known as a capable, careful and fearless bushman, was in 1859 sent out at the head of a small party to explore the "Far North," and to select on behalf of a Melbourne syndicate a tract of country suitable for cattle raising. Subsequently he was engaged in exploring and prospecting on behalf of the government of Victoria, which led to the opening up of the gold fields near the Mitchell River. In 1860 the Burke and Wills expedition was fitted out in Victoria, its object being to cross the continent from south to north, but which ended so disastrously. As no news of the expedition reached Melbourne, a search party was sent out, under the command of Alfred Howitt, early in 1861. In September the party arrived at Cooper's Creek, where both Burke and Wills had died, but they soon returned to Melbourne with King, the sole survivor of the original explorers. Within two weeks afterwards Mr. Howitt again led a party into the interior for the purpose chiefly of bringing the remains of Burke and Wills down to Mel-

bourne. It was during this second visit, when he was free from the necessity of constantly pushing ahead every day, that young Howitt began to study the native tribes with whom he came into contact, and here he gained his first insight into the social organization of the Dieri tribe.

After his return to Melbourne, in recognition of his sterling worth, he was appointed Police Magistrate and Warden of the gold fields in Gippsland—a post that he filled with conspicuous success during a period of twenty-six years of incessant work, from 1863 to 1889. His capacity for work was phenomenal, and not a little of his reading was done on horseback. In 1874 appeared his first geological paper, and thenceforth he was a constant contributor, on questions dealing with the general geology of Gippsland and the microscopical examination of rocks, to the publications of the Department, the Royal Society of Victoria, the Australasian Science Association, and occasionally "The Quarterly Journal of Geological Science." It was during this period also that he turned his thoughts seriously to the study of the Australian aborigines, gaining the entire confidence of the members of the Kurnai tribe, with whom he came much into contact, and by whom he was regarded as a fully initiated member of the tribe.

Dr. Lorimer Fison, who had for many years been living as a missionary in Fiji, where he had done most valuable work, had returned to Australia. He had become deeply interested in the studies of the Great American ethnologist, L. H. Morgan, and perceiving the fundamental importance of investigating the Australian aborigines, had written to the leading Australian papers asking for the co-operation of those who had a knowledge of the natives. By good fortune this letter was seen by Mr. Howitt, and, once more, the two men who years before had casually met on the banks of the River Murray, came into contact and formed a deep and loyal friendship, which was only terminated by the death of Dr. Fison at the close of last year. In 1880 these two workers published conjointly the volume "Kamilaroi and Kurnai," of which it may be truly said that it laid the foundation of the scientific study of the Australian aborigines, for it was in this work that, for the first time, we had given to us a detailed, accurate account of the social organization of the Australian tribes. Other workers have extended our knowledge, but it was Howitt and Fison who laid the foundation and pointed out clearly the essential features of beliefs, customs and organization of Australian tribes.

In 1889, Mr. Howitt became Secretary of Mines in Victoria, and in 1896 he was appointed Audit Commissioner. During these later years all his spare time was spent in scientific work. He published in the Transactions of the Royal Society of Victoria, a valuable paper on "The Eucalypts of Gippsland," dealing with the variations of the different species, and their distribution in relation to altitude and geological formations. In 1891 he out-

lined his conclusions on native institutions in a paper on "The Organization of Australian Tribes," this being only one of a very valuable series of memoirs dealing with the same subject, published chiefly in the Journal of the Anthropological Institute of Great Britain and Ireland, from the year 1883 onwards.

Mr. Howitt retired from the public service of Victoria in 1901, and settling down at his home at Metung, on the shores of the Gippsland Lakes, he began to review and publish the results of his life's work in Ethnology, Botany and Petrology.

He only lived long enough to complete one of these researches. In 1904 he published "The Native Tribes of South-East Australia," a volume that comprised the work of forty years, "during which he had conducted his own investigations amongst the tribes of Central Australia and those of Gippsland, and had at the same time been in correspondence with workers in various parts of Australia." In the same year, Mr. Howitt, with his daughter, Miss Mary E. B. Howitt, who had for many years been closely associated with him in his work, visited England, where he was very warmly received, especially by his friends the Ethnologists. Amongst other honors paid him, the University of Cambridge conferred upon him the degree of Doctor of Science. On his return home in 1905, he renewed his botanical and petrological studies, which, however, he was not destined to complete. He was created C. M. G. in recognition of his distinguished services both as a public servant and a scientist, in 1906, and in the following year he presided over the Australian Science Association at Adelaide. On his return to Metung he settled down to his usual life, devoting part of his time to the preparation of the article on "The Native Tribes of South-East Australia" referred to at the beginning of this sketch. About the time this article was passing through the press, Dr. Howitt was suddenly attacked by a serious illness, which terminated fatally on the evening of Saturday, the 7th of March, 1908.

SURVIVING INDIAN TRIBES.*

The confederacy of Powhattan, father of Pocahontas, was comparatively small and occupied only a narrow strip of territory on the west bank of the Potomac and Chesapeake Bay from Georgetown in the north to Norfolk in the south and extended westward as far as the imaginary line drawn north and south from Frederick, Md., to Petersburg, Va. The present State of Virginia has an area of 42,627 square miles. The authority of Powhatan extended over only one-fifth of that area, or 8,000 square miles, and the Indians under his jurisdiction constituted but one of many tribal groups of the Algonquin nation. Across the Potomac and Chesapeake Bay the Maryland tribes were independent, and hostile. To the west all the Indians were of alien lineage and ancient enmity toward those who dwelt along tide-water. The continuous wars had reduced the population until they were already far advanced toward extinction.

In 1607 Captain John Smith enumerated twenty-eight Powhatan tribes numbering 2,385 fighting men, and, although the estimates of others vary more or less, they average about the same. James Mooney, the eminent ethnologist, calculates that the entire population of Powhatan's empire was not more than 8,500 occupying a territory which now has a population of considerably more than half a million. He also estimates that the entire Indian population of Virginia at the time of the English invasion was about 17,000, as compared with two million at the present day.

This aboriginal population is now entirely extinct, with the exception of 700 persons of mixed Indian, negro and white blood. Mr. Mooney has made a census of the survivors and recently published a list of the heads of families with the residence of each in the American Anthropologist.

"In all of these bands the blood of three races is commingled, with the Indian blood sufficiently preponderating to give stamp to the physiognomy and hair characteristics," says Mr. Mooney. "It is probable that from intermarriage nearly the same mixture is in all alike, although it does not show equally in the features. Thus, many would pass among strangers as ordinary negroes; a few show no trace of any but white blood, while a few families and individuals might pass as full-blooded Indians in any western tribe. Notwithstanding the large percentage of negro blood, the Indian race feeling is strong. Their one great dread is that their wasted numbers may lose their identity by absorption in the black race, and against this they have struggled for a full century. Intermarriage with the negro race is now forbidden by Pamunkey when travelling, under recent Virginia legislation the Pamunkey

* The location of surviving Indian tribes by Wm. E. Curtis and reports of the Bureau of Ethnology.

law and frowned upon in the other bands. To prevent annoyance now carry official certificates of tribal membership.

"They have entirely lost their aboriginal language and customs, if we except their devotion to the water, and differ but little from their white neighbors. According to the statements of several persons of middle age, their parents some fifty years ago had conversational knowledge of the old language. Even this knowledge must have been limited, as the present writer, by the most careful search, could find but one old man, William W. Weaver, a Nansemond, from whom even half a dozen words could be obtained. He was then so feeble, mentally and physically, that he could not be questioned with any satisfaction. He died about a year later, in 1902, and with him faded away the last echo of the Powhatan as a living language. Practically all of them can read and write. All are consistent members of the Baptist Church, maintaining their own church and school organizations; they are self-supporting, law-abiding, industrious and hospitable, with no paupers or criminals, and constitute in every way a worthy factor in the community."

Mr. Mooney says the Pamunkey are the remnants of the nucleus tribe of the old confederacy and the lineal descendants of Powhatan and his successors. They have maintained their organization as a tribe under colonial and state government, and have kept up more of the Indian form and tradition than any of the others. They have a state reservation of some 800 acres, the same which Jefferson described in 1781, in a bend of the Pamunkey River, in King William County, Virginia, with post-office and railroad station on the Chesapeake and Ohio road, twenty-four miles eastward from Richmond. They derive their living almost entirely from the water, taking large quantities of herring and shad by seine according to the season, shooting ducks and reedbirds, and catching an occasional sturgeon for disposal to Baltimore commission houses. Their fields of corn and beans are cultivated chiefly by hired negro labor. They neither vote nor pay taxes, but are governed by an elected chief and council, subject to the supervision of trustees appointed by the state. Their chief for many years until 1900 was Theophilus Dennis, who has since been succeeded by George M. Cook, his brother-in-law. They number at home and abroad about 150 souls.

The present Mattapany are chiefly an offshoot from the Pamunkey. They have state recognition as a tribe, without citizenship or taxes, and have a small reservation of some fifty acres, with larger personal holdings, on the south bank of the Mattapany River, King William County, about ten miles distant from White House. They live principally from lumbering and farming and have no chief or council, but combine their affairs with the Pamunkey. They number about forty souls.

The Chickahominy, although without regular organization or state recognition, are the largest of the existing bands, occupying

individual holdings along both sides of the Chickahominy in Charles City and New Kent Counties, besides about 300 persons in neighboring counties. A few Pamunkeys reside with them and both bands are much intermarried. They divide their time about equally between fishing and farming, according to the season. Within the last few years they are making an effort to effect a tribal organization under the leadership of William H. Adkins. They number in all about 220 souls, of whom nearly three-fourths bear the family names of Adkins and Bradby.

The Nansmond have no state recognition or tribal organization and reside chiefly in the country southwest from Portsmouth and Norfolk in Norfolk County. They are all truck farmers, shipping their produce to Norfolk commission houses. Many also have served from time to time as sailors on coasting vessels. Although without any regular chief, their principal man is probably A. A. Bass of Bowers Hill, Norfolk County. They number about 180 souls.

Besides the four larger bands, Mr. Mooney says, we have information orally and by correspondence of several other small groups of detached families of mixed blood stock of the same Powhattanorigin, numbering altogether possibly 120 souls. What seems to be the largest of these, according to Pamunkey information, resides on Mattapony River, about Aylett postoffice in upper King William County, the principal family names being Adams and Holmes. They are said to number about forty in all and to be in a very backward condition compared with the Pamunkey, with whom they have little communication, although sometimes visiting the Mattapony.

Another band of nearly the same number is situated south of the Rappahannock River, about Lloyd or Battery postoffice, in upper Essex County, the most common family name being Nelson. They are said to show as much of Indian blood as the Pamunkey, holding themselves apart from both white and negro, and are represented as fairly prosperous and intelligent. They are probably the descendants of the old Nantaughtacund tribe, known later, with others, under the name of Portobacco.

On the north side of the York River, at Gloucester Point, Gloucester County, are the descendants of a family of Sampsons, whose ancestors came originally from the Pamunkey reservation.

On the eastern shore there are said to be a very few mixed bloods still living in the neighborhood of Accomac Courthouse (Drumcadtown), in Accomac County, and also a few bearing the family name of Miles, near Fisher's Inlet, in southern Northampton County.

The Indian names have disappeared from common use by marriage with whites and negroes. The names most common are as follows:

Adkins, Allmond, Bass, Bateman, Bissell, Bradby, Bright, Bond, Collins, Cook, Harmon, Holloway, Holmes, Jefferson,

Langston, Miles, Page, Price, Reed, Sawyer, Swett, Weaver, White, Wynne, Dennis.

Several descendants of the aborigines live in Baltimore, Philadelphia and New York, and several have become converted to Mormonism and are now living in Utah.

Only a few of their original customs are preserved, one of which is the annual tribute to the Governor of Virginia. This is done in pursuance to a treaty made between the governor of the colony and the successor of Powhatan in 1677, which required three arrows and a certain number of beaver skins to be presented to that official annually. The pledge was fulfilled in that form until the organization of the State of Virginia. It was intended to signify the submission of the aborigines to the white authorities and they considered it necessary to protect their titles to their lands. After the organization of the State of Virginia the tribute was continued as before until the civil war, when it was interrupted. Of late years, however, it has been resumed, and as the Governor of Virginia has no use for arrows, and beaver skins are scarce, the chief of the Pamunkeys and a delegation consisting of the heads of several families carry to Richmond half a dozen wild turkeys and a saddle of venison (if they can shoot a deer), annually at Thanksgiving time. They are expected to furnish the Governor of Virginia his Thanksgiving dinner.

When the English landed in Jamestown in 1607 the Powhatan confederacy was of recent origin. Mr. Mooney's investigations have shown that he inherited authority over six small tribes which occupied the territory around Richmond for a radius of about twenty-five miles, and numbered only about one-fifth as many as he had subjects when the English came. His authority was despotic and he practiced the traditional methods of the savages, slaughtering his enemies and carrying off their women as captives. Shortly before the arrival of the English he exterminated the entire Chesapeake tribe and transplanted a colony of his own people in the territory he had laid desolate. To make his position more secure he placed his sons and brothers as chiefs over the principal towns while he ruled over them all at his own capital. He was greatly feared and implicitly obeyed because of his own personality rather than by tribal custom. The powerful Chickahominies accepted him as an overlord, but maintained their own home rule and took an early opportunity to put themselves under the protection of the English.

The latter, being ill supplied with provisions, proceeded to live off the country, and sent out foraging parties which were too strong for the helpless savages to resist. As a consequence, before the colony was two years old the principal Indian towns were occupied by the white men. Powhatan had withdrawn to the interior and the hostility of the Indians was so acute that no Englishman was safe outside the stockade. Open war was deferred, however, until after the death of Powhatan, in 1622, when

his brother, Opechancanough, made simultaneous attacks upon almost every settlement and plantation and massacred 347 men, women and children. Retaliation was prompt and effective, and in January of the following year, 1623, the Virginia council reported to the home office in London that "we have slain more of them this year than hath been slain before since the beginning of the colony."

By this war the Indians were so reduced in numbers and means, and the white population grew so rapidly, that there was no longer any serious trouble. Opechancanough was captured, brought to Jamestown and shot in prison by one of the guards. In October, 1646, his successor made a treaty of submission by which the Indians agreed to abandon everything below Richmond and confine themselves to the narrow strip of territory peninsula between the York and the Rappahannock Rivers, now known as Gloucester and Middlesex counties. Henceforth, as Mr. Mooney says, "the dwindling tribes appear chiefly as appealing for protection or justice, their chronic grievance being trespass upon their reserve lands. From various references it is evident that Indian slavery was common, even after peace had come, and this probably hastened the intermixture process with the negro race."

THE PYRAMID TEXTS AND THE FUTURE LIFE.

A composite theology may be found in the "Book of the Dead." In one chapter we have the old doctrine of the Ka confined to a dark and dismal tomb in which the body lies. In another we see the soul flying, wheresoever it will on the wings of a bird, sitting on the branches of a tree under the shade of the foliage.

In the seventeenth chapter a new view is given. The dead man is identified with the gods and makes his way to the divine land in the barque of the sun. After that, the voice and memory and name are restored. In a series of chapters the soul is protected from the poisonous serpents including the great Python. A large place is occupied by the serpent as among the dangers that await the soul after death. This is shown in Chapter IV, which describes how the dead man is preserved from the second death. In it the dangers are contrasted with the joys that await the soul in the paradise of the blessed. The barque which carried the followers of Osiris is described. When the dead man had ascended to heaven by the ladder which arose to heaven from earth he found his path barred by a deep lake or canal, but there was provided for him the boat of the ferryman Nu Ursu, the prototype of the gentle Charon, for the Greeks seemed to have been familiar with the boat, and drew from it the story of Charon ferrying the soul across the river of death. Another chapter describes the "hall

of the two truths" in which Osiris sits on the throne of judgment and the dead is justified or condemned for his deeds. It is true that one chapter represents the soul as imprisoned in the tomb, but the ninety-third opens the gates of the sepulcher so that the soul and the shadow that accompanies it may go forth to occupy other lands, the "Land of the Sunlight." Blessings are granted to the soul which has passed unscathed through the hall of judgment. His are the fields and the barque. Like Osiris he can take part in the "Festival of the Dead" and share in the offerings that are presented at the same time, free access is granted him to all parts of the other world. The later chapters take us back to the earth. They are concerned with the mummy and the resting place. The charms which preserve the body enable the soul to inspire it with new life. For this reason the body was embalmed.

THE TEL EL AMARNA TABLETS.

These tablets have proved of very great value because of the light thrown by them on the condition of society in Babylonia, Assyria, the Holy Land and Egypt. They contain correspondence between Amanophis III., who lived in the 15th century, B. C., and was the king of Egypt, and the king of Assyria. Amanophis is known as the heretical king. He erected the temple at Karnak and Luxor, but set up a new worship and removed his court from Thebes to Tel el Amarna. Monotheistic ideas prevailed in his days. His religion was expressive of devout feelings more than the state religion. He was regarded as a heretic. After his death, his sepulcher was profaned, his mummy torn to pieces, his city destroyed. While in the Asiatic home of his wife he became infatuated with the worship of the sun, and endeavored to make it supersede the worship of the Egyptian god, but incurred the enmity of the men in Thebes. Six or more of the letters are written by the Babylonian king to Amenophis IV., the Egyptian. At this time Palestine was under the control of Egypt. Complaints are made against each other by the two potentates. Mitanni included the territory from Capadocia to Assyria and Nineveh. The king of Mitanni, whose sister was married to Amenophis III., wrote five of the letters. The king of Alashia or Cyprus wrote a number of letters referring to Nergal. These show that the influence of the Babylonian religion was felt even at Cyprus. The letters from the Phœnician and Canaanite vassals and princes comprise the bulk of the letters. Through them we gain much information as to the geography, history, and state of civilization of Palestine. The tablets are in remarkable accord with the books of the old Testament and confirm the Bible. It appears that the Hittites were encroaching upon the land of Canaan. The governors wrote letters to Egypt asking assistance against the Hittites; and yet a number of them were in league with the Hittites and ready to throw off the yoke of Egypt. Gebal, the ruler of Gibeah, wrote letters which were very obsequious, using the words "The dust of thy feet," "the ground on which thou walk-

est." "the groom of thy horse." He charges the native princes as being in league with the Hittites and Habiri. He speaks of the king of the Hittites as being in the land. They were faithful princes in southern Palestine, one from the city, Jerusalem (Urusalem.) Nine of his letters have been preserved, the burden of which is that the Cabiri has devastated all the king's territory but they had the assistance of some of his vassals. The Hittites are not mentioned in the letters from southern Palestine. These letters afford a welcome insight into the affairs of Palestine, 2,000 B. C. The letters are written in Babylonian but the language of Palestine was Hebrew. They throw light upon Old Testament places for 150 cities are mentioned, of which one hundred have been identified. The Cabari mentioned as entering Palestine are supposed to have been the descendants of Heber, the clan of Asher, (Gen. 46: 17. The identification of the Cabari with the Hebrew is held by some. The discovery of Pithom, the treasure city, built in the time of Rameses II., who is generally pronounced the Pharaoh of the Oppression throws light upon the subject. Pithom was probably the city where the Israelites built storehouses for the Egyptians. The statue of Rameses II., was discovered. There was here a shrine to Tum. Thothmes III., 1503-1449, is supposed to be the Pharaoh of the Oppression. On the pilons of Karnak, he has given 350 places in Palestine, Syria, etc.; 119 within Canaan. On the back of the inscription of Amenophis II., is a hymn of requiem. This shows that the Israelites were in Canaan in the early part of his reign. The question as to the date of the Pharaoh of Exodus is still in doubt, whether it is Amenophis II., or Thothmes III.

The excavations of Dr. Peters at Nippur, brought out a large collection of thoroughly baked tablets dated in the reign of the Cassite rulers. These carry us back to an early date, 1800 B. C. to 1300 B. C., but later than the time of Moses and yet before the time of Abraham's migration. The Exodus from Egypt would be about 1450 B. C., but the date of the tablets would be between these two events. In fact these tablets show the condition of Palestine during the patriarchal age, after the migration of Abraham and perhaps after the time that Jacob moved to Egypt, the very period about which so little is known about the condition of Palestine.



UNCIVILIZED RACES.

UNCIVILIZED RACES.

The pure Papuan is very dark brown, usually a well-built, thick-set man of medium weight. Occasional individuals are seen who are slight, short, and who have strongly marked Negro characteristics. These probably represent survivals of the very earliest human inhabitants of the region, as were the Negritos of the Philippines.

The houses which these people build are of much interest. They are generally well made, often with attempts at artistic decoration, and always most picturesque. In the northwest the Malay type prevails. We find each family with its own house. This is placed on poles out in the water with sides of "attap," or pandannus mat, and roof of thatch. This thatch is made by taking sago palm leaves and braiding the blades all on one side of the midrib. These are then laid on as clapboards would be, and make an excellent water-tight roof.

In Geelvink Bay, at Dorey, Roon, or on Lobi Island the regular house is a long communal structure. These great "turtle-back" houses shelter from 80 to 100 people. They eat and sleep generally in a long corridor, which runs lengthwise through the building, while on each side lead off small rooms, in which the private belongings of each family are stored.

The men lounge regularly on the front piazzis, often lying prone with spear or bow and arrow ready for any fish which may happen by. The people show most wonderful skill in striking or shooting into water; they seem to be able to allow for the refraction to a nicety. The women work on the back piazza, nearest the forest-covered shore—convenient agents to spread the alarm should an attack be made by some marauding land tribe. The canoes are moored at the front of the house. Evidently the Papuan warrior looks first to his own safety.

Whenever the women came out to meet the ship along with the men we felt quite safe to go ashore and wander at will through the deep pathless forests; but here at Meosboendi only men came out in the canoes, armed men carrying many spears, bows, and quivers full of short bone-tipped arrows. They were drinking heavily of their home-brewed "sagoeir" and were in a generally bad frame of mind. A few on shore stood for their picture, but most would not, and the woman ran off helter skelter and took refuge in their high houses.

On a previous trip the captain of the trading steamer was standing on the beach leaning against a tree, when a Wiak man walked up and drove his spear through him. For some years the Dutch government prohibited trading with these people as a measure of reprisal, and we left safe and sound after what was one of the first trips since the ban had been removed. At Korido,

village near Meosboendi, on Sook island, the people on a previous trip had met the steamer with a shower of spears. No trading by white people has ever been done here and we did not attempt a landing. That an occasional Malay trading prau gets this far was testified by the fact that many of the Papuan had spearheads of iron, shaped as are the spearheads of the Burmese Malays about Makassar.

In the houses here a goodly number of heads were seen, the products of recent raids. In one house we tried to barter for some of these, but through a man who could speak Malay we learned that, as the possessors claimed, these people whose heads we saw had been such notorious villains that the Dutch gunboats last seen had brought permission for this tribe to go and kill them. Of course, their heads must be kept as proof of the meritorious act. No gunboats had visited the bay for years! The heads were fresh.

The raiding canoes of Pom were enormous affairs, with bows decorated with fretwork carving, in elaborate designs, and with wooden heads which were made to look like real ones, by having enormous mops made of cassowary feathers stuck to them.

For weapons the bow and arrow are general. In some places they are as elaborate as human ingenuity can devise, the arrow shafts decorated with burned and incised designs, ornamented with tufts of feathers, often from the birds of paradise, and with tips of bone or burnt wood. These tips are elaborately carved with many series of barbs and are certainly savage-looking weapons.

Spears are often used, as well as arrows. Some are bamboo, like great cheese scoops, while others are tipped with human bones or the shin-bones of cassowaries. Shields occur sporadically and not many of the tribes in Dutch territory know of them. The people of Wiak make them long and narrow for parrying; they have crude designs daubed on them with native pigments, and on top they are surmounted with a grinning face and mop of cassowary feathers for hair. Daggers are only known in Humboldt Bay. They are made of thigh bones, usually, splintered to a sharp point on one end, with the other end worked smooth for a handle. They also are often beautifully carved.

The artistic sense of these people is strongly developed, and the amount of time and pains which will be spent in decorating every gourd or joint of bamboo for household use is astonishing. Their tools, of course, are the most primitive, for of metals most of them know nothing.

The religious life of the people is still very imperfectly known; here again a great field awaits the student of ethnology.—From an article in the National Geographic Magazine.

The fierce, warlike tribes of the interior of Paraguay, such as the Guaycurus, the Ai Bravos, and the Chamacocos, are but little known, as but few white men who have ventured among them

have returned to tell the tale, but the tribes living near the vicinity of the river are as a rule inoffensive. They are even sometimes friendly when they know a man, and will accompany him on his hunting expeditions, when their wonder at the excellence of his weapons is only equaled by their contempt at his limited power of sight and inability to see game at long distances as they can. Laziness is their chief characteristic, and it is only when excited in the chase that they show any animation; then their powers of tracking and knowledge of the habits and haunts of game are truly wonderful. Many a strange story can they tell you about bird and beast; sometimes they will point out a track which they say they know well, but it is that of an animal which they have never seen.

The Chaco Indian is as much at home in the water as on dry land. Watch him creeping along the reeds in the shallow part of the stream, never standing still a moment for fear of the bite of the ferocious pirana fish. His arrow is ready fitted to the bow-string, and his eye is fixed on a ripple on the water where a big fish has come into the bank after a small one. Quicker than the eye can follow the arrow has struck its mark, and the prey is safely hauled up on the bank with a grunt of satisfaction.

It is in the Indian Ocean and the island region of the tropical Pacific that the waters are infested with bright-hued snakes, some striped, others ringed with green and black, all with a laterally compressed body and a paddlelike tail. They are greatly dreaded by the East Indian fishermen and are actually most nearly related to that family of snakes containing the deadly cobras and their allies.

ROMAN TOWNS.

“It is probable that Rome was at first only meant for a trading out-post, but it does not follow from this that the Romans were chiefly traders. The Roman State, more than almost any State in history, was founded on the tillage of the land. The citizens had each their fields and homesteads, and worked on these with their own hands. If a citizen had no farm of his own, there was not much that he could do for his living. There were certain guilds of craftsmen at Rome in the earlier days: flute-blowers, goldsmiths, copper-smiths, carpenters, fullers, dyers, potters, and shoemakers; and at that time these were not looked down upon, as they were afterwards, when such crafts had fallen almost entirely into the hands of slaves. But they were shut out, for the most part, from serving in the army.

BASKETRY AMONG THE WESTERN INDIANS.

It would certainly be difficult to identify the tribe by the baskets, but it is always easy to identify the tribe by their dress, or costume, as well as by the cut of their hair and the manner of tattooing their faces.

There is a good reason for this difference between basketry and clothing or costumes, for the material which is used in basket making varies, according to geographical districts, while the material used for clothing is found in many districts.

To illustrate, the Haida Indians make wallets and baskets from spruce root, and from other material, but they are extremely plain in their personal decoration. The Thlinkets of South-eastern Alaska, make their baskets precisely the same as the Haidas—out of the same material, and embody the same symbolism in them.

On the other hand the Chilcats cover the surface of their fringed robes with their Totemic symbols, which are peculiar to themselves. The technical process of making their baskets may be exactly the same, but their symbolism different from others. Their blankets are always soft, and warm—but the baskets are of hard material, and cold.

Coming farther southward, a basketry of another kind is reached. The symbolism is very remarkable, for the myths and stories of these Indians, which were common in olden times, are often recorded on the baskets, and they are made for no other purpose than to perpetuate the legend.

The tribes of Washington, California, Arizona, Mexico, all place some kind of design on their basketry, whether it has a symbolical significance or not. The ornamentation is always peculiar.

Among these tribes there were mythical personages, who were acquainted with sorcery and witchcraft. Their gods and heavenly beings were peculiar to themselves, some of which partook of the scenery and the surroundings. The same is true of the tribes on the northwest coast. In reference to the fibre and material, there is no uncertainty, for some of these have figures of animals and human forms, represented on the baskets, while others have the stepped figure, which represented the mountains. Others have zig-zag figures which represent the lightning. Still others have animal figures, which were both totemic and symbolic. In fact, we may learn about the mythology of the people from the baskets.

It is said that the Iroquois formerly cut their hair so that their totem could be recognized. Tufts of hair were left in front and back, so as to resemble the head and tail of a bird. This would

represent one form of Totem. Another form was represented by a ridge of hair on top of the head, which represented the spine and tail of a buffalo.

Totemism may have been embodied in the ornamentation of the baskets, but it is not recognized in modern times.

Whatever animal forms are shown, are imitative rather than totemic. There is so much uncertainty in most of the ornamentation of baskets, that it is somewhat unsafe to decide upon the totem, by studying the animal figures which are represented on them though the imitative faculty is always manifest, and the skill and taste may excite the admiration.

The Klamaths and the Apaches use wire grass. The Modocs and Klamaths use the twisted tule, and slender strands split from the root of the sugar pine. Splints from the white oak are used by the Cherokee Indians. The desert Indians use the slender branches of willow, and the Apaches use the thin leaves of the sumac. Among the tribes using willow are the Mojaves, Coahuila, Coco pas, Yumas, the Qunis of New Mexico, the Takuts of California and the Tinnehs of Alaska. The Indians of Canada, such as the Penobscots and the Abenakis use a variety of material. Baskets, or fragments of baskets, have been found in the caves of Kentucky and in the mounds of Ohio which show that the material which abounded in those regions was woven into baskets. The cords in some cases resemble wicker work and in others resemble the net work. Others resemble coarse cloth, still others have a twine weave. The baskets of Peru were sometimes imitative of work baskets, and were quite graceful. The Brazilian carrying baskets were made of split fibre which was common in that region. The Venezuela basket was made out of Yucca. Ancient baskets from Oraibi were made from fibre. Athapascan baskets were made of splints of cottonwood, sumac, mulberry, willow, yucca and agave. Navajo baskets are made out of splints of sumac and willow, the Apaches made their baskets out of yucca. The Pueblos made baskets in which they buried their dead, coarse wicker matting was placed in the bottom of the grave, on this was laid a matting of yucca, human hair was sometimes employed for filling. Sometimes the hair of wild animals was used in baskets as well as in textile form. The sandals of the ancient Cliff Dwellers were made out of the same material and woven in the same way as the baskets were.

The Hupa harvesting baskets were made out of the same material as the harvest itself. The outfit consists of a large basket, a mill-stone for grinding, a hopper basket for holding the acorns, the pestle for grinding the acorn, a broom for sweeping the meal. Mr. Holmes speaks of the milling industry in northern California, the acorn was the harvest, the nuts were pounded in stone mortars, the meal was sifted by shocking and blowing and was cooked by hot stones and thrown into the baskets, and the whole process except picking was done with the basket.

Rawhide receptacles were used on the great plains of the west, but in the industries and activities of life the basket maker had a mission. The bark of the white birch was decorated by the quills of the porcupine and dyed many colors; walls of houses, rude fences were made of coarse basketry as well as trinkets, wallets, fancy boxes, for holding tools.

There was a great difference among the tribes as to the selecting of the material for coloring, with dye stuffs. Each area seemed to have furnished a different material, but was carefully exploited and such dye stuffs were used as could be found in the region. There were scarcely any importing of dye stuffs from a distance though adjoining tribes might borrow from one another.

Squaw grass is used by the Indian of Northern California and the Vancouver Islands, and yucca by the Pecos Indians and those dwelling on the Rio Grande.

There was a difference among the tribes as to the preparation of the material. The Canadian Indians have shown very little care in this preparation, but the California Indians took great pains, and the result was that wonderful pieces of delicate workmanship are to be found here. Some of them belong to pre-Columbian times.

The different districts can be identified by the color, pattern shape as well as the material. It is however the color that gives the brilliancy to the large collections. The fineness of the texture, the shape, the pattern, are however better tests than the color, though the delicate shades of the color, adds to the value of every specimen.

The preparation of the material consisted of the splitting and trimming such material as the region furnished most abundantly. This was done in the simplest way, and with very few tools, sometimes by merely selecting such material as came to hand. To illustrate; mats and baskets are woven from the willow, but the sweet scented leaves of the Savastana were used. The Pomo Indians use the root of the bulrush, for the brown and black patterns of their baskets. The tribes of the northwest coast use the split roots of a tree for their water-tight hackleberry basket. The same tribe use the brown inner-bark, as the warp of their finely woven flexible baskets. Split hemlock roots are used by the Indians of Neah Bay. The Sioux Indians use the inner-bark of the elm to make a coarse basket. The Menominee and the Winnebagoes use the birch bark for their baskets to hold maple sugar. A kind of fern is used by the Hupas. There are beautiful baskets which were made in prehistoric times and by uncivilized people, but the basket maker had the same eye for beauty that the lover of baskets has even now. Such specimens are of great value to the connoisseurs. They not only gratify the modern taste, but they show that the eye for beautiful forms existed among prehistoric people as well as historic and is a common inheritance.

to humanity. As to the prehistoric baskets the same material was generally used and many of the same ornaments and figures which were probably survivors from prehistoric time. There was found a few years ago in a cave in western Tennessee two bodies which had been buried in baskets made of cane which showed much skill. The bodies were placed erect in the baskets and a cover of cane was placed over them; next to them was a very curiously wrought feather garment; the feathers were rolled around and twisted through the net work and the whole woven into a coarse cloth. This rug was about three feet wide and six feet long. It had different colors, green, blue, yellow and black. Beneath this was the body of a female. Around it was a deer skin. There was also a scoop net made of bark-thread. The cave in which they were found abounded in nitre copperas and salt. Another body was found in 1815 in a salt petre cave in Kentucky. Around it was a deer skin with hair on, but trimmed, next a wrapper of cloth made of twine, and inside of all was a mantle of cloth made with feathers interwoven which were fastened with great art. The plumage was distinct and well preserved. Of a number of other articles from caves in Kentucky and Tennessee have been described by Prof. F. W. Putnam and Dr. W. H. Holmes. One of these is a moccasin made of cord into the shape of a sharp toed slipper, stiff enough to retain the form of a shoe. Mr. E. G. Squier has described a mummy which was exhumed from a tomb in Pachacamac, Peru. All the bodies were enveloped in a braided network of twisted grass bound with cord which held the wrappings. Next came an envelope of cloth of finer texture.

Ethnological Notes

THE MIGRATION OF THE GOTHs.

The Goths like the Celts, Romans, and Greeks came through the "Gateway of the Nations." They moved up the northward flowing and down the southward flowing rivers.

It is said they came from Scandanavia in three different boats or at three different times, first the Visigoths who settled at the mouth of the Danube and along the northwest coast of the Black Sea, second the Ostrogoths who settled along the north and east coasts of the Black Sea and in the valley of the Don, third and last came the Geptidae.

For a century the Visigoths had been enemies of Rome and when Aurelian became emperor he was glad to buy them off by giving them the Province of Dacia. For about a century the Goths were quiet, but now a new difficulty arose. A new tribe swept down upon them. The Huns or Turanians were very small and lived wholly upon horseback. The Ostrogoth surrendered and were forced to join them in an attack against the Visigoths.

The Visigoths asked the Roman Emperor Valens for help and were allowed to cross the Danube and settle in the Province of Moesia, if they would defend the river in any new attacks. The Roman officers were careless in their treatment to the barbarians, and in 378 they revolted.

Valens gave battle in Thrace, near Adrianople and was defeated and he himself was killed in the retreat. This battle showed the Visigoths that they could conquer the Roman armies. It broke once and for all the boundaries of the Danube and Rhine.

At the death of Valens his nephew became ruler. He saw that he could not govern this vast empire by himself, so he asked Theodosius to take the government in the east. Theodosius saved the empire from ruin. He saw that the Roman Emperor could not oust the Germans so he placed them in Thrace and Panmonia between the Mur and the Danube.

The Goths had obtained offices in the Roman army some of which despised the service of Rome and longed to be masters instead of servants. The great Theodosius died just as Alaric was chosen leader of the Visigoths 395 A. D. He gave his two sons the power, of which Arcadius took the east and Honorius the west to rule. They were a wretched pair. Honorius shut himself in Ravenna and left the government to Stilicho.

Alaric made his first invasion upon Greece. He took his armies to the center of Peloponesies, Greece was saved by Stilicho, who crossed the Adriatic Sea and shut Alaric up in Arcadia.

Then he made a treaty in which he gave Illyria to Alaric if he would defend it. The Goth could not have had anything for it was a fertile country and they were getting nearer Rome.

They stayed quiet for three years at the end of which they took up arms and moved westward to the valley of the Po. Rome being alarmed at this, Stilicho summoned the legions from the distant frontiers and formed a great army and waited for Alaric at Pollentia. A battle was fought and Alaric was badly defeated and turned back in his career 402 A. D.

About six years after this battle Stilicho was murdered by Honorius, because someone had told him that such a man was dangerous to his throne.

About this time Alaric had a dream in which he saw some one come to him saying, "You will reach the city," and he knew it could be none other than Rome.

He then marched rapidly to Rome and began a siege. This was the first time for 500 years Rome had seen a foreign enemy before her walls. When hunger threatened they asked terms of Alaric. His answer was, "Give me all your gold, all your silver, or the siege goes on." "What then will you leave us?" "Your lives." Honorius, getting up courage when it was too late, refused. Alaric promptly renewed the siege. After a few months passed he proposed still more moderate terms. Honorius again refused. The third assault began by a vigorous attack which made a hole in the wall.

Alaric had changed and was much more a civilized man than a barbarian, and he told his men to leave the churches and government buildings alone and not take any of their property.

From here they went to southern Italy where the famous Alaric died. Then they came back through Italy and France and settled in Spain.

INDIAN VILLAGES.

In describing the "Footprints of the Aborigines," we have referred to the various maps which were prepared at an early date. We have also referred to the effigies of Wisconsin, the stockade forts of New York, the various forts of Ohio and Illinois, the trade routes along the Great Lakes, the salt mines, the bark records of the Delawares, the pyramid mounds of Illinois, and in this way have given the general view of the tribes north of the Ohio river. There remain, however, the tokens which were left by the tribes south of the river, and those west of the Mississippi, as well as the tribes on the Great Plateau and those who still remain beyond the mountains on the Pacific coast. It would seem as if a very small part of the continent had been reached and that the more important work was to describe the tribes to the west of the Missouri, especially those scattered along

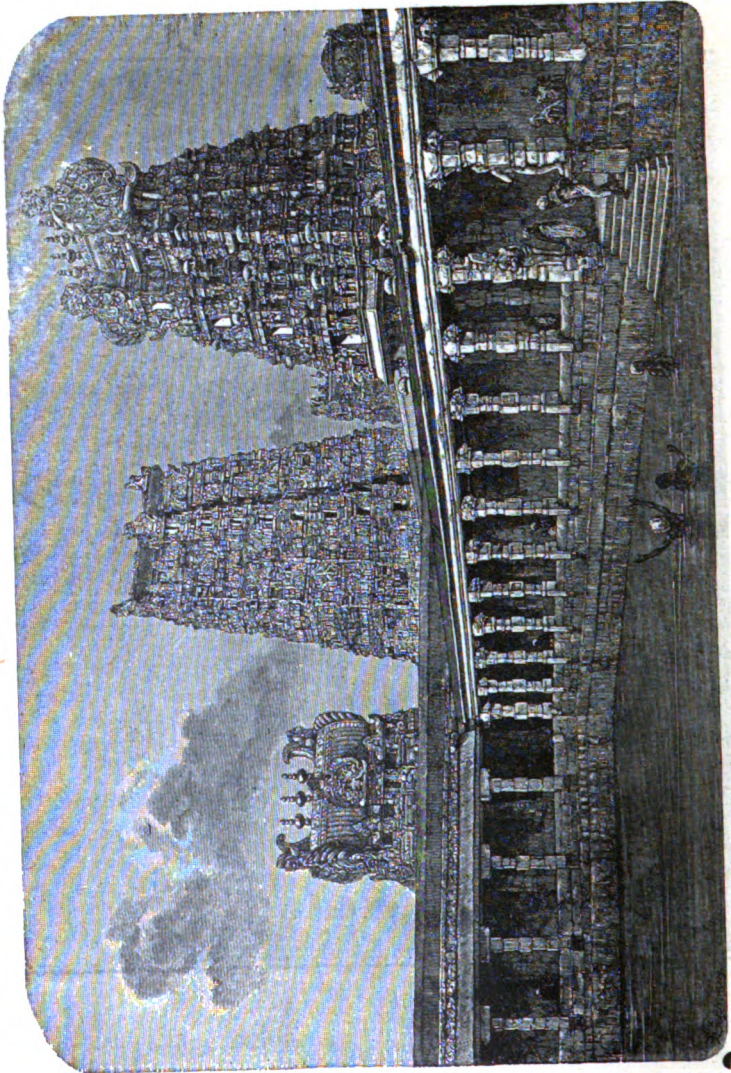
the Pacific coast. In the work on Mound Builders, we have described the footprints of the southern tribes. We have referred also to the various tribes which were situated west of the river and east of the mountains, the most of which were hunters, and found their subsistence by following the herds of buffalo which wandered over the great prairies of the interior. There were many other tribes, some far to the north, others far to the south, the records of which have been written up by such authors as Catlin, and the state historians of Minnesota, Iowa and Missouri, as well as the travelers who crossed the mountains to the Pacific coast. The great and widespread stock called the Sioux are perhaps the most important of these tribes. They occupied the territory extending from the Gulf far to the North; a territory which was drained not only by the Mississippi and the Missouri, but by the other rivers flowing into the Gulf of Mexico. These tribes have been described by various authors. De Soto reached the region on the Gulf of Mexico and came in contact with the various tribes that dwelt there, but lost his life through the treachery of his followers. No thorough description was given by him of the tribes with which he came in contact, and very little is known of them even at the present. The description as given by Catlin of the tribes on both the Missouri River and the Red River, is perhaps the most valuable, or at least the best known. The portraits which he painted are still in existence, and engravings which were taken from these fill the book which he wrote, and are very interesting to the ordinary reader. From his descriptions we learn about the appearance of the chiefs and their wives and children, their tents, and even domestic animals. It appears that the majority of them were clothed with skins, tanned and untanned; their moccasins and leggings were tanned but the skins which covered their shoulders were untanned and generally consisted of buffalo robes. The weapons they carried consisted of the bow and arrow, the spear, afterward changed to firearms. But they were in general use when Catlin visited the people. It is interesting to examine the paintings and engravings, and to see what a variety there was to their dress and equipment, for every individual, whether chief, medicine man, or private or hunter, was dressed according to his own individual taste. The women were not uniformly dressed, or ornamented, for each one selected ornaments and wore garments according to their own individual tastes. There was a remarkable similarity between the ornaments worn by the men and the women, for the strings of beads and bangles were as numerous and conspicuous with the men as with the women. The men are generally represented with bows in their hands and carrying a shield and often had strings of beads around their necks, occasionally having pipes in their mouths. The women are represented with cradles upon their backs, and attended by their children. Their long hair falls in locks over their shoulders. The children oftentimes are naked, most of them

barefooted, sometimes attended by their dogs. The men wore generally trousers of skins with a belt and short apron, also leggings fastened about the knees and partly covering the feet, but with moccasins below the leggings. Some of the chiefs wore ornaments upon their legs as well as upon their arms. There seemed to have been a great difference between the chiefs and the common people in the amount of ornaments worn and the weapons carried. The men seemed to have delighted in their medals, which they received from the government, as much so as with their personal ornaments. The medicine men were sure to hold their badge of office in their hands. The warriors were sure to carry their battle ax and shield and sometimes even their bow and arrow when having their portraits taken. One chief carries a long spear, decorated from one end to the other, in one hand, in the other a bow and arrows. The shield is upon the left hand and a quiver of arrows is fastened to his shoulder, a long dirk knife to his hips, a belt about his waist. Leggings and moccasins were worn. The attitude is graceful. The warriors also delighted in their horses and often had their shields and spears in their hands as signs of power. Sometimes small flags were appended to the spears. The difference between a medicine man and a chief is very perceptible, for the chief would have his weapons about him while the former would be generally standing alone, holding his tablet in one hand, his attitude such as would become his office. Catlin represents the games common to them and even the musical instruments in some of his portraits. The flute and drum are common. The pipe was regarded as a very valuable article. The Indians of the plain were hosemen and were skillful riders. Many paintings represent them on horseback. Sometimes a whole troop of warriors appear on horse, again there are hunters following the buffalo herds. Sometimes they are horse-tamers after wild horses. The horses, in moving, carry the whole family upon their backs, also their camps, tents, and other impedimenta.

CAVE TEMPLES IN INDIA.

The most anomalous feature of all the caves in India is that they are in such good preservation. As to the age of the older caves, there is much uncertainty, but it is possible that they were used before the time of Buddha. Among the sculptures in bas-relief that adorn the walls, we find no figure of Buddha in his accustomed attitude, no scene which represents any event in his life, no "dagoba," no wheel emblem. The swastika and shield emblems do occur. The strisul ornament appear over the doors of the older caves. Judging from some of the sculptures the religion of the people appears to have been a pure worship of trees by a race which worshipped the serpent, on whose primitive faith Asoka engrafted the teachings of Saka Muni. The most remark-





able fact about these is that they are found distributed over America as well as Asia, the swastikas here scattered throughout the northern continent even in Central America and Peru. What is more we find in certain localities animal figures arranged in pairs which remind us of the figures on the English coat of arms where the unicorns are seen with the pillar between them.

THE PHILIPPINE TRIBES AND THEIR SOCIAL STATUS.

In taking a view of the Philippine tribes we find each one marked by some peculiarity which is distinctive. With one it is the size, another the weapons used, with another head hunting. The following is a brief summary beginning with the Pigmies.

They are certainly very different from the pigmies of Africa. It is believed that they are the aborigines and originally the sole inhabitants of the Philippine Archipelago. Unquestionably they preceded the Mayalans, who now constitute a much larger proportion of the population. There must be a great deal of vitality in this simple, fearless race of dwarfs, who have been able to hold their own for centuries against invasions of Malays, Mongols and Caucasians, and to preserve their aboriginal habits and customs against all outside influences. Perhaps this is due chiefly to their exclusiveness. They will not intermarry or intermingle with other tribes or races; they will not adopt civilized customs, clothing or methods; they will not admit strangers to their camps, and they avoid contact with the more civilized inhabitants of the islands. In 1250 Chau Yu-Kua, a Chinese historian and traveler, wrote of them: "They build their nests in the tree tops, and in each nest lives a family, which consists of from three to five persons. They travel about in the densest thickets of the forests, and, without being seen themselves, shoot their arrows at every passer-by. For this reason they are much feared. If a trader throws them a small porcelain bowl they will stoop down to catch it, and then run away with it, shouting joyfully."

* * *

The Negritos still adhere to the palmwood bow, the quiver of poisoned arrows and the lance of bamboo pointed with iron, as their weapons of war. Their food consists chiefly of fish, fruits and roots. Being notorious cattle thieves, they often raid the herds in the valleys on the borders of civilization and capture cattle, which they drive to hidden pastures in the mountains. They raise rice and corn, but do very little farming, scratching the soil with a stick, throwing in the seed and leaving the rest to nature. Their household utensils are made chiefly of cocoanut shells and sea shells, and they keep their simple property in pine boxes which they secure in the villages on the frontier. They supply nearly all their own wants. They have no money and do not seem to

care for it, being able to secure all the rice and ammunition they use in exchange for wild honey, wax and other natural products of the forests. Like other savages, they are fond of ornaments, and make themselves rings and bracelets of silver, gold, brass and copper; they wear feather head-dresses, and girdles and leg bands made of hogs' bristles brilliantly dyed. It is their custom to mutilate themselves with knives and keep the gashes open until a skin has formed over the raw flesh, as scars are esteemed the highest ornament.

* * *

The Igorrotes are another tribe of head-hunting savages in the interior mountains of northern Luzon, who are nearly, as much above the ordinary stature of mankind as the Negritos are below it. They are famous for their endurance, their great strength and their physical development. They have large bones, splendid frames, muscular limbs, deep chests, high cheek bones, flat noses, thick lips, long, straight black hair, and a copper-colored skin similar to that of the North American Indians. Their hair hangs down upon the shoulders but in front it is cut with bangs hanging over their foreheads. Some of them have a scanty beard upon their chins and upper lips. The women are famous for their shapely figures and their erect and graceful carriage, although their faces are flat and uninteresting.

The Spaniards ignored the problem of their education and civilization. A few missionaries went among them from time to time, and frequently military expeditions invaded their settlements for the purpose of keeping them under subjection, but for 375 years they refused to accept the religion or the clothing or the government of the Spaniards, and will undoubtedly resist any attempts on the part of the Americans to Christianize or civilize them. The knowledge and wisdom they have inherited from their fathers satisfies them; they fail to see any advantage to themselves in adopting the manners and the methods of white men.

ANCIENT PHÆNICIAN BOWL FROM CURIUM.

In the museums of London and Paris may be seen numbers of bronze and silver-gilt bowls, chased and embossed with delicate and intricate decorations. One of the most famous was found at Palestrina, not far from Rome, and is preserved in the Etruscan museum of the Vatican. The center figure is an Egyptian scene, as manifest by the face and hair. A frieze of horses in motion is ranged around the next circle, with the vacant spaces filled in with birds. In the upper part of the picture, starting from a tiny fortress, a king, apparently an Assyrian, goes forth in his chariot to the hunt, driven by an Egyptian charioteer. The king dismounts, and takes aim with a bow at a stag standing on a

mound; the stag is slain and falls. Next, in the shade of a palm-tree, the Egyptian is feeding the horses, while the king proceeds to hang up and divide the stag, part for his feast, and part for sacrifice to the gods. We see the king seated before an altar under the winged disc of the sun-god. In front of the king a hideous ape looks out from a cave in a hillock, watching to slay the pious king unawares. The next scene shows the ape standing upright with a stone in his hand, but the goddess appears from heaven, and catches up king and chariot in her protecting arms. The king returns to earth again, tramples his enemy under foot, and returns in triumph to the palace whence he went forth.



Another bowl, said to have been found at Curium, on the south coast of Cyprus, during the excavations made there by General Cesnola, has in the center medallion a scene more obviously Assyrian than any shown by the Palestrian bowl. A winged deity, half god half monster, contends with a lion. The spaces around are filled by two protecting hawk-shaped genii. The interpretation of this design as a whole is by no means clear. The next circle shows some curious scenes—animal contests, a lion trampling a hunter, men come to his rescue, one with a bow, another thrusts a spear into the lion's mouth, etc. Notice the scene in the right-hand upper corner of the outside frieze of the bowl. A king bearing on his head a symbolic crown, manifestly Egyptian, is slaying his toes; he grasps them by the hair, he kills them literally at a blow; beside him stands a hawk-headed

sun-deity, Ra, with the solar disc on his head. At intervals along the bowl are formal designs like trees with monsters planted heraldically on either side. A glance at the Assyrian relief shows how oriental they are. These curious bowls suggest several problems: With respect to the preceding one, how came the artist to combine in such strange confusion a king from Assyria, a charioteer from Egypt, and an ape from Africa? Why was the cup found in Italy? Why do its designs reappear on pottery that is Hellenic? And lastly, how came the Curium bowl so far from the land which created the art it represents?

THE AGE OF SARGON.

The year 3800 B. C. was one of considerable cultivation, for inscriptions are numerous and a flourishing condition of art. The religion of the period was, however, of a low grade. A system of idolatry prevailed, the god Bel being the chief divinity. The temple to Bel at Lagesh is known as the house of the father. The temple, known as Eadda, was a lofty structure rising up to heaven and reminding us of the tower of Babel. Another great temple was known as the Mountain House. In the construction of it a long line of Babylonian rulers took part. A king of Kish brings costly vases of marble and limestone from Elam, though stone of any kind was very scarce in Babylonia itself.

In contrast to Babylonia was Assyria, which was situated farther north and was a military empire.

Egypt was settled by the Hittites. A vast collection of cuneiform inscriptions was gathered in Babylonia, but it was surrounded by northern hordes such as the Cimmerians and Scythians. These resembled the Vandals and Goths which later in history came from the north and attacked the city of Rome.

A PREHISTORIC CAVE.

The mural paintings and engravings of the Pyrenean caves is the subject of a series of memoirs by Prof. E. Cartailhac and l'Abbe H. Breuil, now appearing in *l'Anthropologie*. In a recent number is an account of the "Grotte des Forges" at Niaux, Ariège. The cave is a narrow gallery more than 4,200 feet in length, with several short branches; at 1,850 feet from the entrance a broad lateral gallery runs due south for a distance of over 500 feet, and terminates in a rotunda, the walls of which are decorated with bison, horses, deer, wild goats and groups of signs. There are no designs of animals in the first half of the main gallery, and only five at long interval in the second. The authors write with enthusiasm concerning the rotunda. The paintings possess to a supreme degree the style of the period, and represent the same animals that were familiar to the Palæolithic

artists of the Pyrenees, the bisons being in the great majority. The drawings, which represent animals in profile, are drawn with a brush in black pigment with a sure and exact touch, and the characteristic traits of the animals are conscientiously delineated. The best polychrome frescoes are to be seen in the caves at Altamira, in Spain, but Niaux is unexcelled in its line work. The black pigment consisted of a mixture of charcoal and oxide of manganese worked up with grease.

Perhaps the most important new feature of the Niaux pictographs is the representation of arrows sticking into many of the animals, thus conclusively proving the existence of the bow and arrow at this early period. The accompanying figure represents a large bison with four arrows, the two lateral being red in color. Some of the animals are marked by a spot, which may be intended to represent a wound.

ST. BONIFACE.

St. Boniface went to Germany about 718 to convert the Frisians. Gregory II, appointed him bishop of Germany (723), and in 748, he was put in charge of the church at Mainz by the Pope. St. Boniface was killed by the Pagans (756).

Abelard was born in Palet 1079. In 1121 he entered the Abbey of St. Denis as a monk. Later on he left St. Denis and built at Nogent-on-the-Seine a chapel and hermitage called Paraclete. Soon after he was appointed abbot of St. Gildas-de-Ruys. Here he struggled against love and his hatred of the monks, until in 1140 his doctrine was condemned and he was ordered to be imprisoned by Pope Innocent III. He died April 12, 1142.

Bede was born in England 673. He was a monk and spent his life in studying and writing. His best known work was the Ecclesiastical History of England. This work was written in Latin and later translated by Alfred the Great. He was known for his wonderful learning and piety.

Roger Bacon was born at the beginning of the thirteenth century. He was an English monk of Franciscan Order, and devoted himself to chemistry and mathematics. He made some wonderful discoveries which made the people think he was crazy, and he was imprisoned in his cell. During the time he was imprisoned he wrote *Opus Majus*. He died 1292.

MYTHOLOGY AND COSMOGONY.

Religious systems of the universe revert to cosmogony. Mythology however moves into a new realm.—that of human existence. In the cosmogony the diurnal and annual colation of light and darkness was first noticed, but mythology moved into a new realm, for night and day, winter and summer typify not only death and life, but guilt and innocence. When mythology reaches this stage, it enters upon its highest domain.

The Chaldean seer, the Syrian patriarch, the Ionian sage, the Etruscan bard, the Saxon skald, sing it alike. The burden of it is, that man is other than material; while he is in the world, he is not of it.

Confining our comparison to the classic, and the Norse mythology, we find the same lofty spiritual attitude toward nature manifest. In the Irish myths, the race of Parthenon is mentioned. Its head and leader came from the other world, and landed with a retinue of twenty-four males and twenty-four females upon the first of May, a day called Belfanu; sacred of Bel, the god of death.

Whatever gods ruled, found themselves in opposition to the power of darkness, winter, evil, and death. In Great Britain the monuments illustrate the point, even Stonehenge is supposed by Prof. Rhys, to have been sacred to the British Zeus.

The impressive temple is without roof, open to the sun, wind and rain of heaven. This would seem peculiarly appropriate to a British temple sacred to the god of light and sky. Geoffrey of Monmouth relates that the stones which composed it were erected by Merlin. Before that, they had stood in Ireland, which Geoffrey calls Mt. Kallarous. According to British tradition the primeval giants who first colonized Ireland, had brought them from the farthest coast of Africa. By the order of Aurelius, a half real, half mythical king of Brittain, Murdan, brought them thence to England, to be set up on Salisbury plain as a monument to the British chieftains, slain by Henges, and Horsa, and the Saxons.

Diodorus Siculus called it a temple of Apollo. The story of King Arthur is in point. The Celts were split up into petty tribes, each with its own local deities. There was the god of the under world, a gigantic figure, patron of the arch of eloquence and literature. The coming of Arthur is one of the problems of Celtic mythology. He appears first as a warrior chief, following this he is lifted to be a king of the gods, and chief of the war knights. The greater gods are his vassals. Stonehenge is associated with the name of King Arthur. The British Zeus was worshipped at Stonehenge. *In "Gods of our Fathers," a study of Saxon mythology, by Herman I. Stern, New York, Harper's Bros., 1898.

THE GREEKS AND ROMANS COMPARED WITH THOSE OF THE BIBLE.

There is this peculiarity about the history of the ancient lands of the east that they all abound with prominent characters which in America would be called "Culture Heroes," but with the Jews were called patriarchs and prophets. In Egypt there were three classes, the kings and priests, and the humanized divinities. In Babylonia there were divinities which bore the human shape, and other divinities with animal forms and human heads. In India there were creatures which were objects of worship. They were sometimes represented as human beings and again as composite creatures. In China there were creatures of worship. Here the serpent was represented with a human head, sometimes human forms were given animal heads. The goddess Kali was introduced into China by the Hindus and shows the change in the form of religion as well as the style of art.

It is a singular fact, however, that as we study the scriptures, we find the distinction between the human and divine very clear. There is no attempt to represent the divine form except it might be in the shape of angels which guarded an unseen presence. There were no statues and no combination of animal and human forms as was common among the pagans. It has been held by some that the divinity of the Israelites was very similar to that of the Roman and Greek.

When, however, we come to the Bible, we find the lines very closely drawn for the greatest contrast is presented between the human and the divine, the two classes being regarded as altogether supernatural and the others purely human, with scarcely any connecting links between them. It is true that in the old testament there are occasionally distinct traces of angels, but they are represented as supernatural beings and only manifest themselves to those who are prepared for the vision, but rarely are there intermediate creatures.

ANCIENT ARMOUR.

Every schoolboy knows that the practice of arraying fighting men in coats of armour, which had culminated in the fifteenth century by covering both horse and rider with armour, received what was believed to be its death-blow by the general introduction of gunpowder, beginning with the siege of Harfleur.

At present the showy cuirass which lingers in European arm-

ies, is purely spectacular, a showy ingredient of the circus side of warfare. Soldiers constantly assert that cuirasses will never be used again in actual fighting. They weigh seven or eight pounds, they cost \$10 to \$15, and they are not even proof against a revolver bullet, while, as against modern rifles, they might as well be made of brown paper. Hence, as *La France Militaire* tells us, there was a strong movement in the French army in favor of abolishing cuirasses both for cuirassiers and dragoons. But Gen. de Gallifet offered strong resistance to this revolutionary reform, and the cuirass was saved. It is doubtful whether even Gen. de Gallifet would have been able to arrest the abolition of the cuirass had it not been for the discovery referred to, above.

THE DISAPPEARANCE OF THE INDIANS.

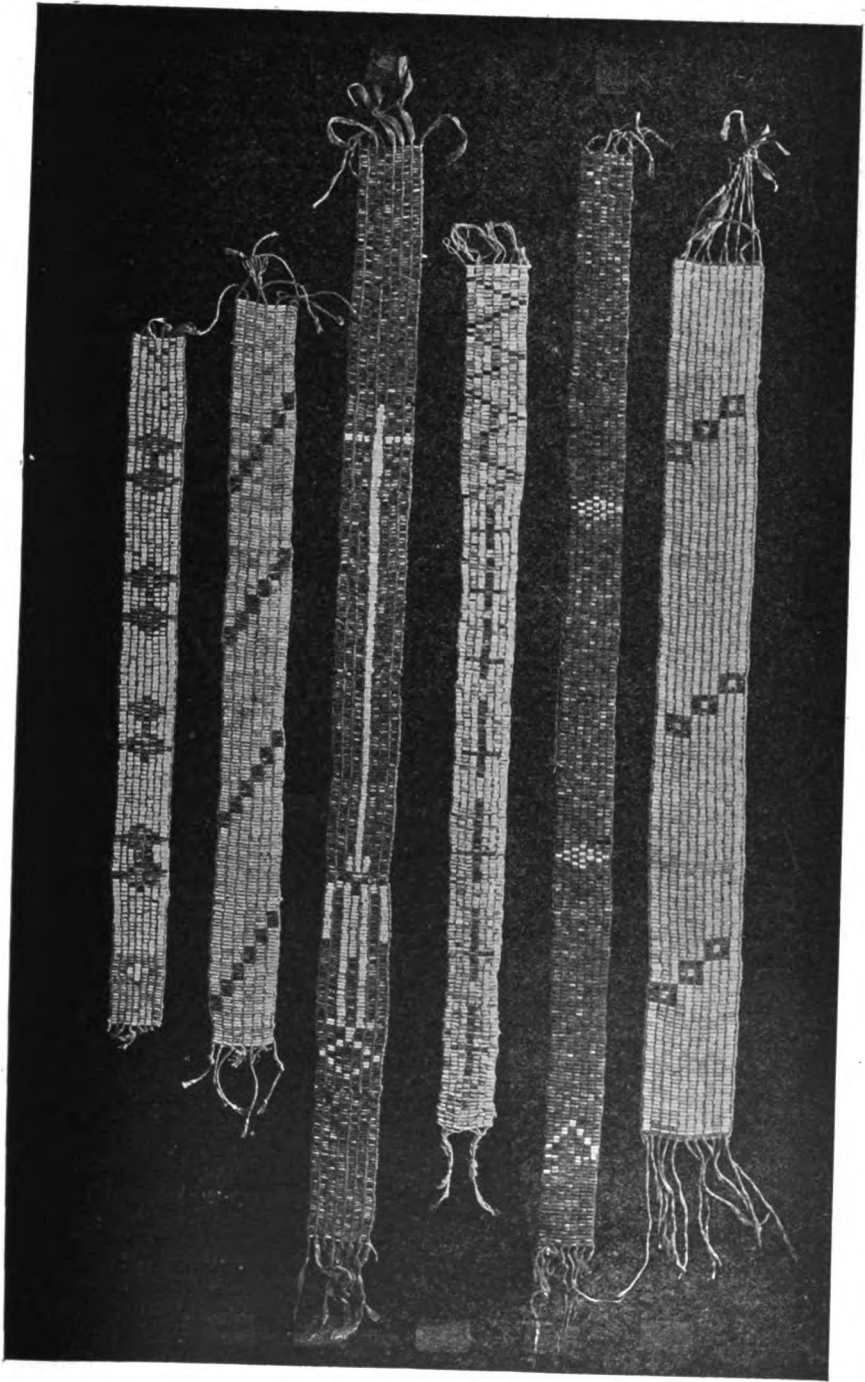
The term Indian was at first applied to the people who dwelt on the south coast of the Asiatic continent and are now powerful and prosperous, but is the very term which brings before us the history and the sad fate of a vanishing race, which bear the same name—Indians. It is not a new discovery which we are to announce, nor the interpretation of an old language, but rather it is a plea for the poor Indian.

It will be remembered that the parallels of latitude, which were marked by the chain of the Great Lakes and the Gulf of Mexico are the parallels which formed the habitat of the Aborigines.

St. Augustine who lived at Hippo and wrote the "City of God," which proved that Rome had fallen not because that the heathen gods had deserted her, but that the people had not followed the teachings of Christ.

Franks—what kind of people they were and where they came from.

Gregory was born in Rome about the middle of the sixth century. His father was a Senator. He was made praetor of Rome by Justin II., but he soon resigned this position and withdrew to one of the seven monasteries he had founded. "He gave to the poor all of his costly robes, silks, gold, jewels and furniture, not even keeping the abbacy of his convent, but, beginning with the lowest monastic duties, he devoted himself altogether to God." Pope Pelogius II. sent Gregory to Constantinople as papal nuncio. He remained there three years, writing *moralia* and on his return was elected successor of Pelagius. He was consecrated pope September 3, 590. He died March 12, 604.



CORRESPONDENCE.

TACOMA, WASHINGTON, May 27, 1894.

Rev. Stephen D. Peet, Chicago, Illinois.

MY DEAR SIR:—Your letter of recent date acknowledging the receipt of my article on "*Origin of the Indians*" gives me much pleasure. I am very glad that you so nearly agree with me even if your duty as the editor of a great magazine does not allow you to embrace the theory therein. I do not doubt, however, that in a few years the evidence will be put in such shape that it will be the generally accepted theory that the Mongolian is the greatest of the races; that it spread from a common center in the highlands of Asia, carrying the bronze to even Ireland and Scandinavia and erecting in those faraway countries the very mounds, possibly, that we find them erecting in China, United States and Peru. While our race was stagnant—dormant, the Mongolian had already pushed off into Europe, Africa and the continents of America. Think what we owe the Mongolian race; what a debt the world owes the despised and persecuted Chinamen, and American Indian. They gave us the compass, gunpowder, probably our letters, the potato, corn, quinine, the turkey, rice, probably the domestic animals, tobacco, the decimal system of numeration, paper and it is now claimed that the Akkadians of old was a Turanian race and through the Babylonians and captive Hebrews gave us the very religion and prayers our mothers taught us. If this race sent its pre-historic hordes of Huns and Vandals into the distant regions of Scandinavia, Ireland, Africa, and even into America, carrying with them bronze and other Oriental ideas, how much we must admire the race, and how carefully it should be studied. We find today the same character of dolmen in Japan that we do in Brittany; the same bronze in Peru that is found in Ireland; China was the home of bronze, and it may be true that nearly if not quite all that found in Ireland and Western Europe came from China!

We find jade, the most precious stone known to the Mongols, scattered as finished implements from Asia to Peru,—but not found *in situ* except in Asia. The traditions of the Aztecs, the Algonquins, the Peruvians and Central Americans all point to an Asiatic home. The Peruvian ruler was carried in a splendid palanquin,—an Oriental means of transportation. They both gathered and wove cotton; and wool;—in fact, laying aside our railroads, telephones and geography, we have but few things that we do not owe to them. You see I am firmly convinced of the correctness of the Asiatic origin, and it does me great

pleasure to have you say that you are of the same opinion. I would answer your question: "Was the native American dressed like an Asiatic," in the affirmative. Of course Asiatics dress differently but each dress could have been duplicated at the time of the conquest of Peru and Mexico.

I will get my article on "Slubbets" ready and send it back to you some of these days. Mr. Myron Eells has one of copper, found here on Puget Sound, and I have found one or two more of stone. I learn, also, from our Indians, that formerly they made the identical Aztec "*macu huitl*" which is described by Bancroft. Native Races, v. II, p. 409, "called by the Spaniards, *espada*, a sword, was made of tough wood, about three and a half feet long, with a flat blade four fingers in width, armed upon both sides with sharp pieces of iztli about three fingers long by three wide, which were inserted into the grooved edge at intervals, and cemented with some adhesive compound." But Mr. Eells, copper *macana* or slubbets is a variety, and side by side with Mrs. Kunzies' bronze and the many Indian stone, bone and wooden implements make, indeed, a pretty display of typical Aztec and New Zealand weapons.

You ask "but how about the tattooing?" "Why was that not introduced?" It was introduced. All our Pacific coast tribes tattoo their face, especially the chin, the arms, back, breast and sometimes all these members. The Haidas especially tattoo finely.

I wish to insist that corn is not necessarily a native of America. I think the testimony will yet be found to show that it was grown in Asia prior to 1492. I shall continue to look for the evidence at any rate.

About the Haida eyes, carvings, etc. I do not yet feel like committing myself. There is yet a sealed book. There is the point where we must find the first contact with Asia, and yet it is practically untouched. There is a place for a young man who will be honest enough to write what he sees and hears, to put into form some extremely interesting ethnological matter. It has not yet been done, and I cannot do myself justice except by a confession of dense ignorance about the Haida semi-civilization. I wish some others would do the same.

I should like very much to receive Dr. Brinton's pamphlet on the calender stones, calender, etc., and will thank you very much if you cause them to be sent to me. I have written to Prof. D. B. Good for pamphlets as you kindly suggested.

Has not Mrs. Nuttall also written something on the Mexican calender, and how can I get it?

I enclose herewith one of the many letters that I am constantly receiving from Indians about their personal matters. It is typical, and while written by some half-breed yet shows the Indian mind and some of their characteristics in a way that may interest you. Please return it.

I am, very respectfully,

JAMES WICKERSHAM.

JACOB'S PILLOW AND THE SCOTTISH THRONE.

CHICAGO, ILL., Sept. 22, 1908.

Editor of The American Antiquarian—

DEAR SIR:—With reference to our conversation at the University respecting Dr. De Hass statement of the legend of "Jacob's Pillow," herein please find the quotation from his work "Bible Lands" (1880), in full.

This stone is also called the "stone of destiny."

"A curious legend is told in connection with this stone on which Jacob slept, says Dr. De Hass. After the conquest of the country according to the tradition, this stone, known as 'the stone of destiny' was kept in the sanctuary at Bethel until removed to the temple at Jerusalem, where the ark of the covenant was placed upon it. This it is said was the stone referred to by David as that 'which the builders rejected' but which afterwards 'became the head of the corner' and was destined for peculiar honors! When the temple was destroyed by the Babylonians the Prophet Jeremiah as the story runs with the remnant of the tribe of Judah migrated to Ireland taking Jacob's pillow with them, *and all the Irish kings were crowned upon it!* An Irish prince conveyed it to Scotland—and *all the Scottish kings were crowned upon it;* but with its loss Ireland lost her independence, and this is the secret of her woes. In after centuries it was removed to Westminster Abby, *where it may be seen in the seat of the coronation chair, and upon it all the kings and queens since the days of Edward III, down to Victoria have been crowned,* and many superstitious people think that so long as England retains possession of this stone so long will she maintain her ascendancy among the nations."

This certainly seems quite remarkable—and what I also regard as remarkable is that I have not ever in all my years of study and reading even heard of it. I am interested to know where it came from and if this stone—or a stone that is supposed to be the stone is used for the above purpose.

If you have access to information upon this subject, or are in touch with people at the University or in England, would you kindly at your convenience, get a little light upon this very interesting "legend," especially that part which refers to use made of it by Ireland, Scotland, and England.

The book referred to is by Frank S. De Hass, D. D., member of the American Geographical Society and late U. S. Consul to Jerusalem (pub. 1880).

Can be seen at the public library, reference room, call for I 1268, on fourth floor.

Yours very truly,

S. A. CORNWALL.

CHICAGO, ILL., Oct. 6, 1908.

Editor of American Antiquarian—

The article by Mr. Brigham Roberts in defense of Mormonism is in reality a contention in favor of the genuineness of the book of Mormon as a revelation based on the discovery of certain manuscripts in Western New York.

DEAR SIR:—In answer to the article by Brigham H. Roberts, I take the liberty to say that there is evidence in reference to what is called the "Spalding manuscript" more than Mr. Roberts is aware of. In the first place the preparation of that manuscript occurred soon after considerable interest had been aroused in this country in reference to the mysterious people who had built the mounds and had left their records in the shape of "tablets" which had been deposited near the base. Some such tablets were discovered in Ohio, others in other localities. The facts became known to archaeologists, and in due time were pronounced "frauds," and are acknowledged to be such by all who are familiar with the prehistoric works of Ohio and other states.

The "Newark Stone" was one of the frauds, which was exposed, but others appeared and were endorsed for a time by a few, but very soon were so exposed that they were not accepted by any of the archaeologists.

The manuscript which was prepared by Rev. Mr. Spalding when he was a pastor at Conneaut was put into a story form, not with the idea of deceiving any one, but as a sort of echo of the story concerning the strange people called the "Mound Builders."

There is one remarkable coincidence which connects the Spalding manuscript with the tablets which constituted a revelation to Joe Smith.

It has been told me by a gentleman who lived from 1840 to 1860 at Pittsburg, that there was a manuscript lying around a printing office which he believed was the one prepared by Mr. Spalding, but it disappeared and I thought it was taken by a journeyman printer and carried north and probably fell into the hands of the false prophet, Joe Smith.

There are many other coincidences, which, taken about the time that he was in prison, probably after the migration.

There is no question that the Mormons while living near Carthage and on the Mississippi were a thievish set, for cattle disappeared and it was supposed that they were stolen or butchered by the "*Latter Day Saints.*"

The Mormon elders have gone into all parts of the world and have appealed to the selfish natives wherever they have gone. It was not a new religion or a new revelation which made for righteousness, but one which appealed to them. There

were numerous parties, who were on their way to California during the gold excitement who were beset by those dressed in Indian costumes and robbed and in some cases killed.

These facts were known to those who lived in Illinois and Southern Wisconsin, and Iowa, during the time of the gold excitement. A division took place among the Mormons themselves. I have myself, as the Editor of THE AMERICAN ANTIQUARIAN, received calls from Mormons who had the impression that possibly with my acquaintance with the Mound Builders and other prehistoric races I might give them some clue which might establish their story, delusion or possibly help to confirm their story and assist in propogating their beliefs. In my opinion the arguments put forth by Brigham Young and others are not at all convincing. It was not defamation, for proofs are still remaining that as long as the Mormons remained at Nauvoo and Western Illinois, the farmers were constantly losing cattle in a mysterious way and their disappearance was ascribed to Mormons. It has been among the ignorant people, living in various parts of this country and in parts of Europe that the Mormon elders and missionaries have accomplished the most, and succeeded in deluding those who have believed in them. I have heard them in various localities and know whereof I speak. Their discoveries of tablets were not accepted by archaeologists as genuine by any means. There were tablets discovered in a mound near Davenport, Iowa, which some have regarded as genuine; among them the members of the Davenport Academy; especially Mr. H. H. Putnam, an attorney at law, and Rev. Mr. Gass, a Lutheran minister, but by others they have been regarded as frauds.

These tablets had inscriptions on them. In one tablet there was a picture of a mound, around which were human figures, arranged in a circle, and near the mound two human forms ready to be buried. Above them were two arches, representing the sky, but strange characters resembling alphabetic letters, while between the arches and the mound were forms of the sun and moon. The inscribed letters never have been deciphered and the common supposition is that this tablet was a fraud, and had been buried in the mound, though how or when or by whom is still a mystery.

Now taking these inscriptions into the account, archaeologists have always been chary of any discovery of tablets containing inscriptions, wherever found. It is true that the ancient Babylonians claimed that certain inscribed tablets were buried by their ancestors, who lived before the flood.

Book Reviews

ILLINOIS HISTORICAL COLLECTIONS. Vol. II., Alvord. Illinois State Historical Library, Springfield, Ill., 1907.

The introduction to this book gives a sketch of the early history of Illinois from the time of George Rogers Clark. French villages were established among the Indian tribes such as the Kaskaskias, the Peorias, Michegamies and Cahokias. The Cahokia church was in ruins in 1778 when George Rogers Clark arrived in the same year. His journey down the Ohio river, his landing at Fort Marsac, his gaining the confidence of the Indians and French are mentioned.

The names of Todd, Montgomery, Winston, Selas, Dean, are all associated with his name.

Kaskaskia was one of the most prominent places in the West at this time but at present is said to be gone, and even the waters of the river have undermined the land on which it stood.

The court records up to 1787 occupy about 630 pages of the book, and are valuable for reference.

THE JAPANESE NATION IN EVOLUTION. By *William E. Griffith*, D. D., L. L. D. New York: Thos. Y. Crowell & Co.

This book, like all other books by the same author, is full of instruction. It describes the Aryan white race, the Malay element in Japan, and then brings out the cycle of legends which prevailed. The iron and stone ages are described. The Aryan religion comes in for the subject of a single chapter. The new Japan is then described. "Japan rejects Mongolism" forms the subject of a chapter. The Christian Century, the hermit nation, the Bushido occupy another chapter. The Russian menace in the north is described, but the diplomacy and government of new Japan forms another chapter, and the public school army is described. Russia forms the concluding chapter. Mr. Griffith's is always interesting and this book, like his others, is very readable.

BUDDHA AND CHRIST.

A student of Buddhism and a translator of the Pali Texts, Mr. Albert J. Edmunds of Philadelphia, says: "The world is beginning to realize the cosmic importance of these texts. The epoch of Gautama (Gotamo) in India was one of the four greatest upheavals in the history of the spirit of man. The other three were the age of Socrates in Athens, of Christ in Capernaum, and the thinkers who engendered the American and French revolu-

tions." It appears that when Buddha was born, the angels were the first to receive him, the mortals afterward.

"When Paul was standing before Nero, Buddhism was officially welcomed into China. Cashmere and Ceylon were the homes of two ancient sects of Buddhists. From the greater part of India all traces of Buddhism except ruins, have been swept away. The Moslems obliterated the traces of the lost version of the Sutras. The gospels are original documents deriving their inspiration from the life and words of Jesus. East Indian archaeology confirm the trustworthiness of the Pali texts. There is a chain of Greek art reaching all the way from the Adriatic to the Ganges. The coins of all the Roman kings from Augustus to Hadrian are in the Museum at Madras. Christian and Buddhist romances are founded on the facts of ancient life.

VANCOUVER'S DISCOVERY OF PUGET SOUND. *By Edmond S. Meany.* New York: The Macmillan Company, 1907.

The portraits in this book bring before us some very noted historic characters. The first is Vancouver himself. The second, George Washington, next, Lord Grenville, in succession, Admiral Peter Rainier, Admiral Vashon, Earle Howe, Sir John Jervis, Loughborough, Admiral John Knight, Queen Charlotte, Lady Rivers, Archibald Menzies. Judging from these one might think it was a description of the commanders of the British navy, excepting George Washington and the ladies. Mt. Rainier is also pictured. Another shows Cheslakee's village, and the village of Friendly Indians, another George III., and still another the Discovery on the Rocks.

The period embraced commences with 1578, when Drake sailed along the coast. In 1741, Bering discovered Alaska. Johann Perez sailed from Monterey in 1778. Captain Cook called the place King George's Sound in the same year. But it has borne the name of Puget Sound. Captain Gray, in 1790, was the first one to carry the stars and stripes around the globe. He reached the climax of his life during the year 1792, the element of tragedy entered into the history of Nootka in 1792. The Indians, under Maquinna, the chief, killed Captain Salter and plundered the rich cargo. Maquinna was the instigator of the capture of the "Boston" and the murder of 25 men of her crew. Nootka is the birthplace of the Chinook jargon.

The author of the book visited the famous harbor in 1903, which is certainly a very recent date compared with the time of the discovery, making the book doubly valuable.

A HISTORY OF THE UNITED STATES NAVY. *By John R. Spears.*

Illustrated. Chas. Scribner Sons, 1908.

A portrait of John Paul Jones forms the frontispiece of this book. A full page picture of the Constitution escaping from the

British squadron, and the fight between the Constitution and the Gueriere are given in two plates. Commodore Oliver Perry, Commodore McDonough, also Commodore Warden and officers are given in portraits. A picture is given of Admiral Farragut and his fleet and the battleship Oregon, as well as other boats and battleships. The African pirates, the origin of the War of 1812, the loss of the Chesapeake and Argus, the battle on Lake Champlain, the description of the Monitor and Merrimac, also of the blockade runners and gunboats at Cairo. Farragut's fleet passing Ft. Jackson is represented by two plates. The building of the white squadron, the Battle of Manila, of Santiago, are all described. The book is attractive and very instructive.

LIFE AND LETTERS OF GEORGE BANCROFT. By *M. A. De Wolfe Howe*. Charles Scribner's Sons: 1908: Vols. I. and II., illustrated.

The boyhood of George Bancroft was happy and at the same time full of advantages, as he was brought into contact with many noted men, but was especially influenced by his excellent mother. He entered Harvard College when President Kirkland was at its head. His membership in the Phi Beta Kapa Society was proof of his high grade of scholarship. He went to Europe after graduating, entered the University at Gottingen, but continued a correspondence with President Kirkland of Harvard as well as with his parents. A period of teaching followed his university study. The school was at Northampton, on a round hill. The use of a good library for pupils and instructors was one of the first advantages which he gave to his pupils. He delivered a Fourth of July oration, which was his first public political utterance. He was engaged to Miss Dwight of Springfield. After his marriage he visited Washington, and there met John Quincy Adams, heard Henry Clay address the Senate. He continued his correspondence with Edward Everett and held correspondence with Thomas Carlyle, also with Martin Van Buren and Charles Sumner. He was chosen as minister to England in 1846 and wrote letters to political and personal friends, giving an account of Louis Phillippe. He also wrote to President Polk and James Buchanan and John Appleton in reference to political affairs. He received the degree of L. L. D. from Oxford University in 1849 and returned to America the same year, but kept up a correspondence with Lord Palmerston. He visited Paris and became acquainted with Guizot and Lamartine. He mentions having met Warren Hastings and Alexander Humboldt. Nothing seems to have crossed his path during all this time. If there were causes for disturbance he seems to have arisen above them.

His letters to his wife show how much they were in accord. Her portrait represents a woman of strong character and lady-like manners and one who made a most excellent companion for

so distinguished a man. His letters to James Buchanan and Stephen Douglas show his political attitude. Mr. Lincoln's administrations came in. Bancroft's correspondence shows him to have been in touch with both Lincoln and Seward. The parading of 7,000 men was a great event in the war. Bancroft at an evening party talked with the Prince de Joinville. His letters to William H. Seward and Solomon P. Chase and S. S. Cox show his opposition to slavery and sympathy with the war. The reading of Andrew Johnson's first annual message is referred to.

He was appointed as minister to Berlin by President Johnson and here met Bunsen and his wife.

He had an interview with Bismarck, the Italian and Austrian ministers, the King and Queen of Germany. His correspondence with President Grant is given in these volumes, also letters to Hamilton Fish of New York. Very little is said about the great work which Bancroft accomplished in connection with his history, but that bears witness in itself of the wonderful capacity that this distinguished man possessed.

WHAT ROME WAS BUILT WITH. By *Mary W. Porter*. London and Oxford: Henry Froude: 1907.

The famous theatre built in 58 B. C. consisted of three stories. The first of three hundred and sixty columns and three thousand brazen statues, the second story of glass, a third of gilded wood. This of itself shows the character of the little book.

There are many other notices of the material of which Rome was built. It is very instructive, as it treats of the subject about which very little is known. Archaeologists will be interested in reading it.

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The author holds that there was a contact between the Southern Mound-Builders and the so-called civilized races of the Southwest, and that trade was carried on with all parts of the continent, but he thinks there was a decided difference between the hunter tribes and those which constructed the great earthworks which are scattered along the Ohio River and in the Gulf States.

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It is an interesting book, and one that will be valued for the information it contains.

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