



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

### **Usage guidelines**

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

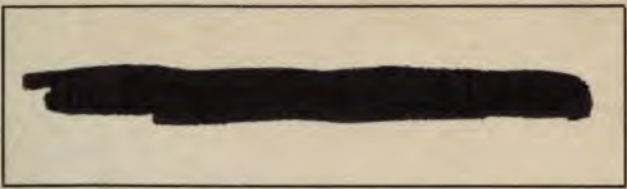
We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

### **About Google Book Search**

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>





LELAND • STANFORD • JUNIOR • VNIVERSITY









THE

# American Antiquarian

AND

## Oriental Journal.

---

VOLUME XXII.

JANUARY-NOVEMBER, 1900.

---

STANFORD UNIVERSITY

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



CHICAGO :  
5817 MADISON AVENUE.

1900,

51



E 51

A4

V. 22  
112

235360

STANFORD UNIVERSITY

# TABLE OF CONTENTS.

## VOLUME XXII.

### JANUARY AND FEBRUARY.

	PAGE.
FRONTISPIECE. GRAND CANYON AT THE FOOT OF THE TOROWEAP.	
THE GREAT PLATEAU AND ITS INHABITANTS. Illustrated. By Stephen D. Peet.....	1
THE ART OF BENIN CITY. Illustrated. By Frederick Starr.....	17
CIVILIZATION OF THE INDIANS. Illus. By Mrs. I. P. Wilson.	25
THE WORD FOR MAN AND CHILD IN DIFFERENT LAN- GUAGES. By C. Staniland Wake.....	33
THE INTERNATIONAL CONGRESSES OF THE EXPOSITION OF 1900.....	35
IN MEMORIAM OF DR. D. G. BRINTON. By A. F. Chamberlain	37
CORRESPONDENCE—	
ORIENTATION AMONG THE MOUNDS. N. A. Chapman.....	41
THE FIRST DISCOVERERS OF AMERICA. Juul Dieserud.....	44
ANTHROPOLOGICAL NOTES. By Alexander F. Chamberlain...	46
NOTABLE PAPYRI. By Rev. W. C. Winslow.....	50
EGYPTOLOGICAL NOTES.....	51
EDITORIAL.—IS IT CIVILIZATION, OR EXTERMINATION?.....	52
ARCHÆOLOGICAL NOTES.....	59
LITERARY NOTES.....	61
BOOK REVIEWS—	
Man: Past and Present. By A. H. Keane.....	63
Solomon and Solomonic Literature. By Moncure D. Conway...	64
Myths of Greece and Rome. By H. A. Guerber.....	65
History Primers—Classical Antiquities I., Old Greek Life. By J. P. Mahaffy. Edited by J. R. Green.....	65
History Primers—Classical Antiquities II., Roman Antiquities. By A. S. Wilkins. Edited by J. R. Green.....	65
Memoirs of the American Museum of Natural History. Vol. II. By Harlan I. Smith.....	66
Myths of Northern Lands—Narrated with Special Reference to Literature and Art. By H. A. Guerber.....	66
Myths and Legends of our New Possessions and Protectorates. By Charles M. Skinner.....	67
Historic Mansions and Highways Around Boston. By S. A. Drake	67
The Puritan Republic of Massachusetts Bay in New England. By Daniel Watt Howe.....	67
Nancy Hanks. By Caroline Hanks Hitchcock.....	67
Don't Worry Nuggets; Educational Nuggets; Philosophical Nuggets; Patriotic Nuggets.....	68
Standard English Poems. Selected and edited by H. S. Pancoast	68
BOOKS RECEIVED—	
The Old Northwest: The Beginnings of Our Colonial System. The History of Illinois and Louisiana Under the French Rule. Young Puritan Series: The Young Puritans in Captivity.—A Year Book of Colonial Times.—Plantation Pageants.—The Legends of the Rhine.—Triumphs and Wonders of the Nineteenth Century.....	68

## MARCH AND APRIL.

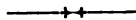
	PAGE.
<b>FRONTISPIECE. SCENES IN SOUTH AFRICA.</b>	
<b>THE EVOLUTION OF ETHICS.</b> By Charles W. Super.....	69
<b>A RELIC FROM THE GLACIAL CLAY OF BRITISH COLUMBIA,</b> By James Deans.....	75
<b>PREHISTORIC WORK BY PROF. PETRIE.</b> By W. C. Winslow.	76
<b>PREHISTORIC KNIVES.</b> By Theophilus L. Dickerson.....	78
<b>THE SYMBOL OF THE HAND.</b> By Lewis W. Gunckel, Illus....	83
<b>THE EARLIEST CONSTRUCTED DWELLINGS AND THE LOCALITY IN WHICH MAN MADE HIS FIRST HOME.</b> By Stephen D. Peet, Illustrated.....	85
<b>ANTHROPOLOGICAL NOTES.</b> By Alexander F. Chamberlain... 101	
<b>NOTES ON ASSYRIOLOGY.</b> By Rev. J. N. Fradenburgh.....	106
<b>MOSAICS OF CHALCHUITE.</b> By William P. Blake, Illustrated.	108
<b>ARCHÆOLOGICAL DISCOVERIES IN NORTH VICTORIA COUNTY, ONTARIO,</b> By G. E. Laidlaw. Illustrated.....	111
<b>CORRESPONDENCE—</b>	
<b>MONITOR PIPES.</b> W. J. Mackey, Illustrated.....	116
<b>A PECULIAR RELIC.</b> W. A. Chapman. Illustrated.....	116
<b>CONTINUITY OF THE PALÆOLITHIC AGE.</b> By S. D. Peet....	117
<b>EDITORIALS—</b>	
<b>SOUTH AFRICA</b> .....	119
<b>SIR J. WILLIAM DAWSON</b> .....	124
<b>PRESIDENT EDWARD ORTON</b> .....	125
<b>ARCHÆOLOGICAL NOTES</b> .....	126
<b>LITERARY NOTES</b> .....	131
<b>BOOK REVIEWS—</b>	
<b>Enchanted India.</b> By Prince Bojidar Karageorgvitch.....	133
<b>Quaint Corners of Ancient Empires.</b> By M. M. Shoemaker....	133
<b>The History of Illinois and Louisiana Under the French Rule.</b> By Joseph Wallace.....	134
<b>The Old Northwest.</b> By B. A. Hinsdale.....	134
<b>Historic Towns of New England.</b> By Lyman P. Powell.....	134
<b>Historic Towns of the Middle States.</b> By Lyman P. Powell... 134	
<b>Roman History of Appian of Alexandria.</b> Trans. by Horace White	135
<b>Plantation Pageants.</b> By Joel Chandler Harris.....	136
<b>History of the New World Called America.</b> By E. W. Payne.	136
<b>The Divine Pedigree of Man.</b> By Thompson Jay Hudson.....	137
<b>Zoroaster, the Prophet of Ancient Iran.</b> By A. V. W. Jackson.	138
<b>The Young Puritans in Captivity.</b> By Mary P. Wells Smith....	139
<b>The Miracles of Missions: Modern Marvels in the History of</b> <b>Missionary Enterprise.</b> By Arthur T. Pierson.....	139
<b>A Year Book of Colonial Times.</b> By Rev. Frederick S. Sill....	139
<b>BOOKS RECEIVED—</b>	
<b>Report of the Commissioner of Education for Year 1897-98; Vol.</b> <b>II., containing Parts 2 and 3.—National Educational Association</b> <b>Journal of Proceedings and Addresses of the Thirty-</b> <b>eighth Annual Meeting held at Los Angeles, Cal., July 11-14,</b> <b>1899.—Smithsonian Institution United States National Museum.</b> <b>Arrow-points, Spear-heads, and Knives of Prehistoric Times.</b> <b>Documentary History of the Campaign on the Niagara Front-</b> <b>ier in 1812.—Pompeii: Its Life and Art.—The Africanders: A</b> <b>Century of Dutch-English Feud in South Africa</b> .....	140

TABLE OF CONTENTS,

v.

MAY AND JUNE.

	PAGE.
FRONTISPIECES—VIEW OF ORIZABA, MEXICO, AND MOUNTAIN SCENERY IN MEXICO.	
SOME RELICS OF THE STONE AGE FROM PUGET SOUND. By James Wickersham. Illustrated.....	141
THE ARCHÆOLOGY OF ETHICAL IDEAS. By C. W. Super....	149
COAST AND MARITIME STRUCTURES. By S. D. Peet. Illus.	157
ANTHROPOLOGICAL NOTES. By Alexander F. Chamberlain....	181
THE PROBLEM OF THE HITTITES. By Rev. J. N. Fradenburgh	185
PROGRESS OF EGYPTOLOGY. By Rev. W. C. Winslow....	187
A PREHISTORIC MOUNTAIN VILLAGE, By W. P. Blake... .	191
THE UNCONQUERABLE YAQUIS, A Selection.....	192
EDITORIALS—	
THE AMERICAN ANTIQUARIAN AND ITS FRIENDS.....	194
SCENERY AND ARCHITECTURE IN MEXICO.....	197
EDITORIAL NOTES... ..	201
LITERARY NOTES.....	209
BOOK REVIEWS—	
Diary of David McClure, D. D., 1748-1820. With notes by Franklin B. Dexter, M. A.....	211
Excavations at Jerusalem, 1894-1897. By Frederick Jones Bliss.	211



JULY AND AUGUST.

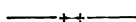
FRONTISPIECE—EGYPTIAN RELICS IN FIELD COLUMBIAN MUSEUM.	
THE ETHNIC VARIATION OF MYTHS. By John Fraser.....	213
SHRINES NEAR COCHITI, NEW MEXICO. By Frederick Starr. Illustrated....	219
DIARY OF ARNOLD'S MARCH TO QUEBEC. By A Soldier of the American Revolution.....	224
THE PEOPLING OF AMERICA. By Stephen D. Peet. Illustrated	229
ANCIENT EGYPTIAN ART IN THE MUSEUMS OF AMERICA. By Rev. William C. Winslow. Illustrated.....	245
GREAT IRELAND AND THE DISCOVERY OF AMERICA. By Juul Dieserud.....	252
THE NORTHERN INDIAN NATIONS. By Joseph Edkins.....	254
NOTES ON ASSYRIOLOGY. By Rev. J. N. Fradenburgh.....	258
ANTHROPOLOGICAL NOTES. By A. F. Chamberlain.....	262
EDITORIALS—	
CARE FOR CLIFF RUINS.....	268
WHY AMERIND? (F. S.).....	269
LATE DISCOVERIES IN THE EAST.....	270

JULY AND AUGUST—*Continued.*

PAGE.

## BOOK REVIEWS—

Rijks Ethnographisch Museum te Leiden: Verslag van den Directeur over het tijdvak van 1 Oct., 1898, tot 30 Sept. 30, 1899	273
Los Tatuages: Estudio Psicologico y Medico-Legal en Delin- cuentes y Militares. By Dr. Francisco Martinez Baca.	273
Pompeii; Its Life and Art. By August Mau.	275
The Literary Study of the Bible. By Prof. Richard G. Moulton.	279
Popular Misconceptions as to Christian Faith and Life. By Rev. Frank T. Lee.	278



## SEPTEMBER AND OCTOBER.

FRONTISPIECE—STREET OF NATIONS, PARIS EXPOSITION.	
NUMERAL CHARACTERS: THEORY OF ORIGIN AND DE- VELOPMENT. By C. B. Moseley. Illustrated.	279
ANCIENT GEMS. By Martha Adelaide Curl.	284
THE NATIVE RACES OF CENTRAL AUSTRALIA. Reviewed by J. W. Murphy.	291
TORTURES AMONG THE ABORIGINES.	294
THE DELUGE TABLETS. By Rev. J. N. Fradenburgh.	295
MEXICAN PAPER By Frederick Starr, Illustrated.	301
A REMARKABLE INDIAN PIPE. By W. J. Wintemberg, Illus.	309
ANCIENT AZTEC CITIES AND CIVILIZATION. By Stephen D. Peet, Illustrated.	311
THE PROGRESS OF EGYPTOLOGY. By Rev. W. C. Winslow.	327
ANTHROPOLOGICAL NOTES. By Alexander F. Chamberlain.	331
EDITORIALS—	
CHINA AND THE CHINESE. Illustrated.	339
THE ART MUSEUM AT BUFFALO. Illustrated.	344
THE STREET OF NATIONS. Illustrated.	345
EDITORIAL NOTES.	346
LITERARY NOTES.	348
BOOK REVIEWS—	
Das Blut im Glauben und Aberglauben der Menschen. Mitceson- deret Berucksichtigung der "Volksmedizen" und des "judis- chen Blutritus." Herman I. Strack.	349
Katalog No. 1. Verzeichniss einer Ethnographischen Sammlung aus der Sudsee.	349
Catalogue No. 2. Description of an Ethnographical Collection from Equatorial Africa.	349
Der Urmensch: kritische Studie. By J. Beck.	350
Osteologie. (Anthropologie Mexicaine.) Leopold Batres.	350
BOOKS RECEIVED.	350

TABLE OF CONTENTS.

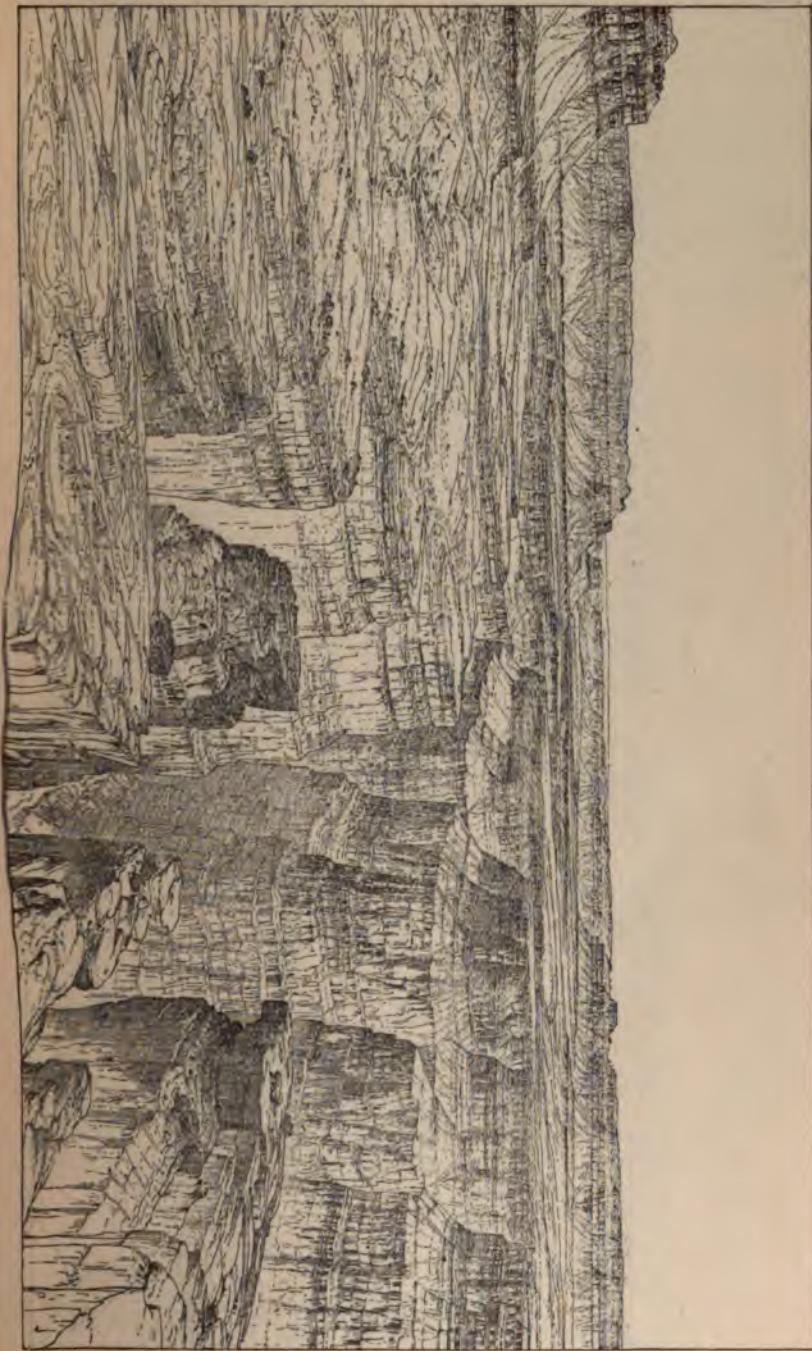
vii.

NOVEMBER AND DECEMBER.

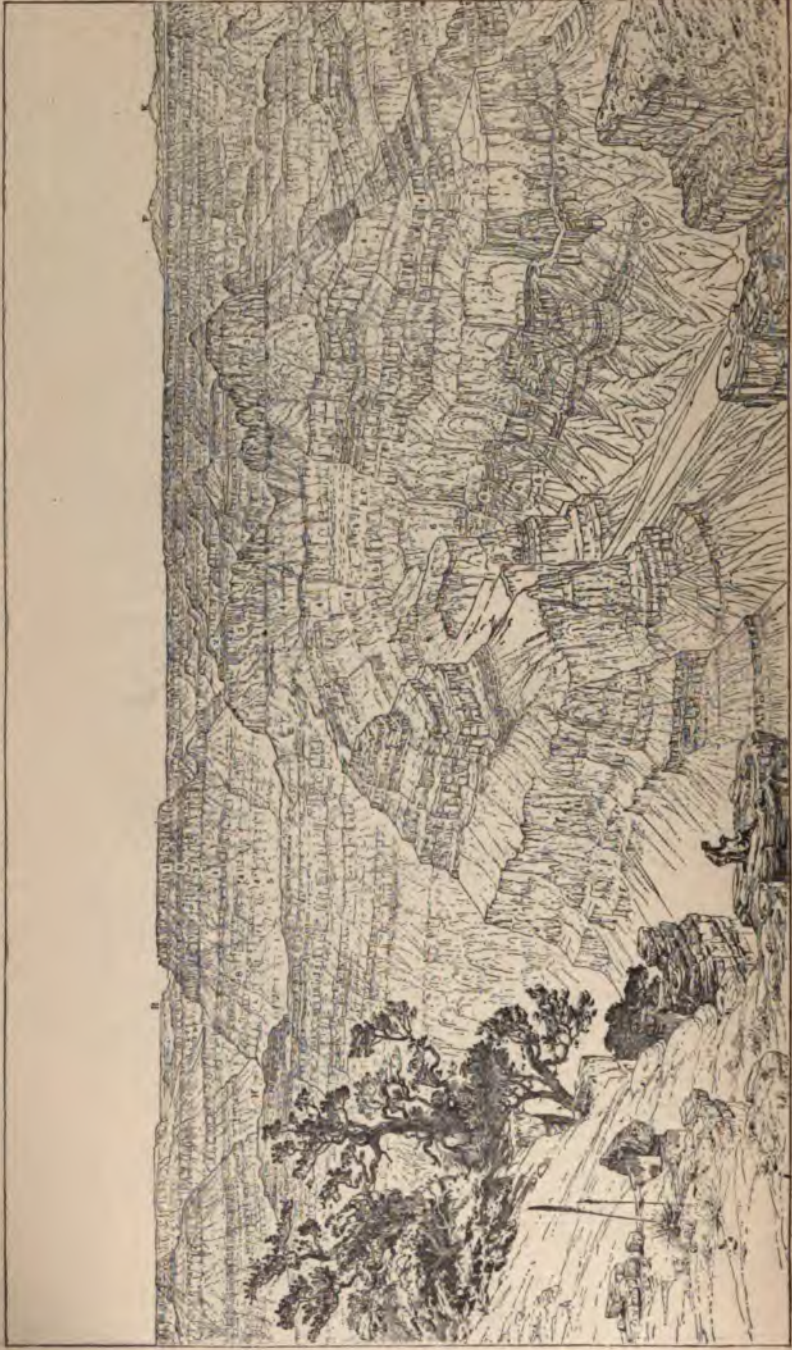
	PAGE.
FRONTISPIECE—THE GRAND CANAL, HOUSE BOATS, AND FAMOUS BRIDGE OF CHINA.	
THE DE SOTO EXPEDITION THROUGH FLORIDA. By T. H. Lewis. - - - - -	351
CIVILIZATION AND THE ETHICAL STANDARD. By Charles W. Super. - - - - -	358
ARCHITECTURE IN THE STONE AGE. By Stephen D. Peet. Illustrated. - - - - -	367
NOTES ON ASSYRIOLOGY. By Rev. J. N. Fradenburgh. - -	383
ANTHROPOLOGICAL NOTES. By Alexander F. Chamberlain. -	387
PHILIPPINE STUDIES—I. PLACE NAMES. By A. F. Chamberlain.	393
CORRESPONDENCE—	
CLIFF-DWELLER'S RUINS. C. N. Crotzburg. - - -	400
EDITORIALS—	
THE GEOGRAPHY AND HISTORY OF CHINA. - - -	402
THE BIBLE, HEATHENISM, AND THE CHINESE WAR. -	408
OUR EXCHANGES. - - - - -	411
ARCHÆOLOGICAL NOTES. - - - - -	413
BOOK REVIEWS—	
Among the Wild Ngoni; Being Some Chapters in the History of the Livingstonia Mission in British Central Africa. By W. A. Elmslie. - - - - -	416
The New Pacific. By Hubert Howe Bancroft. - - -	417
McLoughlin and Old Oregon; A Chronicle. By Eva E. Dey.	417
The Bible Among the Nations. A Study of the Great Translations. By John Walter Beardslee. - - - - -	418
Northern Georgia Sketches. By W. N. Harlan. - - -	418
North Carolina Sketches; Phases of Life Where the Calax Grows. By Mary Nelson Carter. - - - - -	418
BOOKS RECEIVED. - - - - -	418

## GENERAL ALPHABETICAL INDEX.

A Prehistoric Mountain Village, -	191	Great Plateau and Its Inhabitants, The	1
Ancient Aztec Cities and Civilization,	311	International Congresses of the Expo-	
Ancient Egyptian Art in the Museums of		sition of 1900, - - - -	35
America, - - - -	245	In Memoriam of Dr. D. G. Brinton,	37
Ancient Gems, - - - -	284	Late Discoveries in the East, - -	270
Anthropological Notes, 46, 101, 181, 262, 331,		Literary Notes, - - - 61, 131, 209, 348	
387.		Mexican Paper, - - - -	301
Archæological Discoveries in North Victoria		Mosaics of Chalchuite, - - - -	108
County, Ontario, - - - -	111	Native Races of Central Australia, The	201
Archæological Notes, - - - 59, 126, 413		Northern Indian Nations, The	254
Archæology of Ethical Ideas, The -	149	Notable Papyri, - - - -	50
Architecture in the Stone Age, - -	367	Notes on Assyriology, - - - 106, 258, 383	
A Relic from the Glacial Clay of British		Numeral Characters: Theory and De-	
Columbia, - - - -	75	velopment, - - - -	279
A Remarkable Indian Pipe, - - -	309	Peopling of America, The - - -	229
Art of Benin City, The - - -	17	Philippine Studies, - - - -	393
Books Received, - - - - 68, 140, 350		Prehistoric Knives, - - - -	78
Book Reviews, - - - 63, 133, 211, 273, 349, 416		Prehistoric Work by Professor Petrie,	76
Civilization and the Ethical Standard,	358	Problem of the Hittites, The - -	185
Civilization of the Indians, - - -	25	Progress of Egyptology, - - - 187, 327	
Coast and Maritime Structures, - -	157	Shrines Near Cochite, New Mexico,	219
Continuity of the Palæolithic Age, -	117	Some Relics of the Stone Age from	
Correspondence, - - - - 41, 116, 400		Puget Sound, - - - -	141
Deluge Tablets, The - - - -	295	Symbol of the Hand, - - - -	83
De Soto's Expedition Through Florida,	351	Tortures Among the Aborigines, -	294
Diary of Arnold's March to Quebec,	224	Unconquerable Yaquis, - - - -	192
Editorials, - - - 52, 119, 194, 268, 339, 402		Word for Man and Child in Different	
Editorial Notes, - - - - 201, 346		Languages, The - - - -	
Egyptological Notes, - - - -	51		
Earliest Constructed Dwellings, The	85		
Ethnic Variation of Myths, The - -	213		
Evolution of Ethics, The - - - -	69		
Great Ireland and the Discovery of			
America, - - - -	252		







KEY TO THE PANAROMA FROM POINT SUBLIME.

THE  
*American Antiquarian*

VOL. XXII.

JANUARY, 1900.

No. 1.

THE GREAT PLATEAU AND ITS INHABITANTS.

BY STEPHEN D. PEET, PH. D.

There is a region in the deep interior of the American continent, to which the name Great Plateau has been given. The name expresses its geological character. It is, however, a region which furnishes a wonderful field to archæology, and deserves careful study on this account. There is no part of our great continent where more interesting problems are presented than by this. These problems relate not merely to the physical and natural history, but to human history as well. In fact, it is the human history which gives the chief interest to it, as that history is totally unlike any other on the face of the globe.

It appears that a portion of the human race found lodgment in the midst of these grand scenes of nature, but became isolated by reason of their situation. Here, they developed a form of society which was largely the result of the environment, but which culminated in a type of art and architecture which was most peculiar. There has been a great deal of mystery thrown around the people, and a name has been given to them which starts a thousand fancies—the name Cliff-Dwellers. The charm of this name does not come merely from the fact that the people dwelt so high up among the cliffs, as from the fact, that they developed so high a civilization in the midst of the cliffs.

The inquiry naturally arises, whether this civilization was altogether the result of environment, or was owing to some other influence. There are differences of opinion on this point, as some maintain that the Cliff-Dwellers and the Pueblo tribes were like a molten mass, which was thrown into this gigantic mould, and came out bearing the stamp, as thoroughly as a casting does that which is found in any ordinary furnace. Others, however, ascribe the condition of the Cliff-Dwellers to their remarkable intelligence, combined with the influence of inheritance and employment. It is probable that all these had their effect, but as the first (scenery) has been made so prominent, we shall give our thoughts to this, thus making it a background to the picture which we hope to draw in this volume. We do not believe that the background is the picture, but it is essential to it, and is always designed to set forth the picture more clearly.

We propose in this chapter to furnish descriptions of the Great Plateau, including the Grand Cañon of the Colorado, and other features; but, in doing so, shall draw largely from the writings of those who have spent time in exploring and surveying, but whose descriptions are buried in the midst of voluminous reports and are likely to be forgotten. It has long been our conviction that these ought to be brought to light.

I. We shall begin with a description of the topography of the entire region, and shall quote largely from the report of Mr. C. E. Dutton, which is contained in the Second Annual Report of the Geological Survey. He says:

For convenience of geological discussion, Major Powell has divided that belt of country which lies between the meridian of Denver, Colorado, and the Pacific into provinces, each of which possesses topographical features



RUINS ON A MESA.\*

which distinguish it from the others. The easternmost, he has named the Park Province. It is situated in the central and western parts of Colorado and extends north of that State into Wyoming, and south of it into New Mexico. It is pre-eminently a mountain region, having several long ranges of mountains. The structure and forms of these mountains are not exactly similar to those of any other region, but possess some resemblance to the Alps.

As we pass westward of these ranges we enter a region having a very different topography. The mountains disappear and in their stead we find platforms and terraces, nearly or quite horizontal on their summits or floors and abruptly terminated by long lines of cliffs. They lie at greatly varying altitudes, some as high as 11,000 feet above the sea, others no higher than 5,000, and with still others occupying intermediate levels. Seldom does the surface of the land rise into conical peaks, or into long, narrow-crested ridges; but the profiles are long, horizontal lines, suddenly dropping down many hundreds, or even two thousand, feet upon another flat plain

\*We are indebted to the courtesy of the Santa Fe Railroad Company for many of the cuts used to illustrate this chapter.

below. This region has been very appropriately named by Major Powell, the Plateau Province. It occupies a narrow strip of western New Mexico, a large part of southern Wyoming, and rather more than half of Utah and Arizona.

West of the Plateau Province is the Great Basin, so named by Fremont because it has no drainage to the ocean. Its topography is wholly peculiar and bears no resemblance to either of the two just alluded to. It contains a large number of ranges, all of which are very narrow and short, and separated from each other by wide intervals of smooth, barren plains. The mountains are of a low order of magnitude for the most part, though some of the ranges and peaks attain considerable dimensions. Their appearance is strikingly different from the noble and picturesque outlines displayed in Colorado. They are jagged, wild, and ungraceful in their aspect, and, whether viewed from far or near, repel rather than invite the imagination.

The Grand Canyon District is a part of the Plateau Province, and to this as a whole we call attention. As already indicated, it lies between the Park and Basin Provinces, and its topography differs in the extreme from those found on either side of it. It is the land of tables and terraces, of buttes and mesas, of cliffs and canyons. Standing upon any elevated spot where the radius of vision reaches out fifty or a hundred miles, the observer beholds a strange spectacle.

The most conspicuous objects are the lofty and brilliantly-colored cliffs. They stretch their tortuous courses across the land in all directions, yet not without system; here throwing out a great promontory, there receding in a deep bay, and continuing on and on until they sink below the horizon, or swing behind some loftier mass, or fade out in the distant haze. Each cliff

marks the boundary of a geographical terrace and marks, also, the termination of some geological series of strata, the edges of which are exposed, like courses of masonry, in the scarp-walls of the palisades. In the distance may be seen the spectacle of cliff rising above and beyond cliff, like a colossal stairway leading from the torrid plains below to the domain of the clouds above. Very wonderful at times is the sculpture of these majestic walls. There is an architectural style about it, which must be seen to be appreciated. The resemblances to architecture are not fanciful or metaphorical, but are real and vivid; so much so that the unaccustomed tourist often feels a vague skepticism whether these are truly the works of the blind forces of nature, or some intelligence akin to

human, but far mightier; and even the experienced explorer is sometimes brought to a sudden halt and filled with amazement by the apparition of forms as definite and eloquent as those of art. Each geological formation



FOOT TRAIL.



KIVA AND PUEBLO.

exhibits in its cliffs a distinct style of architecture, which is not reproduced among the cliffs of other formations, and these several styles differ as much as those which are cultivated by different races of men.

The character which appeals most strongly to the eye is the coloring. The gentle tints of an eastern landscape, the pale blue of distant mountains, the green of vernal or summer vegetation, the subdued colors of hillside and meadow, are wholly wanting here, and in their place we behold belts of brilliant red, yellow, and white, which are intensified rather than alleviated by alternating belts of gray. Like the architecture, the colors are characteristic of the geological formations, each series having its own group and range of colors.

The Plateau country is also the land of canyons, in the strictest meaning of that term. Gorges, ravines, and canadas are found, and are more or less impressive in every high region; and in the vernacular of the West all such features are termed canyons, indiscriminately. But those long, narrow, profound trenches in the rocks, with inaccessible walls, to which the early Spaniards gave the name *cayon*, or *canyon*, are seldom found outside the plateaus. There they are innumerable and the almost universal form of drainage channels. Large areas of Plateau country are so minutely dissected by them, that they are almost inaccessible, and some limited, though considerable, tracts seem wholly so. Almost everywhere the drainage channels are cut from 500 to 3,000 feet below the general platform of the immediate country. They are abundantly ramified and every branch is a



MESA AND PUEBLO AT SHUPAULAVI.

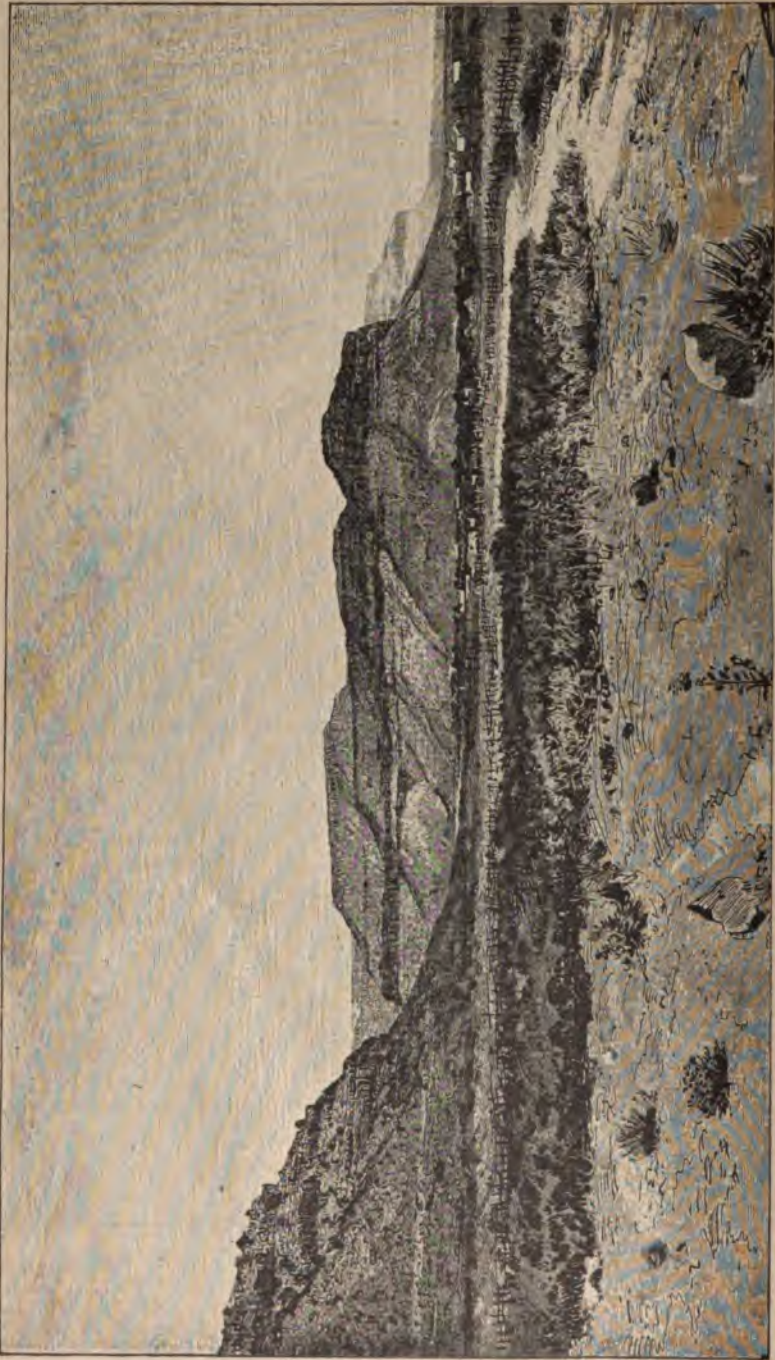
canyon. The explorer on the mesas above must take heed to his course in such a place, for once caught in the labyrinth of interlacing side-gorges, he must possess rare craft and self-control to extricate himself. All these drainage channels lead down to one great trunk channel, cleft through the heart of the Plateau Province for eight hundred miles—the chasm of the Colorado, and the canyons of its principal fork, the Green River. By far the greater part of these tributaries are dry during most of the year, and carry water only at the melting of the snow, and during the brief periods of the autumnal and vernal rains. A very few hold small, perennial streams, coming from the highlands around the borders of the province, and swelling to mad torrents in times of spasmodic floods.

The region is, for the most part, a desert of the barrenest kind. At levels below 7,000 feet the heat is intense and the air is dry in the extreme. The vegetation is very scanty, and even the ubiquitous sage (*Artemisia tridentata*) is sparse and stunted. Here and there the cedar (*Juniperus occidentalis*) is seen, the hardest of arborescent plants, but it is dwarfed and sickly and seeks the shadiest nooks. At higher levels the vegetation becomes more abundant and varied. Above 8,000 feet the plateaus are forest-clad and the ground is carpeted with rank grass and an exuberant growth of beautiful summer flowers. The summers there are cool and moist; the winters severe and attended with heavy snowfall.

The Plateau Province is naturally divided into two portions, a northern and a southern. The dividing barrier is the Uinta range. This fine moun-



PINK CLIFFS, PAUNSAGUNT PLATEAU.



VERMILLION CLIFFS AT KANAB—SHOWING FORM OF PLATEAU.

tain platform is, in one respect, an anomaly among western mountain ranges. It is the only important one which trends east and west. Starting from the eastern flank of the Wasatch, the Uintas project eastward more than 150 miles, and nearly join perpendicularly the Park ranges of Colorado. Of the two portions into which the Plateau Province is thus divided, the southern is much larger. Both have in common the plateau features; their topographies, climates, and physical features in general, are of similar types, and their geological features and history appear to be closely related; out each has, also, its peculiarities. The northern portion is an interesting and already celebrated field for the study of Cretaceous strata and the Tertiary lacustrine beds. The subjects which it presents to the geologist are most notably those which are embraced under the department of stratigraphy—the study of the succession of strata and co-related succession of organic life. Otherwise the region is tame, monotonous, and unattractive. The southern portion, while presenting an abundance of material for stratigraphical study, and in this respect fully rivalling, and, perhaps, surpassing, the northern portion, also abounds in the grandest and most fascinating themes for the student of physical geography. The northern portion is almost trivial as to the scenery, while the southern is the sublimest on the continent. With the former we shall have little to do; it is the latter which claims here our exclusive attention.

The southern part of the Plateau Province may be regarded as a vast basin everywhere bounded by highlands, except at the southwest, where it opens wide and passes suddenly into a region having all the characteristics of the Great Basin of Nevada. The northern half of its eastern rim consists of the Park ranges of Colorado. Its northern rim lies upon the slopes of the Uintas. At the point where the Uintas join the Wasatch, the boundary turns sharply to the south, and for 200 miles the High Plateaus of Utah constitute the elevated western margin of the province.

The Grand Canyon District—the region draining into the Grand and Marble Canyons—is the westernmost division of the Plateau Province. Nearly four-fifths of its area are situated in northern Arizona. The remaining fifth is situated in southern Utah. Let us turn our attention for a moment to the portion situated in Utah. It consists of a series of terraces quite similar to those we have already seen descending from the summit of the Wasatch Plateau to the San Rafael Swell, like a colossal stairway. At the top of the stairs are the broad and lofty platforms of the High Plateaus of Utah; at the bottom is the inner expanse of the Grand Canyon District. The summits of the High Plateau are beds of the Lower Eocene Age. Descending southward, we cross, step by step, the terminal edges of the entire Mesozoic system and the Permian, and when we reach the inner floor of the Grand Canyon District we find that it consists of the summit beds of the carboniferous series, patched here and there with fading remnants of the Permian.

Thus we may note that the northern and eastern boundaries of the Grand Canyon District are cliff-bound terraces. Crossing the district, either longitudinally from north to south, or transversely from east to west, we find as we approach the southern or western border, that the carboniferous platform ascends very gradually, and at last it terminates in a giant wall, plunging down thousands of feet to the platform of a country quite similar to the Great Basin of Nevada. All the features are repeated and the desolation intensified in the dreadful region which is west and south of the Grand Canyon region.

Here, then, we have a birds-eye view of the topography of this region, written by one who is familiar with every part of it. We can see from the description that the Great Plateau was isolated from every other part of the continent. It was surrounded by higher mountains, and beyond the mountains by wide valleys—the Great Mississippi Valley on the east, the valley of the Snake River on the north, the valley, which is



called the Great Basin, on the west, and the valley of the Lower Colorado on the south.

Dana, the celebrated geologist, says that a continent is characterized by a great valley situated between two or more ranges of mountains. According to this definition we may conclude that the Great Plateau is a continent above a continent, and may well be called the Air Continent; for it is lifted high up in the air, but is at the same time surrounded by higher peaks, and beyond the peaks are the great depths of air, which surround it as thoroughly as did once the rolling depths of water, which laved the shore in the ancient period when the mountains were new.



MESA CLIFF-SIDE.

II. We turn, then, to the scenery. Of this we have some very graphic descriptions. These show the impressions which are made upon educated minds, but at the same time illustrate the necessity of coming into sympathy with the scene by long dwelling amid it, and becoming familiar with its changes.

The following description is from Mr. C. E. Dutton's report:



SAND ROCKS.

The Grand Canyon of the Colorado is a great innovation in modern ideas of scenery, and in our conceptions of the grandeur, beauty, and power of nature. As with all great innovations, it is not to be comprehended in a day or a week, nor even in a month. It must be dwelt upon and studied, and the study must comprise the slow acquisition of the meaning and spirit of that marvelous scenery which characterizes the Plateau country, and of which the great chasm is the superlative manifestation.

The study and mastery of the influences of that class of scenery and its appreciation, is a culture, requiring time, patience, and long familiarity, for its consummation. The lover of nature, whose perceptions have been trained in the Alps, in Italy, Germany, or New England; in the Appalachians or Cordilleras, in Scotland or Colorado, would enter this strange region with a shock, and dwell there for a time with a sense of oppression, and, perhaps with horror. Whatsoever things he had learned to regard as

beautiful and noble, he would seldom or never see, and whatsoever he might see would appear to him as anything but beautiful and noble. Whatsoever might be bold and striking, would at first seem only grotesque. The colors would be the very ones he had learned to shun, as tawdy and bizarre. The tones and shades modest and tender, subdued yet rich, in which his fancy had always taken special delight, would be the ones which are conspicuously absent. But time would bring a gradual change. Some day he would suddenly become conscious that outlines, which at first seemed harsh and trivial, have grace and meaning; that forms, which seemed grotesque, are full of dignity; that magnitudes, which had added enormity to coarseness, have become replete with strength and even majesty; that colors, which had been esteemed unrefined, immodest, and glaring, are as expressive, tender changeful, and capacious of effects as any others.

Those who have long and carefully studied the Grand Canyon of the Colorado do not hesitate for a moment to pronounce it by far the most sublime of all earthly spectacles. If its sublimity consisted only in its dimensions, it could be sufficiently set forth in a single sentence. It is more than 200 miles long, from five to twelve miles wide, and from 5,000 to 6,000 feet deep. There are in the world valleys which are longer, and a few which are deeper. There are valleys flanked by summits loftier than the palisades of the Kaibab. Still, the Grand Canyon is the sublimest thing on earth.

The Plateau country abounds in close resemblances to natural carving of human architecture, and nowhere are these more conspicuous or more perfect than in the scarps which terminate the summits of the Markagunt and Pausagunt Plateaus. Their color varies with the light and atmosphere. It is a pale red under ordinary lights, but as the sun sinks towards the horizon, it deepens into a rich rose color, which is seen in no other rocks and is beautiful beyond description. The cliffs are of the Lower Eocene Age, consisting of lake marls very uniformly bedded. At the base of this series the beds are coarser, and contain well-marked, brackish-water fossils; but as we ascend to the higher beds we find the great mass of the Eocene to consist of fresh-water deposits.

The Trias is in most places separated from the Jura by a purely provisional horizon, which marks a change in the lithological aspect of the strata, and in the grouping and habit of the series. Sometimes the passage from one to the other is obscured, but more frequently it is abrupt. The Jurassic sandstone is without a likeness in any other formation and the sandstone of the Trias can ordinarily be distinguished from it miles away. One of the most conspicuous distinctions is the color, and it is a never-failing distinction. The Jurassic is white; the Trias is flaming red.

Superlative cloud effects, common enough in other countries, are lamentably infrequent here; but when they do come, their value is beyond measure. During the long, hot summer days, when the sun is high, the phenomenal features of the scenery are robbed of most of their grandeur, and can not, or do not, wholly reveal to the observer the realities which render them so instructive and interesting. There are few middle tones of light and shade. The effects of foreshortening are excessive, almost beyond belief, and produce the strangest deceptions. Masses which are widely separated seem to be superposed or continuous. Lines and surfaces, which extend towards us at an acute angle with the radius of vision, are warped around until they seem to cross it at a right angle. Grand fronts, which ought to show depth and varying distance, become flat and are troubled with false perspectives. Proportions which are full of grace and meaning are distorted and belied. During the midday hours the cliffs seem to wilt and droop, as if retracting their grandeur to hide it from the merciless radiance of the sun, whose every effulgence flouts them. Even the colors are ruined. The glaring face of the wall, where the light falls upon it, wears a scorched, over-baked, discharged look; and where the dense black shadows are thrown—for there are no middle shades—the magical haze of the desert shines forth with a weird, metallic glow, which has no color in it. But, as the sun declines, there comes a revival. The half-tones at length appear, bringing into relief the component masses; the amphitheatres recede into suggestive distances; the salients silently

advance towards us; the distorted lines range themselves into true perspective; the deformed curves come back to their proper sweep; the angles grow clean and sharp; and the whole cliff arouses from lethargy and erects itself in grandeur and power, as if conscious of its own majesty. Back, also, come the colors, and as the sun is about to sink they glow with an intense orange-vermilion, that seems to be an intrinsic lustre emanating from the rocks themselves. But the great gala-days of the cliffs are those when



CLOUD EFFECTS.

of their relations are at last fairly presented, so that the mind can grasp them. And they are very grand—even sublime. There is no need, as we look upon them, of fancy to heighten the picture, nor of metaphor to present it. The simple truth is quite enough. I never before had a realizing sense of a cliff 1,800 to 2,000 feet high. I think I have a definite and abiding one at present.

But though the inherent colors are less intense than some others, yet, under the quickening influence of the atmosphere, they produce effects to which all others are far inferior. And here language fails and description becomes impossible. Not only are their qualities exceedingly subtle, but they have little counterpart in common experience. If such are presented elsewhere, they are presented so feebly and obscurely that only the most discriminating and closest observers of nature ever seize them, and they so imperfectly that their ideas of them are vague and but half real. There are no concrete notions furnished in experience, upon which a conception of these color effects and optical delusions can be constructed and made intelligible. A perpetual glamour envelopes the landscape. Things are not what they seem, and the perceptions can not tell us what they are. It is not probable that these effects are different in kind in the Grand Canyon from what they are in other portions of the Plateau country. But the difference in degree is immense, and being greatly magnified and intensified, many characteristics become palpable which elsewhere elude the closest observation.

In truth, the tone and temper of the landscape is constantly varying, and the changes in its aspect are very great. It is never the same, even



MOUNTAIN AND CLOUD

from day to day, or even from hour to hour. In the early morning its mood and subjective influences are usually calmer and more full of repose than at other times, but as the sun rises higher the whole scene is so changed that we cannot recall our first impressions. Every passing cloud, every change in the position of the sun, recasts the whole. At sunset the pageant closes and splendors that seem more than earthly. The direction of the full sunlight, the massing of the shadows, the manner in which the side lights are thrown in from the clouds determine these modulations, and the sensitiveness of the picture to the slightest variations is very wonderful.

The rocks which are so striking in their form and size, and which bear so important a part in the scenery, are not all. There are colors in the rocks and shadows in the air which are as important as these. They are less substantial, but they add to the impression. We seem to be in dreamland when we look upon this atmospheric sea. The billows roll, perhaps, at our feet, but they rise also above our heads. We are like the one who sails through the air in his dreams and puts forth his hand to catch the sun. Clouds above and clouds below, one hardly realizes that his feet are upon substantial rocks. The effect of the cloud scenery, and of the color, upon the mind is certainly very great. Of this Mr. Dutton also speaks, as follows:

Those who are familiar with western scenery have, no doubt, been impressed with the peculiar character of the haze, or atmosphere in the artistic sense of the word, and have noted its more prominent qualities. When the air is free from common smoke it has a pale blue color, which is quite unlike the neutral gray of the East. It is always apparently more dense when we look towards the sun, than when we look away from it, and this difference in the two directions, respectively, is a maximum near sunrise and sunset. This property is universal, but its peculiarities in the Plateau Province become conspicuous when the strong, rich colors of the rocks are seen through it. The very air is then visible. We see it palpably, as a tenuous fluid, and the rocks beyond it do not appear to be colored blue, as they do in other regions, but reveal themselves clothed in colors of their own.

The Grand Canyon is ever full of this haze. It fills it to the brim. Its apparent density, as elsewhere, is varied according to the direction in which it is viewed and the position of the sun; but it seems also to be denser and more concentrated than elsewhere. This is really a delusion, arising from the fact that the enormous magnitude of the chasm and its component tissues dwarf the distances; we are really looking through miles of atmosphere under the impression that they are only so many furlongs. This apparent concentration of haze, however, greatly intensifies all the beautiful or mysterious optical effects which are dependent upon the intervention of the atmosphere.

Whenever the brink of the chasm is reached, the chances are that the sun is high and these abnormal effects in full force. The canyon is asleep; or it is under a spell of enchantment which gives its bewildering ranges an aspect still more bewildering. Throughout the long summer forenoon the charm which binds it grows in potency. At midday the clouds begin to gather, first in fleecy flecks, then in cumuli, and throw their shadows into the gulf. At once the scene changes. The slumber of the chasm is disturbed. The temples and cloisters seem to raise themselves half awake to greet the passing shadow. Their wilted, drooping, flattened faces expand into relief. The long promontories reach out from the distant wall, as if to catch a moment's refreshment from the shade. The colors begin to glow; the haze loses its opaque density and becomes more tenuous. The shadows pass, and the chasm relapses into its dull sleep again. Thus through the midday hours it lies in fitful slumber, overcome by the blinding glare and

withering heat, yet responsive to every fluctuation of light and shadow, like a delicate organism.

Throughout the afternoon the prospect has been gradually growing clearer. The haze has relaxed its steely glare and has changed to a veil of transparent blue. Slowly myriads of details have come out and the walls are flecked with lines of minute tracery, forming a drapery of light and shade. Stronger and sharper becomes the relief of each projection. The promontories come forth from the opposite wall. The sinuous lines of stratification which once seemed meaningless, distorted, and even chaotic, now range themselves into a true perspective of graceful curves, threading the scallop edges of the strata. The colossal buttes expand in every dimension: their long, narrow wings, which once were folded together and flattened against each other, open out, disclosing between them vast alcoves illuminated with Rembrault lights tinged with the pale, refined blue of the ever present haze. A thousand forms, hitherto unseen or obscure, start up within the abyss, and stand forth in strength and animation. All things seem to grow in beauty, power, and dimensions. What was grand before has become majestic, the majestic becomes sublime, and, ever expanding and developing, the sublime passes beyond the reach of our faculties and becomes transcendent. The colors have come back. Inherently rich and strong, though not superlative under ordinary lights, they now begin to display an adventitious brilliancy. The western sky is all aflame. The scattered banks of cloud and wavy cirrus have caught the waning splendor,



MESA VERDE.

and shine with orange and crimson. Broad slant beams of yellow light, shot through the glory rifts, fall on turret and tower, on pinnacled crest and winding ledge, suffusing them with a radiance less fulsome, but akin to that which flames in the western clouds. The summit band is brilliant yellow; the next below is a pale rose. But the grand expanse within is a deep, luminous, resplendent red. The climax has now come. The blaze of sunlight poured over an illimitable surface of glowing red is flung back into the gulf, and, commencing with the blue haze, turns it into a sea of purple of most imperial hue—so rich, so strong, so pure—that it makes the heart ache and the throat tighten. However vast the magnitudes, however majestic the forms or sumptuous the decoration, it is in these kingly colors that the highest glory of the Grand Canyon is revealed.

III. This leads us to the relation of the Great Plateau to its inhabitants. We have spoken of the effect of the environment upon human society, but the question is whether the effect here is commensurate to the scenery. Ordinarily we might expect that the people who dwelt amid such grandeur would unconsciously be influenced by it, and reach a higher grade of character than others. We do not find this to be the case, except in their mythology and in their view of the supernatural. In this, however, we find a most remarkable series of

myths and legends in which all of the prominent features of the landscape are embodied. In them the mountain peaks, the deep gorges, the vast streams, the distant ocean, the many-colored rocks, the fleecy clouds, the glaring sunlight, the fierce storms, and the forked lightning figure conspicuously. The very things which we regard as the forces of nature, with them were supernatural beings and the divinities, whom they worshipped. They clothed them with different colors and gave them names, and seemed to be familiar with their history. These supernatural beings were their benefactors, and were always present. They dwelt within the rocks and had their furnished houses there. Some of them were born upon the tops of the mountains where the clouds meet, and continued to dwell there.

The nature powers were all personified, and the divinities were clothed and active. The lightnings were the arrows of a chief, who wore the clouds for his feathers, and ruled the storm at his will. There were sunbeam rafts, which floated in the sky, on which the divinities calmly sailed. There were caves beneath the earth in which their ancestors dwelt, but the divinities lightened these caves, and brought them out. There were floods which covered the valleys, but there were rainbow arches stretched above the floods, and the land became dry and was fitted for the abode of men. There were sacred lakes beneath which the spirits of the children, who had died, dwelt, but from their many-terraced homes, they sent their messengers to attend the sacred feast and to teach the people about the secret powers of nature. All these are contained in their mythologies, and will be found described in our book on "Myths and Symbols."

But the question which most interests us is that which relates to the character of the people. Was this affected by the scenery, or did it remain untouched and asleep? We conclude, as we study the people as they are, and were, that they partook far more of the quietude of the scene, than they did of its grandeur. This seems strange to the transient visitor, and especially to the uneducated mind, for it is probable that there are many visitors from civilized and advanced circles of society, who stand in the midst of these scenes and are as unmoved as the natives themselves. At least they fail to see its hidden significance.

Of course there is an inspiration which can be drawn from communings with nature, when she reaches such grandeur as exists here, provided one is equal to the effort of interpreting her mystic language. Sublimity is far more difficult to interpret than is ordinary beauty. One may commune with the delicate flower which grows in the crack and cranny of the rock, and feel the stirring of emotion at once; for it is like looking upon the face of a little child. the smile is involuntary, but sweeps over the face unconsciously. It is easy to catch the mood of nature and to feel the touch of tenderness, but where nature is

so silent and yet so grand, the response is longer delayed. It is like looking at the silent Sphinx, which is half hidden in the sands of the desert, and is the companion of the Pyramids, which are as silent.

These distant regions, hidden so far away in the deep interior of the American Continent, have no associations to stir one's memories. Lofty as the peaks are which surround the Great Plateau, they are silent; often covered with the white shrouds which have fallen upon them from the skies, but oftener draped in that hazy blue atmosphere which makes them so distant to the vision. They seem to belong to another world than ours.

The colors which come from the varying tinges of the rocks are, indeed, very striking, and so are the jagged rocks which project from the sides of the mountains, but they always cause us to feel that some one is hidden beyond those shadows and that humanity has dwelt even in this great wilderness. The outlines of the rocks may resemble ancient castles, and we may imagine many things, but the impression is greatly heightened when we discover that there are actual ruins upon the rocks, and that those ruins were once inhabited and were used as castles by the ancient people, and a feeling of companionship is awakened. The enquiry at once arises: how long have these regions been occupied, who were the people who dwelt in these ruined structures, whence did they come, how long were they here, what was their life, where did they get their subsistence, whither have they gone, what was their history, and have they left any record?

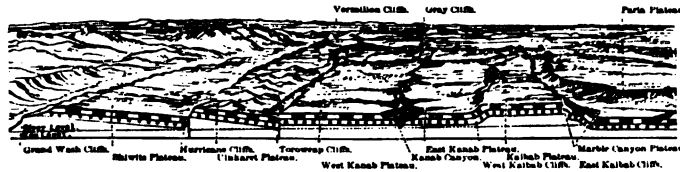
The scene is not merely one of nature's handiwork, wrought in grandeur, and left without inhabitants; nor is it one in which the past is entirely covered with shadows. There must be a reality back of this scene; a substance amid these shadows. We might imagine many things, and be filled with a strange rhapsody as we think of the unreal world. We might picture the unseen spirits as having dwelt here, and shadowy ghosts as flitting from peak to peak. This might increase our wonder and fill us with awe, resembling that which the untrained minds of the natives have often felt as they have looked upon the scene; for with them the natural and supernatural are one.

In that case, everything would be as weird and wild as a dream, as unreal as any picture which poet could draw. There might arise a sense of fear, and superstition might be aroused, and we find ourselves in the same mood as were the wild men, who were here before us. But this does not quite satisfy, we want to know about the people who formerly dwelt here. From these very heights we have gained glimpses of ruins which are as real as the rocks upon which they rest. These ruins stir our minds with new sensations, as they have the minds of others, who have looked upon the same scenes.

We are familiar with the people who dwell here now, but we want to know about the people who dwelt here in the long ago.

We know, also, many things about the history of the Creation as it is written in the rocks, for the geologists have read this clearly for us. But we want to read the history of the people as well. The process has been a very slow one, and centuries have passed; but there must have been also a process by which the scene was peopled. We want to place the two records together and solve the mystery. The history of the Creation is a marvellous one, and must have taken many thousands of years to accomplish. This history, the geologist is able to read and point out its periods and processes. As President Jordan has said, the earth's crust has been making history and scenery, with all the earth-moulding forces steadily at work, and has rested in the sun for ten thousand centuries. Mountains were folding, continents were taking form, while this land of patience lay beneath a warm and shallow sea, as the centuries piled up layer upon layer of sand and rock.

At last the uplift of the Sierras changed the sands to dry land and by the forces of erosion the sands were torn away



GEOLOGICAL RELIEF OF THE GREAT PLATEAU.

by slow process, until a mile or more of vertical depth had been stripped from the whole surface, leaving only flat-topped buttes here and there to testify to the depth of the ancient strata; if the swift river from the glacial mountains had done its work and narrowed its bounds, cutting its path through the flinty stone and dropped swiftly from level to level, until it reached the granite core of earth at the bottom, and a view from the canyon rim, shows at a glance how it all was done, we wonder that we cannot tell more about the people who came upon the scene, and the time at which they came.

This is the scientists' interpretation, and brings to view the processes of nature; but what shall we say about the people who have dwelt amid this scene? What is their history, and what was the date of their advent? From what country did they come? To what race and stock did they belong? What were the channels, by which they reached these distant regions?

Access to this isolated plateau was originally gained by means of great streams, the most of which are difficult of navigation, but they never-the-less open a channel in different directions, as all of them ultimately reach the sea. There are mountain passes by which wandering tribes, who were accustomed to follow the paths wherever they lead, could reach it.



These different means of access have been employed by the different peoples who have entered the mysterious province.

The first white man to enter it, was a lone traveller, who was ship-wrecked upon the eastern coast, and passing from tribe to tribe wandered at length into the Great Staked Plain and made his way along the southern border, then passed on to the far west, and there made his report of the marvellous things which he had seen. After which a little band of Spanish cavaliers passed up from the south and traversed the valleys, and finally reached the Great Plateaus, and visited the pueblos which were scattered here and there, and at last passed over the mountains to the eastward and then continued their long wanderings in search of the fabulous land which they called Quivira. After the Spaniards, the Americans fitted out vessels and sailed around the continent, entered the mouth of the Colorado River, and finally reached the region by this means.

The problem now before us does not refer to the means of access, nor to the conveniences of travelling by which we may reach the distant region; but it does relate to the period when this mysterious locality was first peopled, and to the direction which was taken by those who first reached it. This is difficult to solve, though many theories are held in reference to it.

Some would place it as far back in a geological age as the time when this great air continent was, like other continents, surrounded by water, and raised but little above it. At that time the valleys, which are now so wide, were filled with seas, which have long since disappeared.

Others, however, would date the peopling of this mysterious continent at a very recent period. Judging from the language which has been used by some, one might think that it was but a short time before the discovery by Columbus. The true date is between these two extremes; but it can not be definitely fixed until more facts are secured.

## THE ART OF BENIN CITY.

BY FREDERICK STARR.

No archæological or ethnographic material has of recent years aroused so much excitement and interest in Europe, as the objects lately brought from Benin City, West Africa. The bronze objects have attracted the most attention, but those in other materials also deserve notice. The art is so good, the objects represented are so varied, and the questions suggested are so many, that a veritable sensation has been caused.

The largest collection of the Benin bronzes is no doubt that at the British Museum; the next largest is probably at Berlin. Hundreds of specimens, including some choice and interesting pieces, have passed through the hands of Mr. W. D. Webster.\* The material has also been actively bought by smaller museums, particularly in Germany. Several papers have already been printed regarding these objects. The present article must be considered merely a review of three of the most important of these papers.† Mr. Read and Dr. von Luschan consider their papers preliminary, and propose to publish complete studies later.

Read and Dalton present a summary of our knowledge of Benin City. It was the centre of power of the Beni tribe and was located some seventy-three miles from the mouth of the Formoso or Benin river. The tribe is much like the Dahomey people generally. The city was discovered at the close of the fifteenth century. The Portuguese passed along the coast in 1470; Sequiera visited the region in 1472; Alonzo d'Aviero went inland, probably, in 1487. From that time various adventurers reached Benin City, and by 1550 general commerce had been opened up with it. Windham and Pintado's description of Benin was printed in Hakluyt in 1553. The first really detailed account of it, with illustrations, by a Dutch author, was given in DeBry about 1600. Van Nyendale visited it in 1602 and his

---

\* W. D. Webster, Bicester, England. Within a few months past Mr. Webster has sold Benin bronzes in the following quantities to museums and private parties: Pitt Rivers Museum, £1,437; Vienna, £640; Berlin, £465; Dresden, £735; Munich, £160; Dublin, £72; Edinburgh, £131; Adelaide, £50; Christ Church (New Zealand), £68; Basle, £47; Copenhagen, £115; Cambridge, £50; private buyers, £500, &c. We do not know that any of this interesting material has reached America.

† *Works of Art from Benin City.* Charles H. Read and O. M. Dalton. Jour. Anth. Inst. of Great Britain and Ireland, vol. xxvii., pp. 362-382.

*Alterthümer von Benin.* F. von Luschen. Verhand. der Berliner Gesel. für Anth. Eth. und Urgeschichte. 1898., pp. 146-164.

*Illustrated Catalogue of Ethnographical Specimens in Bronze, Wrought Iron, Ivory, and Wood, from Benin City, West Africa.* W. D. Webster, Bicester, England. Price, 5 shillings.

description was printed later. During this century several English travelers have been to Benin. King in 1820, Fawckner in 1825, and Moffatt and Smith in 1838, all mention the art work. Sir Richard Burton was there in 1862, and left a good description. In 1897 the city was destroyed (in large part) by the British Punitive Expedition under Admiral Rawson.

From these various writers our authors gather many details regarding the life, customs, social organization, etc. The city was a rambling town, divided into two parts by a broad avenue. The king's quarters lay to the south of this; to the north were the houses of the lesser chiefs and the common people. The town had seen its best days before 1600. Private places of worship occupied alcoves at the ends of rooms. There were seven large enclosures for public worship, not far from the palace. These were surrounded with mud walls, and at one end of each was constructed a shelter. Under this was a long altar of clay, upon which stood human heads of cast metal, bearing carved ivory tusks. On the altars were also maces for killing human sacrifices. At the centre of one side of the palace rose a pyramidal tower some thirty to forty feet high. Fixed to the top of this was the tail of a great cast metal snake, whose head came down to the ground and whose body was as large around as that of a man. When King visited the palace in 1820, he was assured that this snake figure had been there for centuries. In some rooms the transverse beams were covered with metal plates adorned with figures. Dapper in the seventeenth century states that these encasing plates were kept ever bright. Society at Benin was distinctly stratified. The king was supreme ruler and received adoration from his subjects. His advisers were the captain of war and two or three other great chiefs. Below these were lower chiefs, from whom officers were chosen. Then, in succession of rank, came brokers, subordinate functionaries, the common people and slaves. Coral necklaces, a sign of nobility, were given by the king himself; anklets of coral beads denoted even higher rank. In the sixteenth century important chiefs rode led horses, on side saddles; on either side walked retainers, who supported their master's hands, or carried shields or umbrellas to protect him against the sun. Bands of musicians, playing ivory horns, gongs, drums, harps, and rattles, accompanied them. There was great diversity in the head-dresses worn. Caps were in vogue. Garments of skin were used, and in some cases the skirt stood out quite stiffly from the body. King wrote in 1820: "The king came in, clothed after the fashion of the country and wearing on his head a large round hat, ornamented with gold lace. One of his arms was extended in a horizontal direction and supported by a great officer of state. The nail of one finger of each hand was of prodigious length to show that his exalted rank placed him above all necessity of working for his living." Human sacrifices were made for the benefit of the dead. Some animals were venerated.

We have quoted thus fully, because there is hardly a detail mentioned, which is not represented in the art works. An enormous quantity of objects have recently been brought from Benin. They are chiefly in four materials—bronze, wrought iron, ivory and wood. The most interesting of these are the bronzes.

A. These are either castings in the round or plaques, with designs in high relief. The writers have quite neglected many of the smaller objects. Among them are finger rings, bracelets, and anklets. Very beautiful are maskoid pendants, often of delicate workmanship, and representing both human and animal faces. Bells of bronze are numerous and present pierced work and incised and relief decoration; they are usually four sided, with the sides straight but widening downward. One specimen, measuring seven and five-eighth inches in height, bore a maskoid and two fishes in relief on one side, and three fishes on each of the other three sides; usually, however, these bells bear relieves only on one side. War horns, in form imitating the more common ivory war horns, were made in bronze and adorned with relief decoration. Staves or palaver sticks in bronze were decorated with lizard or leopard figures.

All writers discuss the curious life size brass figures of fowls and panthers, and the wonderful life size negro heads. One old writer speaks of these bronze heads as serving as bases for carved elephant tusks. Some of the bronze heads, which have lately been brought from Benin *may* have been so used. There are also some cylindrical bronze objects which were, quite certainly, such supports; these are often beautifully adorned with a band of human figures in high relief. Curious circular bronze supports are known, several inches high, upon which stand figures of warriors and leopards, worked out in the round and decorated with much line detail.

The bronze objects which have attracted the most attention are, certainly, the plaques or panels. There are about three hundred of these in the British Museum. Most of their series were found in an uncared-for heap in the king's palace. These plaques range from twenty by fifteen inches to one-fourth that size. The astonishingly bold, high relief figures upon them evidence the greatest skill in the caster. Equal skill is shown, however, in the chiselling and punch-work decoration. In most of the finer pieces this decorative work is applied to the whole background and to much of the relief. As the material is very hard, an excellent tool and much time and labor was necessary for this chiselling and punch-work. Von Luschan says that workmen in Germany asserted that single plaques would cost them six or eight months or more of work. All the writers agree that the casting was done by a waste mold process. The design was first carefully made in wax; this was covered with clay and heated until the melted wax ran out through an aperture, leaving a hardened clay mold; in this the

bronze was run, and the mold was later broken away. With this process no two pieces will be just alike.

The English writers present analyses of the bronzes. The specimens represent two types of copper alloys—one, a mixture of copper, zinc, and lead, is really a brass; the other, a mixture of copper, tin, and lead, is a true bronze. The casters apparently paid little attention to exact proportions, and some of the specimens are in a mixture of the two alloys—containing both zinc and tin. Usually the plaques are bronze, while the large figures in the round—human beings, leopards, and fowls—are generally brass. All this material may have been obtained by melting down the rings and other metal ornaments obtained from the Portuguese.

Whatever the source of the material, the style of the art itself is purely African. Von Luschan asserts that it could not be the art of a few white captives, but an art with a series of workers and a period of development. The art was at its best in the sixteenth and seventeenth centuries. This is proved by certain plaques on which Europeans are represented: the dress and weapons of these figures date the panels quite exactly.

Space is lacking to point out the vast amount of curious information regarding physical types, dress, ornaments, weapons, social organization, customs and religious ideas, which a study of the figures on these plaques yields. A hint of it will be obtained in reading the description of the objects represented in our plates.

B. In Webster's catalogue some dozen or so objects of wrought iron are described. These include standards or staves of office, bell beaters, swords, armlets, a bell, axe and adze blades, and unfinished objects from the smithy. They are mostly modern and of little artistic pretence. Some of the staves present rude figures of leopards and snakes wrought in iron. A few have fine bronze decorations—maskoids and the like—worked into them, and *may* (though not necessarily) date back to the days of good bronze art.

C. Read and Dalton dismiss the carved elephant tusks with little consideration. The decoration is elaborate, but inferior to that on the bronze objects; it "is inferior to some Loango carving. Von Luschan gives them more attention. He states that the small ivory carvings are usually in better condition than the great tusks, which often show signs of neglect and are weathered even to the defacement of the patterns. The designs are quite like those on the bronzes, though less fine: mythological subjects are more frequent: human and animal figures are often represented. The designs are closely crowded; no space is left undecorated, as small designs are worked in between the larger patterns. The tip of the tusk is frequently cut to represent a bearded man, whom Von Luschan suggests may be the Portuguese "God, the father." As on the bronze plaques, only white men are represented with guns. Some-

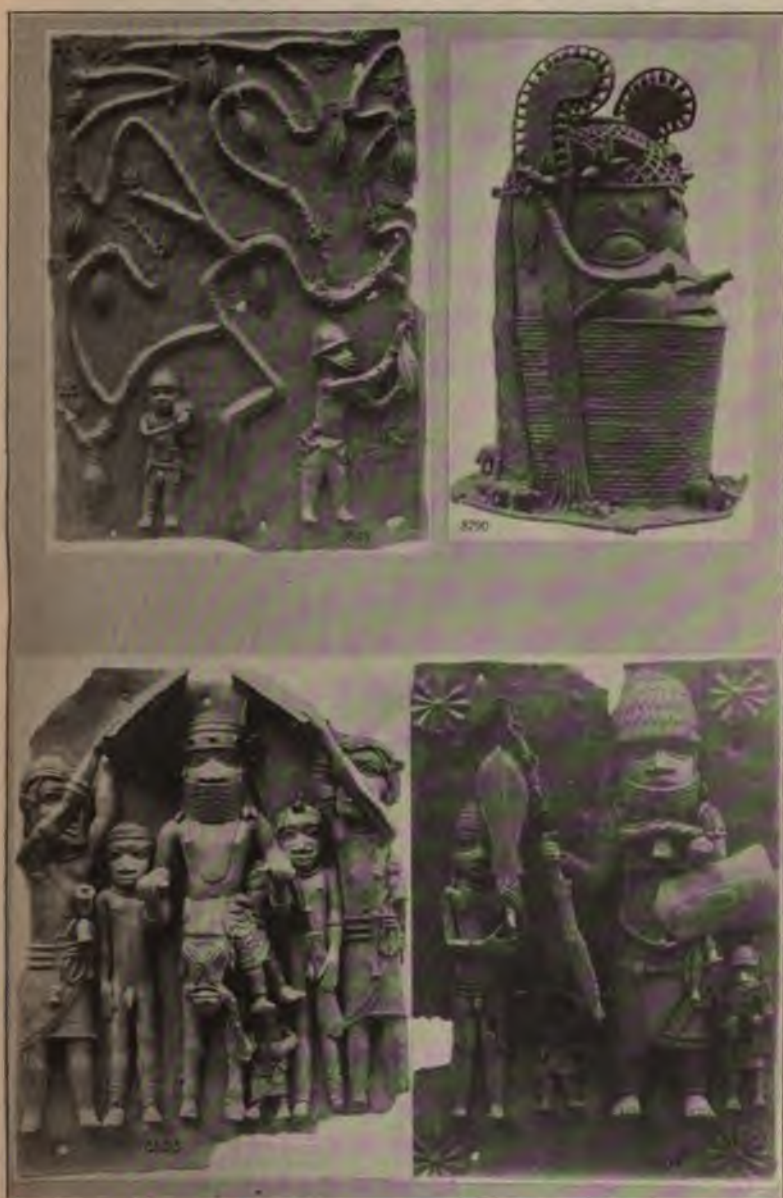


PLATE I



PLATE II.

negroes are shown with bow-guns. For a long time back certain elaborately carved tusks have bothered the museum workers of continental Europe. They were usually with no history, or with unsatisfactory histories. They have been labeled as Roman, Gothic, Merovingian, Indian, Spanish, and Old German. With Benin specimens before him Von Luschan queries whether all these uncertain pieces may not have come from Benin or its neighborhood.

D. The wood carvings of Benin stand to the ivory carvings, somewhat as the wrought iron work does to the cast bronze. They represent a still flourishing and inferior art. Still, as some of the iron work *may* go back to the halcyon days of the bronze casting, so wood carving was doubtless carried on, side by side, with the ivory sculpturing, and the designs in the two arts were presumably similar. Some idols and carved drums present really creditable work.

#### DESCRIPTION OF THE PLATES.

**MASK:** Fig. 2 is one of the commoner and most characteristic types of the bronze castings. It is a hollow mask, some 21 inches in height. The face is notably African and presents the characteristic thick lips and prognathism. The low round cap, with upright flaps and pendent strands is curious. Notice the wide collar of beads, also the four elephant figures about the base with trunks ending in human hands, and the human hands clasping the base. The specimen is a fine one, and these elephants and hands at the base render it exceptional.

**FIGURES:** Fig. 6. (a) Figure of a king of Benin. Notice the pendent cross on the breast and the elaborate decoration of the garments.\* The skirt bears portraits of Portuguese. Notice the divergent lines beginning at the corners of the lips and running out into the cheeks, and the position of the thumbs. The figure measures  $22\frac{3}{4}$  inches in height. (b) Figure of a chief blowing a war horn. The flap of the skirt is decorated with a leopard's head. The leopard appears to be a particularly respected animal. Height  $24\frac{1}{2}$  inches.

**PLAQUES:** Fig. 1. Natives are represented as gathering fruit; one is cutting, the other is carrying one away. The fruit is somewhat melon shaped, but ribbed. The specimen is probably unique. Specimens of these fruits, cast in the round are known. The plaque measures  $22\frac{1}{4}$  by  $15\frac{1}{4}$  inches.

---

\*In the reproductions, unfortunately, most of the beautiful chiselled decoration and the punch-work background are lost. These are elaborate in all the plaques represented. The beautiful decoration on the dress of the figures in the round is lost, also. In all the plaques the reader will notice nail holes. It is plain that these panels had been nailed against some surface to be decorated—perhaps rafters or pillars, or other parts of the house or palace.



Fig. 3. King, or high official, riding upon a horse, or mule, led by an attendant. Notice his high head dress and wide collar or neckband upon his naked chest and the decorated skirt. He rides upon a side saddle. The two supporting attendants, though naked, appear to be of high rank, judging from the bead ankle-bands. They have the hair dressed curiously, and one bears a broad sword or war knife. Two other attendants, dressed and accoutred, carry shields so as to shade their master's head.

Fig. 4. A chief prepared for battle is represented. He wears a feather head-dress, broad bead collar, a neck-ring of spikes, shoulder coverings and elaborately decorated dress. From his neck hangs a bell. He carries a spear and an ornamented shield. His legs, to the knees, are covered with rings or bead bands. To his right is an attendant with a broad sword or war knife. Other attendants blow upon a war horn and strike a bell. The corner rosettes, shown on this plaque, are a common decorative feature in this work.

Fig. 5. Three hunter figures, similar in dress and equipment. They wear curious helmets, or head-dresses, that protect the head and lower face. Each carries an arrow in the right hand, and two arrows and a bow in the left. Bows are not often represented on these plaques, but Von Luschan claims that they are "composite" bows—a type not before known in the Guinea region. They have had a successful chase and all carry game—the central one, a leopard, and the others, two antelopes.

Fig. 7. An important personage, with shaved head and three scar swellings over each eyebrow and one long welt, vertical on his forehead and nose. He wears the wide bead collar, diagonal bands of beads upon his chest, skirt, and bead anklets. A carved elephant trunk is apparently attached to his dress behind. Two attendants support his hands; one of them bears a staff of authority, the other, a bell and knocker. Two smaller figures carry other objects, apparently insignia. Two curious little part figures occupy the upper corners.

## CIVILIZATION OF THE INDIANS.

BY MRS. IDA WILSON.

The question is often asked, is the Indian capable of receiving an education? And the history of the race during the last quarter of a century warrants, we believe, an answer in the affirmative.

The Indian is a human being; created in the image of his Maker; endowed with faculties capable of the same growth and development as those possessed by his brother man, and had he been enjoying, through the past centuries, the benefits that come from successive ages of Christian privilege and culture, he would no doubt to-day compare favorably with his white brother in intelligence and moral worth. But behind the Indian are centuries of darkness and superstition that must be overcome before he can stand in the light of civilization and vindicate his right to equality. As a nation we have too long failed to recognize the possibilities and rights of the Indian, but at last we have awakened to the fact that our country is his; our rights and privileges belong to him—and slowly, but surely, we are working to atone for past neglect.

In 1887 a law was passed entitling the Indian to citizenship and to a share in his own individual right in the tribal lands. Indian Rights Associations have been organized in the most of our large cities, that are creating in the public mind a respect for the rights of the Indian and a desire to do him justice; giving him a voice in the government of his own country and a share in its advantages. More than one hundred industrial schools are maintained by our government for the education of the Indian children. And, best of all, the Indians themselves are eager to take advantage of the opportunities offered them. They are sending their children to school; are building comfortable homes for themselves and their families, and to the best of their ability are performing the duties and claiming the rights of American citizens.

The Indians have been the wards of our nation. They have been put by themselves and fed and clothed at the government's expense. An educated Indian chief of one of the tribes in Indian Territory says: "Until the tribal relations are broken up and the Indian owes allegiance to no man, except the great chief of the United States; until every Indian has his own home and land and is supporting himself, instead of being fattened like so many cattle by the government; until his children are in schools and colleges; until they have an equal chance in the shop and factory; until all race prejudice is removed and they are treated as equals, with a fair field for growth and develop-

ment—then, and not until then, will the great 'Indian problem' be solved." When the "poor Indian" is capable of discovering his position in the world, the great and wise white man surely should be willing to help him attain to it.

The Apaches are perhaps as wild and savage as any of the tribes of Indians, and as they have invariably intermarried, or but seldom married into other tribes, are the best representatives to-day of the pure American Indian, and in them undoubtedly lies the best possibility of proving what education will do for the race. While teaching in the Ramona Indian School in Santa Fé, New Mexico, I found my forty and more Apache boys and girls an exceedingly interesting study. When these children came to us from the Reservation they had much to learn that was not found in books. They had never in all their lives had a good bath, never had their hair combed, never slept in a bed or sat in a chair, or eaten at a table—had done nothing, in fact, but climb the mountains, wade the streams, and grow in the sunshine, like the wild animals of the forest. And they were just as shy and frightened as these same animals, when they were put into a tub of water for a good bath before being sent to bed at night. In the morning, the new comers were always found asleep on the floor, preferring nature's bed to anything man had invented. It took great love and patience to win these wild flowers of the woods and plains to grow well in the new soil; but time wrought a great change and made them familiar with our strange ways.

Many children from babyhood are accustomed to handling books and pencils; these children had never seen either, but their eyes were sharp and their memories good, and it was wonderful in how short a time they learned to read and write well; the older ones drawing accurately any object their eyes rested upon. Could these children have the advantages of an education in some of our art schools they would undoubtedly develop great talent, so ready are they with the pencil. They have a keen ear, and very soon are singing our school songs and gospel songs correctly and sweetly. For generations the Indians' guide and teacher has been the eye and ear, and now they develop readily under intelligent guidance. Children who had been in the school four years were ready for the Fourth reader and had a very fair knowledge of history, physiology, and geography. The study with which they found the most difficulty was arithmetic; and here the simplest example, that required any reasoning power, was beyond their mental ability, and only through infinite patience was this faculty, so long dormant, slowly developed.

Every summer the children went back to their reservation for the two months' vacation, and receiving but little help and encouragement from parents and friends, they naturally lost much of what they had learned at school, and on coming back in the fall, with their blankets and moccasins, hair unkept, and in a generally untidy condition, it was hard to recognize the

clean, well-dressed children we had sent away a little while before.

Jessie Greenleaf, a noble, true hearted lad of perhaps fifteen years of age, was one of our brightest scholars. He had been in school about four years and had made great progress. The children were fond of writing letters, and had many correspondents among their friends and admirers. The following is a letter that Jesse wrote to a friend in Chicago:

RAMONA INDIAN SCHOOL,  
SANTA FE, N. M., May 28, 18—

MY DEAR FRIEND:

I thought I would write you a nice letter and tell you something about the Indian children here at Ramona School, and about our people.

Our people live on a reservation about 200 miles north of Santa Fe. Some of the Apaches were here to see us, and went home again about three days ago. They are as happy as can be to see us learn to read and write. Our people will wear clothes like white people and learn how to build houses and how to take care of themselves pretty soon. In about two months all of our people are going to Amargo, and live there all together, and not anybody run away from their reservation again. I heard somebody say to me the Apaches are going to live together like white people. By and by all our people are to take care of themselves like white folks, and after awhile, I think, some of the Apache boys will be interpreters, because our people don't like the Mexicans to be interpreters. I would like to be interpreter for my people, but I don't talk good English yet, because I haven't been in school a long time. I am only in school for a few years. If I go to school as long as I can, then I will be educated. But my father won't let me go to school again. He told me last year, you go just this time and no more. I think you have learned enough by this time. But I want to learn more. We are all very happy because it is almost time for us to go home for our vacation. When we go home we shall tell our people what we have learned here in school, and also we shall tell about Jesus. I know our people don't know about Him and what He has done for them, and they don't know whether He loves them or not. They don't know anything that white people know.

Some of the children of our school write very nice, and some of them don't because they don't improve in their writing every time when they write. Every body thinks we write very nice letters.

Sometimes some of the boys go to the mountains, and sometimes the girls go too, but they don't run fast as the boys do; but some of the Apache girls can run fast just as well as the boys do. Our teacher reads some of the letters that some Dakota Indian children wrote; they are very nice indeed; we can do as well as they wrote.

We all go to church every Sunday, and we have Sunday-school in the afternoon, and every Wednesday morning we all write a letter to our people and to our friends in the different States. I have a friend in the East in the state of Ohio. They write to me very often, but I haven't heard from him for a long time, so I wrote to him. I think he will write to me just as soon as he gets my letter.

I saw one of the Sioux Indians here in our school; his face was painted with yellow and red.

I think that is all I have to write this morning.

JESSE GREENLEAF.

Realizing the need of doing something for the parents of the children, two of our teachers went to live on the reservation. These two women were the only white persons, except the agent, living among these hundreds of Indians—but they

were neither lonely nor afraid; for, as the mountains were round about them, so they believed He, in whose spirit they went, was around His people. Lovingly and patiently they went among the tents and houses; teaching the women to cut and make garments for themselves and their children; teaching them to care for their sick and to prepare their food in a more healthful and



APACHES PARTLY CIVILIZED.

pleasing manner, and in many ways helping them, as best they could, to live as more became God's children. Whenever the Indians came to their little cottage they always made them a cup of coffee, and served with it some of their good, home-made bread or cake, in this way helping to win their hearts, and creating a desire in them to know how to make things as good as the "white women."

Never did they lose an opportunity to speak a word for the

loving Saviour, who had put it into their hearts to come and live among these neglected children, and try to win them to Himself. Our missionaries did not understand the Apache language, but both they and the Indians could speak enough Spanish to get along very well. Many of the Indians were eager to learn to read the book from which the missionaries talked so much, and so a class was started and they were patiently taught a word at a time. While on the reservation for a few days, I was in the missionaries' cottage when the Indians came in for their lesson. After they had drank their cup of coffee they were all ready, and I shall never forget how reverently they lifted the Bible from the table and carefully turned the leaves until they found their lesson, the fourteenth chapter of John, and with what joy they read over the few words with which they were familiar. Surely His words, "Blessed are they that hunger and thirst after righteousness, for they shall be filled," shall be fulfilled in them.

Our teachers had not been among the Indians long before a great improvement was noted. Those who owned a little stock took better care of it; many cultivated their land and raised a nice garden; not a tin can was to be found on the reservation, for every Indian had half a dozen or more with plants growing in them, because the "white women" had flowers in their windows.

When an Indian died his body was carried off to the mountains and hid in the rocks, and his house and belongings destroyed by fire, his friends believing that in this way they reached him in the spirit land, where he would need them. Now the "white women" helped them bury their dead with proper ceremonies, and they no longer burned his property. Surely God was honoring the work of these noble women. The results obtained among these and other tribes of Indians would seem incredible did we not know that God always works mightily through those who put their trust in Him. During the last twenty-five years in New Mexice and Indian Territory hundreds of churches have been built, whose sweet-toned bells are calling out over mountain and plain to the yet unconverted. Sunday-schools and sewing schools have been started in many of the churches. Missionary societies have been organized, presided over by Indian women, and large sums of money have been raised to help send missionaries among their people. The Indians call one of these societies "A Light on the Mountain." They have received the light and they want it to shine into the hearts of their brethren. Their desire is fast being realized, for the light is spreading and continuing to shine "more and more unto the perfect day."

Many Christian farmers are going among these Indians to live, teaching them to till the soil that it may yield them good returns; and as the time is coming when they must depend more and more upon their own efforts for their support, this knowledge is very valuable. The Indian is quick to recognize

when he is trusted, and responds with gratitude. One chief of Kiowas said, when a brave young missionary went among his people: "One white Jesus woman come all alone among my people—and no scared. That is good. The Great Father talked to your heart; we will listen to all he tells you to tell us and think about it over and over. We will call you no more 'white woman,' but 'sister.'" And that relation has been truly established through the bond of Christian fellowship.

To-day there are probably 25,000 Indian children in our several government schools. The girls are being trained in cooking, sewing and all the domestic industries; being carefully taught what home life should be and how best to discharge its responsibilities.



MRS. HELEN HUNT JACKSON.

Systematic training is given to the boys in every department of farm work and in all trades. At Carlisle the course of study is very complete, and many of the students remain for eight years. In that time they acquire great skill in some industry, strong characters are formed, and a desire for civilization developed. When their school work is over, many of these students go out into the world and fill important positions with great credit to themselves. Others return to the reservations; the young men, enlisting in the army; others helping their parents in building homes and cultivating the soil. Many, both the young men and women, are employed as teachers in the government schools. The help these students are, in preparing students for citizenship and absorption into our national life, is beyond estimation. It is true, the old Indians, in many cases, will not abandon the time-honored ways of their people, or conform to the customs of civilized life. Consequently, when their children return from school, having no help or encouragement, they naturally fall back into old ways of dress and living, but the lessons they have learned will not be lost, either upon themselves or the coming generations, and when the

Systematic training is given to the boys in every department of farm work and in all trades. At Carlisle the course of study is very complete, and many of the students remain for eight years. In that time they acquire great skill in some industry, strong characters are formed, and a desire for civilization developed. When their school work is over, many of these students go out into the world and fill important positions with great credit to themselves. Others return to the reservations; the young men, enlisting in the army; others helping their

Indian owns his land and is depending upon his own efforts for his support he will find their value.

The Osage Indians, in Indian Territory, are a wealthy people, having comfortable homes and well-stocked farms, and using modern agricultural implements. They have splendidly equipped schools on their lands, and are giving their children a good education. The tribes of the Cherokees, Creeks, Choctaws, and Seminoles, also in Indian Territory, are maintaining a government of their own, with a system of legislation and courts of justice. They also have comfortable homes and well kept farms and good schools. At Tahlequah, the capital of the Cherokee nation, is a large Indian University, having a regular college course and, in addition, one year's work in theological studies. In the last fifteen years nearly one thousand students have shared its advantages, and are now successfully filling positions as teachers, ministers, and physicians, or working with profit at some trade.

Our government is doing no grander work, or appropriating its money for no better purpose, than that of maintaining schools for our Indian children. The progress they have made in the past gives promise of a still brighter future. A "little leaven eaveneth the whole," and these brave boys and girls, working faithfully against many odds, will yet raise their people to a proud place in our nation and bring about that glad time when two hundred and fifty thousand Indians, having lost their identity as such in citizenship, shall form with us one people, whose God is the Lord.

---

## HIDERY PRAYERS.

BY JAMES DEANS.

It has been maintained by some people on this coast that none of the aborigines were known to pray, at least they made no such prayers as others do; that they have dances and sacred ceremonies, but no such thing as prayer. Having heard Hidery prayers, I consider myself authority on the subject and accordingly give you a few specimens. I begin with a prayer of the Massett Indians. It is a prayer to the sun for fair weather. Looking up to where the sun was supposed to be, these Indians would say:

O sun shine on us; look down on us. O sun take away the dark rolling clouds, that the rain may cease to fall, because we want to be about. O sun look down upon us from ou high and grant us peace amongst ourselves and with our enemies. Hear us in pity, O sun.

### A SKIDEGAT HAIDA PRAYER TO THE SEA.

This prayer used to be said by these people, when caught in a storm at sea, in their canoes. It is as follows:



O Thou deep! Thou clear blue sea! (Quill cusedlos.) Still thy wild rolling waves; why do you want to break our canoe and swallow us up? We are dirty, all dirty, ourselves and our clothes. If you should drown us and we so dirty, we would pollute thy clear blue waters. Hear us, O sea! Listen to our supplication, O sea!

A PRAYER TO THE GODDESS OF THE MOUNTAINS FOR RAIN.

The Skidegat Indians have a salmon stream of considerable dimensions, which rises at or near a high mountain and flows southward until it falls into Skidegat channel. The name of this stream is Claig-a-doo (land of plenty), because, from its waters, every year they draw their supply of salmon, and also to its head waters they go for the black slate from which they make their famous carvings.

In this stream, the fish generally begin to run toward the end of September. Every summer, especially a dry one, this stream gets low, so much so that salmon are unable to get up until the fall rains come, when the water rises. When the fall rains were light and the water continued low, they had the following prayer to the goddess of the mountain, for rain, in order to raise the river and enable the salmon to run. The name of this goddess, I have lost, so I will use the expression Goddess of the Mountain. The prayer is as follows:

O Thou great Goddess, whose dwelling is on the high mountain of Claig-a-doo. Thou, who hast control of the storm clouds and bringeth them to rest on the tops of the mountains, and while resting to pour out the waters they carry and cause the lakes and rivers to rise and the salmon to run in Claig-a-doo. Hear us, Thou great and good Goddess, and send now the clouds and rain, because the river is low and in it the salmon can not run, while our supply of food is already very scant. Hear us, O Goddess, and grant our request, that we, having food, may rejoice and be glad.

Allow me to say, in conclusion, that according to the ancient belief of these people, everything had a spirit: The storm and tempest; the mountains, lakes, and rivers; the lightning and thunder. Even the stillness of the dense primeval forest was often broken by the awful screams of the storm god, forboding the coming storm. In the forest, also, were elementary sort of beings representing the Dryads, nymphs, and satyrs of the ancient Greek mythology.

## THE WORD FOR MAN AND CHILD IN DIFFERENT LANGUAGES.

BY C. STANILAND WAKE.

Sometimes it is useful to be able to refer to lists of words conveying a common idea in different languages, and we are able to furnish such a list, made some years ago for comparative purposes. It covers considerable ground and, although it gives words for "man" and "child" only, the list will be perused with interest, and will give rise to the thought that there may be a language affinity between the Polynesian Islanders and peoples of both the Asiatic and the American continents. The list is as follows:

LANGUAGE.	MAN.	CHILD.
<b>AFRICAN LANGUAGES.</b>		
Bechuana,	monūna,	nuana.
Zulu,	indoda,	umtuana.
Nyambana,	wanūna,	nton wayana.
Sofala,	moamūna,	moanono.
Masena,	moamūna,	moána.
Takwani,	moamūna,	moána.
Madjana,	oalūmé,	moanátcí.
Makua,	mulòpòana,	moána.
Bengera,	ūrumé,	umānē.
Angola,	diála,	moána.
Congo,	yákála,	moána.
Mundjola,	baro,	moána.
Kambinda,	iákalas,	moána.
Eyo,	okuné,	.....
Hottentot,	aup, khoip,	.....
<i>Madagascar—</i>		
Malagasy,	ouloun lahé	.....
<b>INDIAN ARCH:PELAGO.</b>		
Malay (Sumatra),	orang láki—laki,	anak.
Javanese,	wong lanan,	anak.
<i>Bouru Island—</i>		
Cajeli,	umlanai,	a'nai.
Wayapo,	gemana,	nànat.
Massaratty,	anamhána,	naánati.
Amblaw,	remau,	emlúmo.
Tidore,	nomán,	ngófa.
Gani,	mon,	untúna.
Golela,	anòw,	mangòpa.
<i>South Celebes—</i>		
Bouton,	omani,	oànana.
Salayer,	tau	anak.

LANGUAGE.	MAN.	CHILD.
<i>North Celebes—</i>		
Menado,	taumata esen,	dodio.
Bolanghitam,	roraki,	anako.
Sanguri, Sian,	manesh,	anak.
Salibabo,	tomalá,	pigi-neneh.
Sulu,	maona,	ninána.
<i>Amboyna—</i>		
Liang,	malona,	niana.
Morella,	malono,	wana.
Batumerela,	mundai,	opoliána.
Lariki,	malona,	wári.
Baju,	lelah,	anáko.
Saparua,	tumata,	anahei.
<i>Ceram—</i>		
Awaiya,	tumata,	wána.
Camarian,	tumata,	ana.
Teluti,	manusia,	anan.
Ahtiago and Tobo,	muána,	iniának.
Alfuros,	muruleimum,	anavim.
Gah,	belané,	dúia.
Wahai,	ala hfeiti,	àla.
Matabello,	maranana,	enéna.
Teor,	meránna,	aník.
Mysol,	motu,	kachun.
POLYNESIA:		
Polynesian (general)	kanna,	.....
Hawaii,	tana,	.....
Tonga,	angata,	.....
New Zealand,	tangata,	.....
AUSTRALASIA.		
<i>New Guinea—</i>		
Outanata,	marowana,	moetocki.
Triton Bay,	marowana,	tamanetto.
Onin,	iohanouw,	janijani,
Aru Islands,	usi,	.....
Andaman Islands,	camolan,	.....
<i>North Australia—</i>		
Port Essington,	iwala,	wararuwanji
Popham Bay,	koala,	edpeddo.
Croker Island,	eloin,	alalk.
Van Diemen's Gulf,	poli,	oroitj.
<i>West Australia—</i>	mammārāp,	.....
<i>East Australia—</i>		
Kamilaroi,	kore,	wanari.
Wiradurei,	.....	wongai.
ASIATIC LANGUAGES.		
<i>Indo-China—</i>		
Kuanchua,	nan,	.....
Canton,	nam,	.....
Tonkin,	nam,	.....
<i>Yeniseian—</i>		
Inbash,	çet, blet	.....
Pumpskolok	ilset.	.....
Kott,	hatket,	.....

LANGUAGE.	MAN.	CHILD.
Yukahiri,	yadu,	.....
Kurile,	aïno,	.....
<i>Koluche</i> —		
Kenay,	teena,	.....
AMERICAN LANGUAGES.		
<i>Eskimo</i> —	innuit,	.....
Behring Sea,	tagut,	.....
Greenland,	angut,	.....
<i>Athabascans</i> —		
Chippewyan,	dinnie,	.....
Katskanai,	khanane,	.....
Umkwa,	titsun,	.....
Nootka (Brit. Col.)	tanass,	.....
Wakash (Vanc'v'r Isl.),	tchuckoop,	tannassis.
Tsihanti (Oregon),	tillicham,	tanass.

### THE INTERNATIONAL CONGRESSES OF THE EXPOSITION OF 1900.

#### THE SECOND INTERNATIONAL CONGRESS OF FOLK-LOLISTS.

An International congress of folk-lorists and of all scientific students of popular traditions, is to be held under the patronage of the French government in the series of official congresses of the Exposition of 1900. The date of opening has been fixed at the 10th of September, 1900, immediately following the kindred congresses of prehistoric anthropology and archæology and history of religions, and preceding that of the Americanists. This arrangement will allow of members wishing to take part in these congresses, to do so without too great waste of time.

The honorary president of the Committee of Organization is M. Gaston Paris of the French academy. The acting president is M. Charles Beauquier, president of the French Folk-Lore Society, and the secretary-general is M. Paul Sobillot, the well-known writer on folk-lore and editor of the *Revue des Traditions Populaires*.

It is desired that the preparation of the work of the congress should be begun as soon as possible, as it consists largely in the gathering of documents. For this purpose a general program of questions to be submitted to the congress has been outlined. Since the first congress in 1889, masses of new material have been collected, especially in Central Africa and in various other savage or uncivilized countries. Much still remains to be done, and certain points of scientific folk-lore have scarcely been touched. Still, it is already time to try to gather together and compare these materials of various origin, and to draw from them general conclusions. The idea of the Organizing Com-

mittee is that the congress should devote itself rather to synthetic and comparative work, than to analytic and documentary investigation. It is to such general studies, or to those which have an international character, that the full sessions will be given. The special meetings will be divided between two sections:

I.—ORAL LITERATURE AND POPULAR ART.

(a) Origin, evolution, and transmission of tales and legends. Exposition and discussion of the various systems which are now advocated.

(b) Origin, evolution, and transmission of popular songs, both from the point of view of poetry and that of music. Reciprocal influence of learned poetry and music, and popular poetry and music.

The popular theatre; its relations, ancient and modern, with the literary theatre.

(c) Origin and evolution of traditional iconography (pictures, sculpture, etc.); its relations with classical art; mutual borrowing.

(d) Origin and evolution of popular costume. Investigation in monuments and documents, of the parts of costumes which have been preserved more or less completely up to our own day. Origin and evolution of jewels and ornaments.

II.—TRADITIONAL ETHNOGRAPHY.

(a) Survival of customs connected with birth, marriage, and death (marriage by capture, "bundling," funeral offerings, etc.).

(b) Survival of animal worship in the customs of modern peoples. Survival of the worship of stones, trees, and fountains.

(c) Traces of ancient local cults in the devotions to saints. Popular hagiography (rites and traditions).

(d) Popular medicine and magic (amulets, rites for preservation, laying spells, fascination, and the evil eye, etc.)

General survey of the folk-lorist movement from 1889 to 1900.

French will be the official language of the congress. Communications may be made in English, German, Italian, and Latin, but they must be accompanied with a resumé in French. They should be in the hands of the secretary general before the first of July, 1900. The length of such communications is restricted to a quarter hour's reading. No tale will be read at the general sessions, but those which have universal interest may be printed in the report.

Membership subscription is fixed at 12 francs. Members receive the printed reports of the sessions of the congress and any other publications which may be issued.

The address of the secretary-general is M. Paul Sebillot, 80 Boulevard Saint Marcel, Paris.

## IN MEMORIAM DR. D. G. BRINTON

WITH A SKETCH OF HIS ARCHÆOLOGICAL ACTIVITIES.

BY ALEXANDER F. CHAMBERLAIN.

Extended obituary notices of the late Dr. D. G. Brinton (born May 13, 1837; died July 31, 1898), whose death has been a distinct loss to all departments of anthropology, have appeared in *Science* (Vol. X., N. S., pp. 193-196) and the *Journal of American Folk-Lore* (Vol. XII., pp. 215-225). Nevertheless some notice of his archæological studies is not out of place in the pages of THE AMERICAN ANTIQUARIAN, to which he was a frequent contributor, and of which he was for some years one of the associate editors. The first book Dr. Brinton ever published, was "The Floridian Peninsula; its Literary History, Indian Tribes, and Antiquities" (Phila., 1858, pp. 202), and his last contribution to the science appeared in the first number of the New Series of the *American Anthropologist* (January, 1899), an article entitled "The Calchaqui: An Archæological Problem" (pp. 41-44), treating briefly of one of the most interesting subjects in American prehistory—the ancient civilization of the vales of Catamarca, in the Argentine. From 1884 to the time of his death he held the position of Professor of Ethnology and Archæology in the Academy of Natural Sciences, Philadelphia, and from 1886 onward he was Professor of American Archæology and Linguistics in the University of Pennsylvania. His archæological writings are more numerous and extensive than is commonly believed.

To THE AMERICAN ANTIQUARIAN Dr. Brinton contributed, as follows:

1. The Probable Nationality of the Mound-Builders. Oct., 1881.
2. The Chief God of the Algonkins in His Character as a Cheat and Liar. May, 1885.
3. The Taensa Grammar and Dictionary. A Deception Exposed. March, 1885.
4. The Taensa Grammar and Dictionary. A Reply to M. Lucien Adam. Sept., 1885.
5. The Phonetic Elements in the Graphic System of the Mayas. 1886.
6. The Study of the Nahuatl Language. Jan., 1886.
7. On certain supposed Nanticoke Words. Shown to be of African Origin. 1887.
8. On the Words "Anahuac" and "Nahuatl." Vol. XV., 1893. pp. 377-382.

- 9 Characteristics of American Languages. Vol. XVI., 1894, pp. 33-37.
10. Accadian and Turanian (Brief Note). *Ibid.*, p. 113.
11. An Obstetrical Conjunction. *Ibid.*, pp. 166-167.
12. Aztec Creation Legends (Note). *Ibid.*, pp. 311-312.
13. On certain Morphological Traits of American Languages. *Ibid.*, pp. 336-340.
14. Notes on European Archæology. Vol. XVIII., 1896, pp. 37-38; 106-107; 169-177.
17. The Battle and Ruins of Cintla. *Ibid.*, pp. 259-268.
18. Native American Stringed Musical Instruments. Vol. XIX., 1897, pp. 19-20.
19. Recent European Archæology. Vol. XX., 1898, pp. 349-352.

Some of the above papers were elaborated to form part of "Essays of an Americanist," published in 1890.

Among his other publications (exclusive of books) of a more or less distinctly archæological and antiquarian nature are the following:

1. The Shawnees and their Migrations. *Histor. Mag.*, Jan., 1866.
2. The Mound-Builders of the Mississippi Valley. *Ibid.*, Feb., 1866.
3. Early Spanish Mining in Northern Georgia. *Ibid.*, May, 1866.
4. Artificial Shell Deposits in the United States. *Rep. Smithson. Inst.*, 1866.
5. A Notice of Some MS. in Central American Languages. *Amer. Jour. Sci. and Arts.* (New Haven.) March, 1869.
6. The Ancient Phonetic Alphabet of Yucatan. *Amer. Histor. Mag.*, 1870.
7. Notes on the Codex Troano and Maya Chronology. *Amer. Naturalist*, Sept., 1881.
8. The Graphic System and Ancient Records of the Mayas. *Contrib. N. Amer. Ethnol.*, Vol. V., 1882, pp. 17-27.
9. The Books of Chilan Balam, the Prophetic and Historic Records of the Mayas of Yucatan. *Penn. Monthly*, March, 1882.
10. Recent European Contributions to the Study of American Archæology. *Proc. Numism. and Antiq. Soc. Phila.*, March, 1883.
11. American Archæology. *Amer. Suppl. Encyclop. Brit.*, 1883.
12. The Archæology of Northern Africa. *Science* (New York), Nov., 1884.

13. On the Cuspidiform Petroglyphs, or so-called Bird-Track Sculptures of Ohio. Proc. Acad. Nat. Sci. (Phila.), Oct., 1884.
14. On Fire Stones and Prehistoric Implements. *Ibid.*, Nov., 1884.
15. Impression of the Figures on a "Meda Stick." *Ibid.*, Nov., 1884.
16. The Lineal Measures of the Semi-Civilized Nations of Mexico and Central America. Proc. Amer. Philos. Soc. (Phila.), Jan., 1885.
17. Did Cortes Visit Palenque? Science, March, 1885.
18. The Sculptures of Cozumalhuapa. Science, July, 1885.
19. On the Ikonomatic Method of Phonetic Writing, with Special Reference to American Archæology. Proc. Amer. Philos. Soc., 1886.
20. A Review of the Data for the Study of the Prehistoric Chronology of America. Proc. Amer. Adv. Sci., 1887.
21. The Subdivisions of the Palæolithic Period. *Ibid.*
22. Were the Toltecs an Historic Nationality? Proc. Amer. Philos. Soc., Sept., 1887.
23. On an Ancient Human Foot-Print from Nicaragua. *Ibid.*, Nov., 1887.
24. On Early Man in Spain. Proc. Am. Ass. Adv. Sci., 1888.
25. On a Limonite Human Vertebra from Florida. *Ibid.*
26. The Taki, the Svastika and the Cross in America. Proc. Amer. Philos. Soc., Dec., 1888.
27. On a Petroglyph from the Island of St. Vincent, West Indies. Proc. Acad. Nat. Sci. (Phila.), 1889.
28. On the "Stone of the Giants" near Orizaba, Mexico. Proc. Numism. and Antiq. Soc. (Phila.), 1889.
29. On the System of Writings of the Ancient Mexicans. Trans. Amer. Philos. Soc., 1892.
30. Measurement by Weight among the Peruvian Indians. Proc. Numism. and Antiq. Soc. (Phila.), 1892.
31. On Anvil-Shaped Stones. Proc. Am. Ass. Adv. Sci., 1892.
32. Remarks on Certain Indian Skulls from Burial Mounds, in Missouri, Illinois, and Wisconsin. Trans. Coll. Phys (Phila.), 1892, pp. 217 219.
33. On an Inscribed Tablet from Long Island. Archæologist, Nov., 1893.
34. The Native Calendar of Central America and Mexico. Proc. Amer. Philos. Soc., Nov., 1893.
35. What the Maya Inscriptions Tell About. Archæologist, Nov., 1894.
36. The Alphabets of the Berbers. Oriental Studies, 1894.
37. The Proto-Historic Chronology of Western Asia. Proc. Amer. Philos. Soc., April, 1895.



38. Carib Art and its Significance. Science (New York), New Series, Vol. II., 1895, p. 265.
39. On the Remains of Foreigners Discovered in Egypt by Flinders Petrie. Proc. Amer. Philos. Soc., Jan., 1896.
40. Left Handedness in North American Aboriginal Art. Amer. Anthropol., Vol. IX., 1896, pp. 175-181.
41. On the Oldest Stone Implements in the Eastern United States. Journ. Anthr. Inst. (London), Vol. XXVI., 1896-7, pp. 59-64.
42. The Missing Authorities on Mayan Antiquities. Amer. Anthropol., 1896.
43. The So-called "Bow Puller." Bulletin. Free Mus. of Sci. and Art, 1897.
44. Note on the Classical Murmex. *Ibid.*
45. The Latest Discoveries as to the Antiquity of Man. Scien. Amer. (New York), Vol. XLV., 1898, Suppl

The above list, covering almost every department of archæology, shows that while Dr. Brinton won lasting fame by his special studies in American linguistics, mythology, folk-lore, and religion, his archæologic and antiquarian contributions are of a most varied and valuable sort.

But besides these minor studies there are the archæologic data in his books (which are not themselves specially archæological in scope or nature): "Myths of the New World, new edition, Phila., 1896; certain volumes of the "Library of American Aboriginal Literature," Phila., 1882-1890, especially those relating to the semi-civilized peoples of Mexico and Central America; "Races and Peoples," New York; "The American Race," New York, 1891; "Religion of Primitive Peoples," New York, 1897. To this again must be added such special volumes and treatises of an archæological nature as: "The Annals of the Cakchiquels," Phila., 1885; "The Chronicles of the Mayas," Phila., 1882; "Lenâpé and Their Legends," Phila., 1885. "General Prehistoric Archæology," Iconographic Encyclopædia, 1885; "Essays of An Americanist," 1890; "Report Upon the Collections Exhibited at the Columbian Historical Exposition, Madrid," Washington, 1895; "A Primer of Mayan Hieroglyphics," Boston, 1895. Not less, then, than the linguist and the folk-lorist, has the archæologist to mourn the loss of a master-mind, in him who has departed.

## CORRESPONDENCE.

---

### ORIENTATION AMONG THE MOUNDS.

EDITOR OF THE AMERICAN ANTIQUARIAN:

Dear Sir.—I have endeavored to get the information you desire in regard to the orientation of the circles in Greenup county, Kentucky. At other visits here, I have viewed most of the works mapped by Dr. Hempstead, and some of them many times, but his "Temple Mound" I did not find until recently; partly for want of time, and mostly from misdirection by the people, who mistake river ridges for parallel walls, and natural elevations for mounds. The "Temple Mound" I found about  $5\frac{3}{4}$  miles up the Ohio river, or east of South Portsmouth (Springville), after tramping over most of the fields this side of these and between the river and hills.

The "Temple Mound" is built on the third terrace, while the other works in this direction are all on the second. I could find no trace of parallel walls, circles, ditch, or the spiral graded way to the top of the mound as Dr. Hempstead described. Mr. D. R. Walker, who is 76 years of age and who has spent most of his life near the mound, says he remembers the circles, ditch, and parallel walls from the river to the mound, and that the parallel walls were six feet high, covered with trees the same in all respects as the surrounding forest. He could not say to what point of the compass, the openings in the circles were directed.

Dr. Hempstead says:\* "The top is not round, but truncated and elliptical, longest north and south." I found this as he describes, and my measurements, as nearly as I could make them, are as follows: Diameter of level surface on top of mound, east and west, about 45 feet, and north and south 66 or 70 feet. The sides of the mound are quite steep or abrupt, and 12 feet high at least, in the lowest place, and 14 in the highest, caused from the land on which it is built sloping slightly at the north. Dr. Hempstead gives the height at six feet, and when first surveyed at 20 feet. I can not account for the difference 14 feet in a few years, and the mound does not show it, besides an accurate survey would make the mound higher than my figures represent it at the present time. I found no spiral,

---

\* "Mound Builders" (1883), page 4.

graded way, nor trace of one, to the top, but did find one from the south directly northward to the top by an easy grade, and 127 feet in length. At its southern end it terminates rather abruptly in a round over, or drop, of about two feet to the surrounding level on which the work rests. The width of this graded way on the top, is hard to determine accurately, from the edges being much rounded by plowing and the elements, but is about 14 to 16 feet; the base is considerably less in diameter than the base of the mound, and the sides more sloping, probably from more cultivation. This graded way has every appearance of being of the same age as the mound, and no reason can be given for a later origin, as no return could be had for the labor. Perhaps if this field had been recently plowed I might have traced the circles and parallel walls, to some extent, by the color of the earth and slight rise in the surface, as I have been able to do in other places, where, when covered with grass, as in this case, I could find nothing. Mr. Walker says there was a well between the parallel walls, about one-quarter mile from the mound towards the river, when he first came there, and that it took twenty cords of wood to fill it (wood being easier to get than any other material for the purpose).

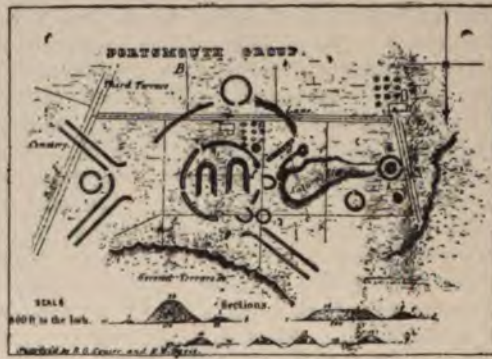
Dr. Hempstead is entitled to much credit for his efforts to preserve a knowledge of the ancient works in this vicinity; many of which have now entirely disappeared; some can be traced with difficulty; while a few are in a fairly good state of preservation at the present time. Now, while Dr. Hempstead's map and description of the works here are valuable and perhaps substantially correct, yet, in my opinion, there is not that completeness and minute accuracy that there should be, for a sufficient study of their significance and use to their builders, or comparison with works in other parts of the world. My reasons for thinking so, are as follows: He does not mention a graded way from the south and gives six feet as the height of the "Temple Mound," which is at least twelve feet high at the present time. This mound he locates on his map as somewhat to the northeast of the other works in this direction, but by my observation with a common compass, with six-inch needle, I make it almost exactly east of the first mound, which he marks on the map as eighteen feet high, and in the text as nineteen feet (his description of this mound is about right). In addition to the four works mapped in this direction by Dr. Hempstead, there are five other mounds from two to six feet high, and two others have been removed, one to make a fill, and the other so as to build a house on the site. On page 7, last column, 17th line ("Mound Builders," 1883), he says: "A short distance west from the Temple Mound will be found three small structures—a mound, ditch and embankment—the whole about fifty feet in diameter, with a ditch twelve feet deep from from the top of the embankment three feet high on the outside. A mound in the center six feet high, with a gateway

of approach from the south, rises above the surrounding surface."

My observation of the above-mentioned work, is as follows: It is one of the best preserved works here, which is probably due to the fact that the ditch prevented plowing, and it was allowed to grow up with trees. Apparently the original forest was cut away, as those present are second growth. Two wild cherry trees grow in the ditch, two feet in diameter, and an oak over two feet in diameter was growing on the mound, a little to one side of the center. Many other trees grow on the works, but none in other parts of the field; this field is quite large and almost perfectly level. The work at the present time measures as follows: The mound is about  $3\frac{1}{2}$  feet high, and 30 feet in diameter at the base, which rests on the original surface as level as the surrounding field; this level extends around the mound from the base, for a width of 10 or 12 feet, forming a platform. Surrounding this platform is a ditch 30 feet wide at the top, and six feet deep from top of outside embankment, and about 12 feet wide at the bottom. Outside the ditch is the embankment, about two feet high and 35 feet wide, highest near the ditch and growing gradually less to the outer edge; evidently much spread out by plowing. About 18 degrees to the east of south from the center of the work is a gateway through the embankment, across the ditch to the platform around the mound. The entrance across the ditch is about eight feet wide, and three feet above the bottom of the ditch; this was evidently the original surface, not removed in excavating the ditch; therefore the surface surrounding the work, the platform, and connecting way across the ditch, were all on the same level, while the mound and embankment were raised, material being obtained for building them by using what was obtained in excavating the ditch. By the way, no water ever accumulates in this ditch, though there is no outlet, the earth being very sandy and porous, below the surface particularly. The whole of this work Dr. Hempstead makes 50 feet in diameter, while I make it 115 feet at least. It seems to me that the Doctor's estimate of the height of this mound is also too much, as the oak tree so near the center and over two feet in diameter would show the removal, if any great amount had occurred.

I have spent some time in trying to locate two old maps of these works, one by F. Cleveland, civil engineer, and the other by Dr. Galbraith, formerly a civil engineer, of Greenup, Greenup county, Kentucky, but, up to this time, I have been unable to come up with either of them, but I believe they are in existence somewhere. There is, I think, much need of a new and accurate survey of the works here, that will locate all the works and rectify past mistakes. Squier & Davis, Prof. Lewis, and Dr. Hempstead, and, perhaps, others, have made partial surveys of these works, but I hope that there may be one more that will do the works justice. I will say in regard

to the Animal Mound on the Hayman farm, located in the northwest on Dr. Hempstead's map: This animal mound is inside a square, instead of a circle. The square is mapped as having square corners, when in fact they are rounded. The front end and body of the animal look much like a tapir or an elephant, but the tail is even larger than the body and curls or curves upwards, the end of which is at an angle of about 90



CENTRAL GROUP OF PORTSMOUTH WORKS.

degrees with the back of the animal. The works nearer Portsmouth are more nearly accurate.

In conclusion, I will say that I think it not possible, at this day, to definitely ascertain at what point of the compass the gateway in the circles opened toward the "Temple Mound."

Very truly yours,

N. A. CHAPMAN.

85 E. 2d Street, Portsmouth, Ohio.

## THE FIRST DISCOVERERS OF AMERICA.

EDITOR OF THE AMERICAN ANTIQUARIAN:

Dear Sir.—In the last number of your journal Mr. C. W. Super writes as follows: "I suppose that it is admitted by all scholars that Herjulfson, on a voyage undertaken from Iceland to the new Colony, was driven out of his course, by stress of weather, and saw the New World; still further, that Eric's son Leif, about the year 2000, discovered parts of the coast of New England."

This statement should, in the interest of truth, not be allowed to stand unchallenged. The ablest treatise by far on the Norse discovery of America, is a prize essay by Professor Gustav Storm, of the University of Christiania, Norway, in

which he comes to the conclusion that the story of Bjarni Herjulfson is, to all appearance, fictitious, the true discoverer of the American continent being the above-mentioned Leif Ericson, and the only explorer of the country, one Thorfin Karlsene; while none of them, judging from the text of the sagas, were farther south than Nova Scotia. This view was substantially adopted and corroborated by Mr. Reeves in his splendid edition of the Sagas (1890)—a photographic reproduction of the manuscripts, with Icelandic text and English translation—and these two weighty contributions certainly ought to have put an end to the exceedingly uncritical rehash of the exploded New England theory. We find it again set forth in the December number of *Popular Science Monthly*, by Miss Cornelia Horsford, whose father, Prof. E. N. Horsford, in well-meaning enthusiasm did so much to mislead the public by his extremely unscientific and illogical treatment of the whole subject.

This persistence in upholding an impossible cause, would seem rather harmless; but the fact that Mr. Keane in his recent book "Man, Past and Present," takes it for granted that the Norsemen met Eskimos in New England in the year 1000, proves that it is not after all a mere matter of innocent patriotism. This is not the place to enter in any discussion of the subject, and, if I am not mistaken, the nine hundredth anniversary of the Norse discovery will see some valuable essays on this much abused question. Permit me to say, however, that there is not in the best version of the story the slightest indication that the Norsemen effected a settlement on the American coast, or built anything but booths (*budir*) or temporary houses in Vinland. They, according to authorities like Prof. Storm and Prof. Fiske, most probably met with Indians in that region, and every indication, except one—the incidental mention of sandy shores—clearly points to Nova Scotia; while the Boston theory is utterly untenable, for the simple reason that the explorers evidently sailed for days and days southward from Keel Cape, before they reached the true Wineland, and Keel Cape can, if we make them pass Cape Breton and Nova Scotia, only be identical with Cape Cod.

JUUL DIESERUD.

*Field Columbian Museum, Dec. 2, 1899.*

## ANTHROPOLOGICAL NOTES.

BY ALEXANDER F. CHAMBERLAIN.

ARCHÆOLOGY OF THE ARAUCANIAN REGION. To the *Añales de la Universidad* (Santiago, Chile) since November, 1898, Tomas Guevara has been contributing a study of the history of culture among the American Indians ("Historia de la Civilizacion de Araucania"), which covers all branches of anthropology, ethnology, somatology, mythology and folklore, and archæology. Chapter III. (pp. 279-306) of Guevara's study deals with "the age of stone," and is illustrated with four plates containing many figures of stone objects. It seems certain that the Araucanian tenure of the district in question goes back to prehistoric times. Among the chief sources of the oldest relics are the kitchen-middens of the coast from Biobio to Chiloe and the mines of Puchoco, Lebu, etc.; the caverns of the Andean regions, the alluvial deposits, and the ancient burial places. The most characteristic stone relic of the Araucanian region is the disc-shaped (sometimes spheroidal) pierced stone, the exact employment of which is not certain (many may have been club-heads), but Guevara thinks they were wriglets for digging sticks, or something very similar. Their places have not been taken by other implements. It is worth noting that the idea that certain stone axes are preservatives against lightning-stroke has been imparted by the Spanish immigrants into Chile, and, by way of the lower classes of the population there, to the Indians. The influence of the Spaniards was not confined to the introduction of the horse and the use of bronze and iron, which worked so many changes in the life and habits of the aborigines. Certain large stones, or rather rocks, with cup-shaped excavations, have been thought by some to indicate human sacrifices in the past; by others, to have been used in playing certain games. Guevara inclines to believe that they have some religious significance. The author describes, with a full-page plate, the sacred stone of the Pehuenches, called Retricura, on the road from Curacautin to Lonquimai, of which an account (quoted by Guevara) is given in Dr. Rodolfo Lenz's "Estudios Araucanos." On the face of this stone are several cup-shaped hollows, in which offerings were put. The stone, really the end of a rocky elevation, is about six metres high by five broad. Guevara believes that this, like other stone-cults of the Araucanian Indians, came to them from the Peruvians. Certain of the objects disinterred in the Araucanian region—stone figures, and stones with a heart pierced by a cross—are doubtless the work of Spanish captives, or of modern make.

STONE IMPLEMENTS FROM SOUTH AND CENTRAL AMERICA. Under the title "Imanufatti litici di Patagonia" (Stone Implements from Patagonia), Dr. Michele del Lupo contributes a rather extensive article to the *Archiviopos l'Antropologia e la Etnologia* (Vol. XXVIII., pp. 289-353), the scope of which is by no means confined to the extreme southern portion of the South American continent, but takes in the Argentine Republic, Bolivia, Brazil, Equador, Colombia, Honduras, Mexico, and even North Dakota, the collection of the specimens described being due to the activity of the Salesian, Franciscan, Jesuit, and Benedictine missionaries in these different regions of the globe. From Patagonia, between 38 degrees and 54 degrees south, 314 hatchets, spear-heads, arrow-heads, etc., are described in detail; from the Argentine, 10 hatchets; from Bolivia, 8 hatchets, a club and a hammer; from Brazil, a single diorite axe; from Equador, 5 hatchets; from Colombia, 2 hatchets and 3 other specimens; from Honduras, 5 hatchets; from Mexico, 19 axes, spear-heads, arrow-heads, etc.; and from North Dakota, three stone casse-têtes. Dr. Del Lupo notes the great change brought about by the introduction of the horse in this region of South America, the lazo, the boleadoras, the libes, and the bolas de luso taking the place of the older arrows and spears; the last two implements going back to the Neolithic Age.

In a subsequent article, "Contributo agli Studii di Antropologia del l'America," in the same journal (Vol. XXIX., pp. 55-69), Dr. del Lupo gives some further account of the stone implements of the Patagonian region, with figures of the bolas, boleador, libes, etc. Dr. del Lupo considers that there is no evidence of pre-Columbian intercourse between the inhabitants of South America and those of Polynesia, Japan or China, the absence of the employment of iron, known, with other metals, in China for ages, practically settling the question, so far as that country is concerned. The jadeite implements, he thinks, are of American origin and not imported. He is inclined to take, also, a higher view than most writers of the Patagonians.

\* \* \*

ETHNOLOGY AT THE TURIN EXPOSITION OF 1898. In the *Archivio per l'Antropologia e la Etnologia* (Vol. XXIX., 1899, pp. 19-32) Dr. Enrico Giglioli gives an account of the ethnological exhibit in the Exposition of May-November, 1898, at Turin; a display representing the activities of Italians in exploration and discovery in all parts of the globe. Among the specimens on exhibition were stone objects (noted elsewhere in these pages) from various regions of South and Central America, besides others from Africa, Asia, and Australasia. The Bororo of Matto Grosso, Brazil, and the Chiriquanos of Southern Bolivia were represented by rich collections of weapons, ornaments, musical instruments, etc. The catalogue of objects from the various Indian tribes of the region of the



Amazon contained some 500 numbers, embracing clothing and personal ornaments, furniture and house utensils, fishing, hunting and warlike implements, etc., besides a small collection of human crania from the little known Carajá and Cayapó tribes of the Araguaya and Upper Locantins. The Fuegians, also, were represented by a good ethnological exhibit, some very rare specimens of arrow-heads of stone being included. The personal ornaments of the Bororó were likewise very notably represented. Many of the objects exhibited at the Exposition were acquired for the Florence Ethnological Museum.

\*\*\*

STONE AGE IN CHINA. In his article on "The Stone Age in China," in the *Archivio per l'Antropologia e la Etnologia* (Vol. XXVII., pp. 361-379) Dr. Enrico Giglioli, after noting the rarity of stone implements in China, cites the references to them in Chinese literature and in the writings of the earlier European travelers and historians, besides giving, with several figures, descriptions of implements in his own collection. The words for cut, cleave, pierce, scrape, break, strike, and split, reveal their relations to stone weapons and instruments by the fact that their ideograms contain an element, which, by itself signifies "stone." Nevertheless, by the time of Confucius, stone implements were very rare in China, and the reference to them in the Chinese books relate to the quasi-savage population of the basins of the Hoang-Ho and Yang-tse-Kiang, or the frontier Tartar tribes. Much of interest on these and kindred topics is to be found in Dr. Carlo Puini's learned volume, "Le origin della civiltà secondo la tradizione e la storia nell'Estremo Oriente," published at Florence in 1891. Dr. Giglioli describes eleven stone hatchets of Neolithic type from Momiên in Yuman, figures of all being given. Descriptions and figures of other stone implements—hammers, pick-axes, mill-stones, earth-crushers, etc.—from various parts of China, are also given, and the author promises other articles dealing with stone objects still in use in China as ornaments, etc.

\*\*\*

THE CALAVERAS SKULL. In the January-March number of the *Proceedings of the Academy of Natural Science*, of Philadelphia, W. H. Dall discusses (pp. 2-4) this celebrated cranio-logical specimen. Mr. Dall was one of those who examined the skull in June, 1866, in the office of the State geologist, and places on record his personal evidence. The conclusion arrived at is that "the attempts on the part of unscientific persons of the vicinity to discredit the authenticity of the skull, after it had attracted general attention, were due to that spirit, unfortunately too common among ignorant persons, which leads them to disparage that in which they have no share." The genuine character of the skull and situs below the lava, Mr. Dall thinks are beyond doubt, though "the question of

the cōexistence of man and the extinct mammals, whose remains have been found in the same gravels, is entirely distinct, and may reasonably be left open." Mr. Dall's recollections form an interesting contribution to the literature of this much-controverted subject.

In an extended study entitled "Preliminary Revision of the Evidence Relating to Auriferous Gravel Man in California," which appeared in the *American Anthropologist* for January (pp. 107-121) and October, 1889 (pp. 614-645), Prof. W. H. Holmes discusses the evidence in detail, concluding that "the so-called Calaveras skull exhibits nothing in its character, condition, or associated phenomena incompatible with the theory of recent origin, and very much that may be justly construed as favoring that theory" (p. 640). From Prof. Holmes' article we learn that Prof. F. W. Putnam "has now in view the publication of a paper giving his views and an exhaustive chemical and comparative study of the skull." If the Calaveras skull is only that of a Digger Indian, it has created a great excitement in the world of science.

\*\*\*

**DYEING IN COSTA RICA.** In the *Verh. der Berliner Ges. f. Anthropologie* for 1898, E. von Martens describes the process of cotton-dyeing in use among the Indians of Costa Rica, a device apparently pre-Columbian, for it is mentioned by very early authorities, and traces of its use have been found all over the Caribbean region. The dye-substance is the material excreted, upon irritation, by the *Purpura patula*, common in the Antilles, varieties of which are also found on the Pacific. One method of dyeing in use in Central America seems to have been simply to pass the fabric through the opening of the shell of this mollusk; another way was to gather the shell-fish in a bowl and collect the liquid excreted, which was applied to the cotton. This liquid is at first greenish-yellow, but changes in drying to purple. A bluish dye was also produced by a different treatment of the same liquid. The purple robes of the Zapotec women in Southern Mexico, and certain fabrics from ancient Peruvian graves appear to have been dyed in the way here described.

[Correction: On page 46, line 19, read weights.—ED.]

## NOTABLE PAPYRI.

BY REV. W. C. WINSLOW.

Among the papyri recently deciphered are two which I will briefly describe. The first relates to the victors in the Olympian games, and the other concerns the date of the birth of Christ.

The papyrus contains a detailed list of the winners in all the thirteen events which formed the Olympian games for a series of about seven years. We know how carefully such a list was kept at Olympia for reference and to perpetuate the names of the victorious athletes. Even an Aristotle valued such data. We have various dates of the victors through the scholiasts of Pindar and of Pausanias, the topographer, to the latter of whom the excavators at the site of Olympia owe much for his exact details. But the chief value or interest in the papyrus is that no complete list of all the events for even a single Olympiad has hitherto turned up.

This papyrus, too, covers the time when Pindar and Bacchylides were composing odes, yet extant, in honor of the Olympian victors. Thus we have independent testimony for assigning accurate dates to these famous compositions. To illustrate the point: Odes ix., x., xi. of Pindar are now shown to have had, commonly wrong dates. As for Bacchylides, some twenty of whose poems from a unique papyrus were edited in 1897 by Dr. Kenyon, Mr. Cotton writes that "the poetical activity of Bacchylides is given an extension of no less than sixteen years" by this papyrus. On the whole, however, our list in question confirms the record of the scholiasts.

This papyrus affords a bit of evidence for the history of Greek plastic art of that period. Near the end of our second century, according to Pausanias, many statues of Olympia bore the names of victors and sculptors; and the German explorers at that site confirmed his statement. Our papyrus fixes the year of a victory and, consequently, of the sculptor whose plastic art commemorated it. Thus, Polycleitus, the Argive, is now shown to have been living in the middle of the fifth century B. C., and to have flourished only a little later than Phidias. Pythagoras, a celebrated statuary, can be shown to have continued his work down to about the same period in that century.

The other papyrus throws light upon the disputed point of the year of the birth of Christ. St. Luke states "that there went out a decree that all the world should be taxed" (enrolled); that Joseph and the Virgin Mary went to Bethlehem to be enrolled, and that "while they were there" Christ was born. Did such enrolments occur, and were there any enrolments under Caesar Augustus and in the reign of Herod the Great?

Historical evidence of enrolments earlier than A. D. 63 under Nero have been wanting. The papyrus shows that such an enrolment occurred in A. D. 20, and also under Cæsar Augustus B. C. 9-10. We have, therefore, now, for the first time, proved that enrolments took place when Augustus was emperor and Herod reigned. Hence we have evidence relating to the assertion of St. Luke that a decree for enrolment was made, and also to that of St. Matthew, that "Jesus was born in the days of Herod the king."

---

### EGYPTOLOGICAL NOTES.

**EGYPTIAN HISTORY AND THE ISRAELITES.** It was in the infancy of Israel that it was called out of Egypt. The Egyptians were only very remotely connected by race with the Hebrews. The Egyptians made very inaccurate historical records. We receive more information and confirmation about the Bible from Babylonia and Assyria, than from Egypt, and naturally so, because Israel was on an equality in those countries; but was in captivity in Egypt. [See article by Prof. J. F. McCosky in *Homiletic Review* for November.]

**PLUMES IN EGYPT.** Prof. Hommel, of Munich, has written an article on the plumes represented on the head of the God Bes and the Goddess Anuket. He shows that there are several Babylonian cylinders in existence in which an Arab, who fights a lion, is represented with a crown of feathers on his head exactly similar to those worn by Bes and Anuket. He, therefore, considers them as an Arab head-dress, and he deduces from this that the worship of both Bes and Anuket was imported into Egypt from Arabia.

**THE EARLIEST ABSOLUTE DATE IN HISTORY.** A new find of papyri, now in the Berlin Museum, which seems to have formed part of the archives of a temple and to include a sort of day book, in which the priests recorded events, has given us the earliest absolute date in history. In it is mentioned that in the seventh year of Usertesen III. the star Sothis (Sirius) was for the first time in the horizon at daybreak on the sixteenth day of the eighth month. Working back to this, Dr. Borchardt was able to announce that the seventh year of Usertesen III. must have fallen between the years 1876-1872 B. C., and this, he claims, as the earliest absolute date in history.

## EDITORIAL.

---

### IS IT CIVILIZATION OR EXTERMINATION?

One of the most serious questions has been brought up in connection with the events of the past year, especially by the two wars which have arisen in the extreme parts of the globe; no less a question than this: Is the progress of the civilized races destined to overcome and ultimately destroy the uncivilized? This seems to be the fear of uncivilized tribes in many cases, and the result is the desire for complete isolation. Isolation, however, is contrary to the spirit and progress of the age, and cannot be maintained. The preventative against the evil feared, must be sought in some other way. The problem is a difficult one and needs to be studied carefully by philanthropists and scientists..

There are some who maintain that the law of the survival of the fittest will inevitably result in the destruction of the lower races, and are inclined to uphold the law, as if it were one which is in accord with the Providence of God. There are professing Christians who are coldly arguing in this way in reference to the Philippines, and there are others who also talk in the same way about the Boers. It is a position which has been maintained in reference to the North American Indians for the last fifty years or more, and the common saying is "the only good Indian is the dead Indian." Just at present the sentiment has changed, and it has become quite a fad to picture out the wild Indian in all his accoutrements, and express admiration for the bold and manly forms, as though these were not the same Indians who, a few years ago, were not only treated as dangerous, but despised as degraded creatures. It may be well, then, in view of this persistency of the thought in one case and the changes in the other, to review the history of the Indians in the past and see whether it is not better to take our lessons from peace, rather than from war, and make up our minds to civilize, rather than destroy. Christianity ought to reach as high a standard in this respect as paganism. The car of progress is not a mere machine which is traversing the earth, even if we imagine that war is the impelling force, for the hand of providence is directing and controlling the world, and will overthrow a civilization which is built up on a false basis, and lift up and preserve those who recognize his hand. If it is maintained that climate, soil, physical traits, and resources, are the only factors to be considered; that moral

influences, social life, and religious teachings are altogether in vain when compared with these, we should lose all hope; but the contrary was taught by our fathers, and we are not inclined to yield the point. There are a few lessons taught by our own history and the history of the Indians, as well as by that of the negroes. Neither of these races have been exterminated by the progress of our civilization. War, to be sure, has threatened to exterminate the Indians, but it has, on the other hand, freed the negroes. Ultimately we believe christianity and civilization will be able to overcome all difficulties and elevate the whole of the human race.

Let us consider the history of the Indians. Have they actually been injured by contact with civilization, and are they likely to become exterminated? It will be acknowledged that a great change has come over these wild tribes, and that the most of them have disappeared from their original haunts, and are now occupying very limited districts, compared with those which they claimed as their original possessions; but does this prove extermination? We claim that it was perfectly natural that the Indians should occupy a more limited territory than they did originally and it was right that they should, if civilization was to advance at all, for it would be impossible for civilization to extend when the people were as widely scattered as they were here at the time of the Discovery. There was a native civilization where the population was dense and where agriculture prevailed, but the wild tribes were actually exterminating them.

We may take the Iroquois as an illustration. These tribes situated in the state of New York, where everything was favorable to their progress and where they were isolated from other tribes, made considerable advancement toward civilization, but they soon proved to be the terror of all other tribes, and between the times of Cartier and Champlain made the region around them entirely desolate, so that the north shore of the St. Lawrence was uninhabited and Ohio was called derelict country. The French and English maps show this.

A map published in 1750 has a legend placed over the state of Indiana and Illinois: "This is the region where the Iroquois hunt 'Boeuf' (buffalo)"; also, a legend stretching over the whole of Lower Canada: "This is the region where the Iroquois hunt beavers." The result was that the Algonquian tribes, which formerly occupied that region, were driven out, and all of the prairie region was left desolate. The state of Ohio was deserted.

The Hurons, also, who were of the same stock with the Iroquois, were driven from the north shore of the St. Lawrence river, first to the neighborhood of Georgian bay, next to the forests of Wisconsin; and all of Canada, from the mouth of the St. Lawrence to Lake Superior, was left desolate. These tribes claimed a very large amount of land which they never used, and certainly never improved. A single clan would

be often surrounded by an entire county, and would claim the county for its possession; a single tribe would occupy an entire state, and disputed the rights to the land, both with the neighboring tribe and with the whites, after they came into the continent. The Iroquois occupied the state of New York and had their seats, which were divided into cantons resembling those of the Swiss; but as late as 1750 they claimed all of the land north of the Ohio river. This shows that the native civilization was as likely to destroy the people as to elevate. The same lesson is taught by the history of the Aztecs, they made rapid progress for a few hundred years, but at the time of the Conquest they were exterminating the tribes around them. There were tribes on the Gulf coast who were living at peace with one another, and the great Muscogee stock seems to have reached a fair degree of civilization, but their northern border had been beset by wild tribes and the ancient villages of the Mound-Builders were in ruins. The Cherokees survived, but they were occupying a vast region.

Dr. Worcester said of the Cherokees, before their removal: "According to an estimate, the Cherokees have held more than nine square miles to every family and, estimating five souls to a family, this would leave about one person to every two square miles. They number about twelve or thirteen thousand persons; their territory extends from North Carolina to the Mississippi river and lies within the state of Tennessee and the northern part of Georgia, its greatest length is 250 miles and width 150 miles. The whole country contains about 23,500 square miles, which would be over 1,000 acres to a single person."

This argument is not against, but is rather in favor of civilizing the Indians, and the same plea should be made in behalf of the races, who have recently come under our control.

There is lesson to be learned from the study of maps. There was a time when the French, English, and Spanish were claiming this continent. When the French possessions crossed those of the English, and all the interior was claimed by the French; the western part of the continent by the Spanish. The right of the Indians to the land was only used by the different nationalities to support their own claims. So in the disputes between the different nationalities at the present time, the native races are left out of account. The continents are divided by the different nations, but the islands are in dispute, the extreme portions of Africa included.

If Russia should claim all of the north Pacific ocean; Germany, all of the central Pacific ocean; England, all of the southern Pacific ocean, and France, all of the Indian ocean, and should base their claims on the fact that these regions were in proximity to their possessions, and were theirs by right of discovery, they would be only repeating the arguments which were used in this country about the right of possession 150 years ago. The natives are not taken into account in the calcula-

tion of any nations, even when their conversion was the chief motive with church propogandists. Their rights were not considered, when Las Casas plead for the natives of the West Indias; nor have they during the "Centuries of dishonor" which have elapsed since that time. The Roman Catholic, the Greek, and the Protestant churches are all apparently very anxious for the welfare of the natives and are willing to work for their civilization, provided it can be such as they have sought to establish. It is not extermination that those churches are seeking for, nor is it the result which follows their efforts. That is not the fear of any intelligent mind. The danger to the natives comes from another side. From that vice which debauches the natives and sets an example of moral degradation, which is worse than any found among the natives themselves. In fact, the depths of degradation introduced by so-called civilized races is often absolutely appalling to the natives themselves, and is abhorred by them, though many fall into it before they are aware, and the population is swept away, as by a blast from a furnace. The simoom is not more deadly in its effect than is the breath of a certain kind of civilization. This is the fault, however, not of the better class, but of the lower classes which infest the frontiers and resort to the neighborhood of the Indians for the purpose of gain. These prey upon the native tribes, as they prey upon the youth of our land, and demoralize whatever class they touch. Of course it is for their interest to claim respectability for their vices, but they do not like to face the consequences. They introduce vices which first debauch the natives and afterwards destroy them; so that extermination is the result, not of the civilization, but of the moral degradation which is carried oftentimes at its front like the foam before the advancing wave.

It has been maintained that the people of the United States have been worse in this respect than the English, and that their influence has been more demoralizing. The facts, however, prove the contrary. It is well known that the most successful missionary in Alaska, Dr. Duncan, was a member of the Established Church of England and was sustained by the English Missionary Society, but he was obliged to move his people to a place where they would be isolated from contact with the whites, just as the missionaries from the United States have desired to do, but have been saved the necessity of doing, by resisting the men who were in power and asserting their rights to be protected by the Government. It is the testimony of Mr. G. O. Dorsey that the villages situated in the British possessions were becoming smaller by degrees and the prospect is that such tribes as the Salish will ultimately become extinct. The policy of the English government has been quoted as an example to the United States, and a contrast has been drawn between the two nations, especially in their treatment of the Indians. The circumstances, however, have been very different, for the native population of Canada and the British possessions



were always very sparse and the progress of settlement slow. It would be interesting and instructive, too, if any one would take the statistics of the population of the two regions and compare them. It has been the effect of war with the whites that whole tribes are exterminated; but shall we say that this is the inevitable fate of the tribes which remain, especially after they have adopted a new type of society and new form of religion.

The Sioux furnish an example; they were at one time situated on the Atlantic coast. They gradually moved down the Ohio and up the Mississippi and Missouri rivers. They were hunters and warriors, and claimed a vast amount of territory as their own; like the Iroquois, they had their hunting-grounds as well as their permanent villages. Parkman, the great historian, followed a band of the Sioux to the mountains and studied their habits and customs. They claimed all of the region between the Mississippi river and the Rocky mountains, and extended from the borders of Canada almost to the Gulf of Mexico, covering a territory which is now occupied by eight states. They required about fifty square miles to support one person, and a few thousand held the region which is now occupied by millions. They remained in possession until the war of the Rebellion, but owing to the revolt and massacre, they were removed and were shut into remote reservations. The Pagan Indians were at that time the source of danger. The Christian Indians were a means of defense to the whites and saved many families. The reformation came to those Indians when they were in prison and away from the influence of the shamans. Paganism lost its hold upon the people and Christianity has come in to take its place, and the result has been peace and progress. The last great outbreak was a travesty on Christianity. The medicine men and chiefs introduced and encouraged the Messiah Dance, which resulted in a craze worse than any that had prevailed before. It was more fanatical than the Paganism itself. The Shawnee prophet who encouraged Tecumseh in his revolt had no such power over the people, as had the chiefs who introduced the Messiah Dance. The war under Tecumseh and the conspiracy of Pontiac had a military character, and were led by warriors, but the Messiah Dance was purely religious in its nature, and resulted in the worst form of fanaticism; it was an actual craze, which spread from tribe to tribe. The impelling motive was the desire among the Indians, to recover their old possessions and restore their former estate and bring back the condition of their fathers. It was in reality a revolt against civilization. The craze subsided when the Indians found that their dances were of no avail and their prayers not heard. The Messiah was not the divinity which they had worshipped. The craze had spent its force in the wild dance and the people found that they had been deceived by their leaders.

What was needed with them in order to secure peace, was

not a change of location, nor of government policy, nor of rations or annuities, or of Indian agent, but a change of religion. When that came they were in a fair way to settle down to the peaceful, ordinary state which the Christian Indians had already reached, and the problem was solved.

The effort to civilize the Indians, we maintain, will be successful when Christian civilization has its proper influence and is put in its true light, exactly as the efforts to elevate the masses, will be successful. The policy of the Government is now to divide up the reservations and to give them property in severalty, and to make citizens out of them; but at present it is an experiment. If the grasping spirit of unprincipled men is allowed to have sway, and if the vices of the whites are allowed to spread, the result will be that the Indians will drop to a low level and be exterminated. The process will be silent, but sure; the degradation will be unknown, and the disappearance will be unnoticed. The wrongs which the Indians will suffer are likely to be even greater than those which have called out so many and so eloquent protest from good citizens.

Mrs. Helen Hunt Jackson portrayed in her beautiful story of *Romona* the straits into which the Indians of California were driven. The picture of that hero in disguise driving his fleet ponies far away to the mountain tops, in order to get away from contact with the whites, is a touching one, and reveals the spirit which has prevailed. But there is a worse calamity than this, it is that the Indian should be in love with his chains and, wrapping the delusion about him, should lie down to dreams, become debased and die.

It is true that there are many tribes scattered throughout this country, who are peaceable and prosperous, and have already reached a civilization which is encouraging. They are not surrounded by walls of defense, but are protected by their own purpose to improve, and by the love which they have for their own families and homes. The Indian Rights Association has not been called upon to defend these bands, but it may have a new work to do in the future.

It was a woman—Mrs. Harriet Beecher Stowe—who entered a plea in behalf of the poor slaves of the South and prepared the way for their freedom. It was a woman—Mrs. Helen Hunt Jackson—who made an eloquent plea for the Indian, who was oppressed by the policy of the Government, in taking the reservations from the Indians and changing their homes. They prepared the way for the change of policy, but the work remains to be done. It is to see that permanent homes are secured, and that the same attachment to the land which has been so strong in the past should be encouraged in the future. The danger will be to the Indians that they will become scattered and lost to sight.

The question now is whether civilization is destined to exterminate the lower races. The history of the Indians in the past has shown three stages: Contact between the Indians

and white men was the first; the obtaining of Indian lands by purchase or war was the second; subjugation was the third. It remains to be seen whether the end will be extermination.

In the West Indies the Indians have been entirely exterminated, there is scarcely a survivor to be found. In the United States there are many tribes still remaining near their old seats, but confined to limited districts and quietly following domestic pursuits, and at peace, having a rude civilization of their own, and one adapted to their peculiar nature. They are found in Maine, New York, Florida, Wisconsin and in all of the western states. Capt. John G. Bourke, a noted Indian fighter, but a friend of the Indians, has written a paper called "The Vesper Hour of the Stone Age." He says, after twenty-five years of service since his first acquaintance with the wild tribes of the Gila and the Colorado, he has seen them "not only subjected to a condition of peace, but notably advanced in the path of civilization; their children trained in the white man's ways, and all traces of earlier modes of life fast fading into the haze of tradition."

In New England there was an effort made to civilize and Christianize the Indians, of which John Elliot's Indian bible is the perpetual monument, but the Pequot war and King Philip's war resulted in sweeping away the majority of these people. The same was the case in the history of the Jesuit missions in Canada. It would seem that a stage had been reached, in which the effort to civilize the Indians might prove successful, at least their subjugation is complete, and there is no reason to desire their extermination. Humanity and the Christian religion furnish arguments in favor of civilizing. The elements which are calculated to destroy remain. These consist of: First, the injustice which has been practiced by the Government; second, in the grasping covetousness of men, and third, in the vices which flow out as an undercurrent of civilization. The barriers against these are law, the protection of the Government, and education and Christianity. The key which unlocks the door of opportunity to the nations, has been in our hands, can be used in our new possession; will it be used? Will we see the lower races fading away under the blighting effect of contact with Americans? Or will our civilization be bestowed upon them and elevate them to a higher state.

## ARCHÆOLOGICAL NOTES.

EDUCATION AMONG THE PHILIPPINES. The report of the Commissioner of Education for 1897 and 1898 has some very interesting facts in reference to the Philippines. It appears that this people had been subject to feudal chiefs and submitted very easily to the Spaniards. They were not in the Stone Age, but had iron-pointed spears and arrows, and had smelted copper. They had alphabets of their own. They are distinguished by a higher capacity for education than the so-called civilized Indians of Central America and Peru. The number who attend the schools and the university is very large; two-thirds of the Tagalós can read, and about half can write. Art, and especially music, is their passion. They know very little of Spanish, but read in their language whatever comes in their way. The total number of graduates of the university is 11,000. The Philippine Islanders could read and write their own language when the Spaniards arrived. There are five alphabets in use in the archipelago. All travelers state that there are schools in every village, which are under the control of the priests. Good observers have noticed the aptitude of the natives for instruction. The children begin very early to make their letters in the sand or on the leaves. They copy maps with great exactness. Instruction is far from being backward when compared with the lower classes in Europe. There are several public printing offices in Manila. The literary work proper consists mostly of poems and tragedies in Tagalo language. There are, also, short poems and songs of which both words and music are national, and the Indians can write the music with wonderful ability. They are all musicians, and some of them can play five or six instruments. As to their religion—they were originally very superstitious. They worshipped the sun, moon, lightning and thunder, birds, and even rocks, but they had no priesthood. Ancestor worship was, and still is, practiced. The surprising facility with which Christianity spread over the islands, even in the beginning of the conquest, leads one to suspect that it only served as a cloak for the ancient religious customs, and, indeed, partly amalgated with them. Trustworthy monks still complain that the same men go to church one day to pray to their Christian God, and the next offer sacrifices to their heathen idols or "Amitos" for a good harvest. In some places there has been a backsliding into the old heathen times.

\*\*\*

MOUND PIPES. Mr. J. D. McGuire in his article on pipes and smoking customs of the American aborigines, published in the Smithsonian Report, treats of the Mound pipes, mean-

ing by that term, "the peculiar pipes which are found in the mounds of Ohio, and which consist of a curved, flat base, with a bowl in the center of the base, and are smoked without any separate stem. He distinguishes between the Mound pipes and the Monitor pipes, though it seems to be a distinction without a difference, for the only difference is that the bowl is in the shape of a cylinder; while the other pipes are carved with animals, birds, and human heads. He claims that these pipes are comparatively modern, and were the result of contact with the French, though they belonged to the Algonquin Indians. This is a mere theory, and one that will be disputed by many. In the first place there are, according to Mr. Boyle, the archæologist of Toronto, no Monitor pipes in Canada, where the French came in contact with the Algonquins at the earliest date; second, the places where the Mound pipes are the most numerous are near Chillicothe, Ohio, and Davenport, Iowa, though a few have been found in Illinois and Wisconsin; but none to speak of in the regions where the French had their first settlement—Kaskaskia. He claims that the pipes are too good in shape and too well wrought in detail for the Indians to have made. It is an old claim, which has often been disputed. Gen. G. P. Thurston has shown that the pipes of Tennessee are as well wrought as those of Ohio; so that, if one class was too good for the Indians, the other class was. Idols are somewhat common in Ohio and Illinois, as well as in the southern states. Mr. McGuire argues that the French did not favor making idols, so virtually contradicts himself. Mr. Henshaw discussed the subject of Mound pipes, several years ago, and took the ground that no animals or birds found outside of the Ohio valley are represented, but he failed to convince anyone of this, who has made a study of the pipes. The problem of the age of the Mound-Builders of Ohio is involved in this study of pipes, and one will need to reason closely, if his conclusions are to be accepted, for there are many factors to be considered.

\*\*\*

MEXICAN ANTIQUITIES. The Museum of Natural History in New York has just thrown open a fine collection of casts of Mexican and Maya sculptures, and of copies of manuscript in the Mexican and Maya hieroglyphic writing, so that now, perhaps, for the first time, the student is enabled to compare a large number of inscriptions, and in this way, probably to discover the key by means of which they can be interpreted.

\*\*\*

THE CANYON OF THE RIO GRANDE. Prof. Robert T. Hill, of the United States Geological Survey, and four companions have made a trip through the cañon of the Rio Grande, the second successful one ever attempted. He says: "At some places the perpendicular walls rise to a height of several hundred feet. There are positive indications that they had at one time been occupied by Cliff-Dwellers. Veins of gold and silver were found cropping out in various places."

## LITERARY NOTES.

---

**THE TALE OF THE TWO BROTHERS.** The distribution of the tales which were so familiar to us in childhood seems to have been a common inheritance with the children of all lands, at least lands where the Indo-European races dwell. It appears that the tale of the Two Brothers, in "A Thousand and One Nights," has its counterpart in Egypt, Russia, and Lapland; among the Norsemen, among the Tartars, and among the Samoyedes. The story of a spirit which was hid in the seven boxes, the boxes in seven chests, and the chests put in the sea; the soul being destroyed when the chests and boxes were all opened. The variations of this story are numerous, but the same conception of a charmed life, or an enclosed spirit, is common all over the world. The North American Indians have a similar story, though the nests and boxes and chests and boxes are not mentioned. One story, called "The Singing Bulbul," common in Central America: Two golden lilies were given—if they were fresh, the absent ones were well; if they should fade, they were ill. A variation of the story is that the rose would fade if the person should die. Prof. Renouf thinks that there was a transmission of these stories from continent to continent, though he says, no doubt every race has its own stories. It is impossible without the aid of a more critical apparatus to assign each story to its own origin and date, as the local coloring is absolutely delusive.

\* \* \*

**MEMORY AMONG THE ABORIGINES.** Prof. Max Müller takes up anew the question whether what we call literature could have existed in any land before the invention of the alphabet. He takes the affirmative side, and points to the custom among North American Indians of oral transmission of the tribal records, the historians aiding their memory by a numeral system formed of wampum beads. The late Rev. W. W. Gill found a considerable mnemonic literature in the islands of the South Pacific. Still more extraordinary is the preservation of Finland's epic poem, the "Kalevala," by oral memory alone. This system of oral tradition was brought to a still higher degree of perfection in Mesopotamia, China, Egypt, and India, and led on, in the last-named country, to a complete written literature.

THE CONGRESS OF ORIENTALISTS AT ROME. The Congress met at Rome, Oct. 3, 1899. Some very interesting papers were read. The following notes are taken from the "Proceedings of the Society of Archæology" for November :

Mrs. Emmeline Plunket, a member of this Society, read a paper on "Vedic Astronomy" to the Indian section. Her contention is that the Accadian Calendar, which depends on the Zodiacal constellations, was constructed not less than 6,000 years B. C.—a view which was first put forward by her in the Proceedings of the Society—and that the knowledge of it had very early penetrated to India, where it inspired the imagery of some of the Vedic myths. The proofs offered for this are very difficult to summarize without the diagrams. Dr. Burgess, who spoke on this paper, admitted that the lunar stations, which are mentioned in the Rig Véda were derived by the Hindus from Arabia, and ultimately from Babylonia; while Dr. Formichi gave some proofs that Hindu astronomy in the 6-5 centuries B. C. had reached a high degree of development.

Prof. Haupt, of Baltimore, read a paper before the Society on the "Seraphim and Cherubim." The Seraphim, he thinks, should be considered as serpent-formed beings typifying the lightning, and correspond to the erect serpents found in the decorations of both Egyptian and Babylonian temples. The Cherubim originally represented the winds, and the winds fertilize the female flower of the palm trees, by bringing to them the pollen of the males; he finds it natural that the Assyrian cherubs should so frequently be represented as engaged in the fructification of palm flowers.

M. Guimet gave an account of certain figures belonging to the Alexandrian Isis. Most scholars are agreed that the Alexandrian religion was founded on Orphic or Eleusinian mysteries which embodied the doctrine of resurrection.

Prof. Monet read a paper advocating the theory that the Israelites had their first homes in Arabia, and not in "Ur of the Chaldees." He argues thus from the inscriptions, which show that the Aramaic and the Arabic languages were essentially the same.

Dr. Gaster read a paper on "Magic Alphabets," and Dr. Senes one on the "Assyrian Sphinx," reasoning that it was an emblem of the Trinity.

## BOOK REVIEWS.

---

**MAN: PAST AND PRESENT.** By A. H. Keane, F. R. G. S. Cambridge: The University Press, 1899.

The author of this book takes the position that the world was peopled by Prehistoric man, a generalized proto-human form prior to all later racial differences. That the four primary divisions are Ethiopic, Mongolic, American, and Caucasian; but that each had their Pleiocene ancestor from which each sprung independently, by continuous adaptation to their several environments. He holds that the remains found by Dr. Dubois in the Pleiocene beds of East Java, point out the original home of mankind; and represent the long sought for "first man." He held that before the close of Palæolithic times all the great divisions of mankind had already been specialized in their several geographic areas; that the primary varieties had been fully constituted in the intermediate period between the old and new Stone Ages. When the Neolithic man reached Western Europe, he found his Palæolithic predecessor already settled there. This occurred during the Geologic Age. As to the obscure interval between the Stone Age and the strictly historic epoch, we are indebted to the services of the European archæologists. That Copper, Bronze, and Iron Ages were successively introduced; that copper was worked by the Egyptians, perhaps 5000 to 3000 B. C., and in Chaldea about 4,000 years; that it is the characteristic metal of a distinct culture in Hungary, and also in the Mississippi valley.

The transition from copper to bronze in Europe, took place from two to three thousand years B. C. The author holds that the Iron Age was in Africa contemporaneous with that of other metals in Europe and Asia. The Prehistoric Age comprises the vague period prior to all written records; dim memories of which linger in the myths and traditions. "Winter Counts of the American Indians" were the first step toward pictographic records. The Akkadian, Cuneiform, and Egyptian hieroglyphics are the later stages.

The term "Race" means a group of human beings whose type has become mingled by assimilation. He treats of the African negroes and the Oceanic negroes as different divisions of the same race. The Negritos, as well as the Papuans, belong to the Oceanic branch. The Mongols are divided into Southern, Oceanic, and Northern. The primæval home of the first was the Thibetan Plateau; of the second, or Oceanic, was Hindoo Chiaa, and of the Northern was the Central Asiatic Steppe, near the Altai Mountains.

The American Aborigines constitute the third race, divided, according to geography, into inhabitants of North America, Central America, and



South America. The original home of the Caucasian peoples was Africa, north of Soudan; the present range is from Japan to India, and also Armenia to Arabia.

As to the American Aborigines, he says: "The abundant traces of primitive man strewn over the continent, from Alaska to Fuegia, show that America forms no exception to the general statement that all the habitable parts of the globe were occupied by man in Pleistocene times, that is, during the early Stone Age." The American Aborigines are not indigenous in the absolute sense, but reached the Western from the Eastern Hemisphere in the primitive state, prior to all strictly cultural developments. A study of their physical constitution, substantially but not wholly uniform, with, indeed, two marked sub-varieties, respectively represented in the north by the Eskimo long-heads and the Mexican round-heads; in the south by the Botocudo long-heads and the Andean round-heads—points at two streams of immigrants from the Old World. The Eskimo-Botocudo section has been traced to the long-headed Palæolithic man of Europe, which continent geology has shown to have been connected with North America through the Faros Islands, Iceland and Greenland, down to post-glacial times. The other section, which probably greatly out-numbered the first, came apparently later (during the New Stone Age) from Eastern Asia, by the Behring waters, and are now represented, allowing for great inter-mixture, by the still prevalent round-headed element. The author holds that the evidence of a Palæolithic Age is conclusive, but gives no apparent heed to the discussions which have been carried on, but takes Major J. W. Powell and the members of the Ethnological Bureau as his authority on all points. He denies that there were any further arrivals from Europe or from Asia, and argues the point from the complete absence in America of any sailing vessels, from the absence of dogs, sheep, horses, oxen, poultry, and wheat; also the absence of Chinese, Egyptian, Phœnician, or Babylonian hieroglyphs. This argument, however, must apply as well to Europe, as to America, and would prove that there was no contact whatever between Asia and the north of Europe until very late in history, for there are no hieroglyphs either in the Mounds, Lake Dwellings, or even in the Towers.

The book is, however, very instructive, and covers the whole field, and is the best work on ethnology that has been published.

\*\*\*

SOLOMON AND SOLOMONIC LITERATURE. By Moncure Daniel Conway. Chicago: The Open Court Publishing Co. London: Kegan, Paul, Trench & Co., 1899; pp. 248.

The author of this book undertakes to show the analogies between the stories contained in the Bible about Solomon, and those which are common in the Oriental lands. He thinks he finds the judgment of Solomon in the case of a Brahman wise woman named Visakna, who commanded that a boy should be placed in the hands of two women, with the idea that the mother would naturally pull the harder. This might be a mere coincidence, and does not furnish as strong a resemblance as the older story of Moses in the bulrushes, which has its counterpart in an earlier story in Babylonia.

The author compares the finding of the book of the law, in the time of Josiah, to the finding of the book of Mormon by Joseph Smith. But his unfairness and lack of sound learning is shown in the fact that he con-

siders the Queen of Sheba was one of the queens of the seven of Persia; whereas, it is well known that she was from Arabia. He compares Solomon's authorship of the Book of Proverbs to Boccaccio, whose tales are contained in Shakespeare's "Cymbeline," Dryden's "Cymon and Iphigenia," and Tennyson's "Falcon." The Spirit of God "brooding over the waters" is identified with Wisdom, who "builds her house" and has hewn out her seven pillars.

The author quotes Dr. Inman's "Ancient Faith," and suitably, for his views are similar. The "Song of Songs" he regards as a collection of unconnected hymns, and suggests the idea that it was virtually an opera, containing a chorus. The love of the Church to Christ has been read into the songs of Solomon by many clever persons, but that a love song was sung out of it, as out of an opera, is a new idea. The last chapter on Solomon and Jesus is the straightest of all, as it is directly contrary to the teachings of history, as well as the opinions of scholars. That the descent of Christ was through an illegitimate line, and was by illegitimate birth, is a most blasphemous charge, which only Tom Payne or Robert Ingersoll would be guilty of, and is unbecoming such an author as Moncure Conway. Ruth the Moabitess and Bathsheba the mother of Solomon, and Mary, the mother of Jesus, are regarded by the enlightened people of the world too highly, for such a charge to stand unchallenged. It is similar to the charge that King Solomon and Jesus Christ were alike the objects of idolatry—each in his own age. The book is full of blasphemous assertions and reflects no credit upon the author.

\* \* \*

MYTHS OF GREECE AND ROME—NARRATED WITH SPECIAL REFERENCE TO LITERATURE AND ART. By H. A. Guerber, Lecturer on Mythology. New York, Cincinnati, and Chicago: American Book Company; pp. 428.

HISTORY PRIMERS. Edited by J. R. Green. Classical Antiquities I. Old Greek Life. Pp. 101. By J. P. Mahaffy. New York, Cincinnati, and Chicago: American Book Company.

HISTORY PRIMERS, Edited by J. R. Green. Classical Antiquities II. Roman Antiquities. By A. S. Wilkins, M. A., Owens College, Manchester. With Illustrations. New York, Cincinnati, and Chicago: American Book Company.

These three books cover about the same department, but are written from different standpoints. The first treats of Mythology; the second of Social Life, and the third of Antiquities. In the book on Antiquities the Roman dwellings are described at considerable length. Some interesting facts are brought out: That the men reclined on couches at their meals, the women never did; the beds in the sleeping chambers were often in alcoves; the equivalent for "Grandfather's Chair" was common. The walls, even in the poorer houses, were drawn with fresco paintings. The floor in all the better dwellings were of mosaic work. The inside of the house contrasted with the outside. It was Greece which gave direction to Rome in its later house-life. The Greek inns offered very bad accommodations, but the Greek household was a model. No household could exist without the master, if he died his widow became the ward of her father.

Slaves were numerous in every household. There were domestic animals, such as the horse, dog and cat, and birds. The girls of the house were brought up to see and hear as little as possible, but the young men passed out from the control of their parents early in life. The oldest banks in Greece were temples, but treasures were deposited in tombs; and was considered the most important kind of wealth.

The book on the Greek and Roman Myths is splendidly illustrated, and contains a good summary, with occasional snatches of poetry. The old Roman names, instead of the Greek, are used—Jupiter and Juno, Venus and Hercules. Perhaps this is as well, for they are familiar. Of the plates: The Abduction of Europa, Appollo Belvidere, Venus de Milo, Aurora Fourth Hour of the Night, Per-eus and Andromeda, Aeneas at the Court of Dido, Parting of Hector and Andromeda, are very interesting.

\* \* \*

MEMOIRS OF THE AMERICAN MUSEUM OF NATURAL HISTORY. Vol. II. Anthropology I.; The Jesup North Pacific Expedition III.; Archaeology of Lyton, British Columbia. By Harlan I. Smith. May 25, 1899.

Mr. H. I. Smith, who is a Western man and has the Western pluck and energy, has done some thorough work in connection with the Jesup Expedition. He was assisted by Mr. J. Hill Fout, the author of "Later Pre-historic Man in British Columbia." Several village sites were explored. These were situated on the Thompson river. Quarries of red paint and large quantities of green stone abound in the neighborhood, but the resources are varied. Implements of teeth and bones are common, also many wooden and copper implements, besides stone and shell; but no pottery. Quartz crystals were used for charms. Argillite was made into knives and arrows. Glassy basalt, opals, and chalcedony were used for chipped arrows. Copper was made into bracelets and anklets; bones, into awls and needles; the skins of animals into garments; deer antlers, into harpoons. Handles of digging sticks perforated in the middle were made from bone; pestles from fine ground boulders or pebbles, and anvils from flat boulders. These have a depression in the center, but large, flat stones were used for hand mills. Spoons were made from clam-shells; fish knives, from slate; wedges, and spatula, and celts from nephrite; arrow straighteners, from grooved stones. Perforated disks and scrapers, with wooden handles, awls and needles are common. Copper war-clubs, resembling the slubnets of New Zealand; copper ornaments; pendants or bangles made from mica; dice made from teeth; pipes or tubes made from steatite, and a few carved specimens in the shape of animals were found.

The culture of this region was quite similar to that of the tribes around Balsam Lake in Ontario, but the resources more varied and the people more prosperous. Several village sites were explored and some houses discovered.

\* \* \*

MYTHS OF NORTHERN LANDS—NARRATED WITH SPECIAL REFERENCE TO LITERATURE AND ART. By H. A. Guerber. New York Cincinnati, and Chicago: American Book Company, 1895; pp. 319.

The Northern mythology is connected with that of Greece and Rome as it sprung from the same source; but is very different in its character and imagery. Odin is the chief god, and answers to Jupiter, but is a sturdy warrior. The triumphant sire of hosts, the famed in arms; all the chosen guests of Odin, daily ply the trade of war. Frigga, goddess of the clouds, and of conjugal and motherly love, the Queen of Hearts, is superior in character to Juno; not so jealous, or so dictatorial. Thor is the "great thunderer," and the chief divinity. He resembles Hercules in many respects. Loki is the "great mischief maker," and has no Greek equivalent. Balder, the "beautiful," Frey, the "Sun God," good and pure and bright,

was loved of all, as all love light. Brumhill and Sigurd are prominent characters in the "Twilight of the Gods." The illustrations represent these divinities in all their characteristics, and convey the same impression as do the descriptions in poetry and prose, which are so numerous in the book, and are so graphic. All of these volumes published by the American Book Company are very attractive.

\* \* \*

**MYTHS AND LEGENDS OF OUR NEW POSSESSIONS AND PROTECTORATES.**  
By Charles M. Skinner. Philadelphia: J. B. Lippincott Company, 1899; pp. 154.

This book is attractive in its appearance and fascinating in its style, but lacks the accuracy which would be required if it had been designed as a scientific record. It is a contribution to mythology, although the author has not drawn a distinction between myths and legends, and has embraced almost everything under the head of Folk-Lore. He begins with the Buccaneers and Smugglers of the West Indies, and speaks of the Holy Hermit, who resided in the cave where the Caribs buried their dead, and devotes a few pages to the mermaids and the aborigines; and describes the sacred shrines and the tobacco and the witches, as if all were to be embraced under the same head. He has culled from a great number of fields and has furnished a variety of stories, which are interesting. The last half of the book is devoted to the myths and legends of the Pacific, including the ancient faith of the Hawaiians. About fifty pages are devoted to the old beliefs of the Philippines, also to the animal myths; all written in a very interesting style.

\* \* \*

**HISTORIC MANSIONS AND HIGHWAYS AROUND BOSTON.** Being a new and revised edition of "Old Landmarks and Historic Fields of Middlesex." By Samuel Adams Drake. Illustrated. Boston: Little, Brown & Co., 1899. Pp. 440.

The revised edition of "Old Landmarks" brings before us, in its illustrations as well as in its descriptions, a great many familiar scenes, and perpetuates the view of buildings which were conspicuous fifty years ago; but are now lost to sight amid the great number of modern buildings.

\* \* \*

**THE PURITAN REPUBLIC OF THE MASSACHUSETTS BAY IN NEW ENGLAND.** By Daniel Watt Howe. Indianapolis: The Bowen-Merrill Co. Pp. 422.

The literature on the Puritans is voluminous. This contribution from the Interior treats of them from a different standpoint. The chapter that interests us the most, is the one on the Puritans and the Indians. The author justifies their treatment in the following language: "All efforts to induce them to adopt the methods of civilized life, were unavailing at that time, as they have been since. Something in their nature made them prefer the freedom of the forest, to the restraints and burdens of civilized life. It was very soon manifest that the Indians looked with unkindly eyes on increase of their white neighbors and were planning their extermination. The situation of the Colonists was precarious. Only their possession and knowledge of the use of fire-arms enabled them to hold their own, against the vastly superior numbers of the Indians."

\* \* \*

**NANCY HANKS.** By Caroline Hanks Hitchcock. New York: Doubleday & McClure. Price, 50 cents.

This little Primer is designed to clear up the reputation, of the mother of Abraham Lincoln, and answer the unjust charges against her character. The author has taken great pains to search out the family record, and has

shown that Lincoln came from a good family on his mother's side. It was backwards life, but there was the exercise of womanly traits, combined with fortitude, which impressed the mind of the great man, so that he was led to say that what he was he owed to his mother.

\* \* \*

**DON'T WORRY NUGGETS.—EDUCATIONAL NUGGETS.—PHILOSOPHICAL NUGGETS.—PATRIOTIC NUGGETS.** New York: Ford, Howard & Hulbert.

These books are attractive and practical, and so convenient in form that they may be carried in the pocket and referred to at one's leisure. The publishers deserve credit for getting them in such excellent style.

\* \* \*

**STANDARD ENGLISH POEMS—SPENSER TO TENNYSON.** Selected and edited by Henry S. Pancoast. New York: Henry Holt & Company; 1899.

Messrs. Henry Holt & Company have met a long felt want in issuing this attractive and well-selected collection of standard English poems. The poems are arranged in chronological order, and embrace nearly all the most familiar and valuable poems which the ordinary reader would desire.

---

#### BOOKS RECEIVED.

**The Old Northwest; The Beginnings of Our Colonial System.** By B. A. Hinsdale, Ph. D., LL. D. Revised edition. New York, Boston, and Chicago: Silver, Burdett & Co; 1899.

**The History of Illinois and Louisiana Under the French Rule.** By Joseph Wallace, M. A. Second edition. Cincinnati: The Robert Clark Co.; 1899.

**Young Puritan Series—The Young Puritans in Captivity.** By Mary P. Wells Smith. Illustrated by Jessie Wilcox Smith. Boston: Little, Brown & Co.; 1899.

**A Year Book of Colonial Times.** By Rev. Frederick S. Sill, D. D. New York: E. P. Dutton & Co.

**Plantation Pageants.** By Joel Chandler Harris. Illustrated by E. Boyd Smith. Boston and New York: Houghton, Mifflin & Co.; 1899.

**Wisconsin Geological and Natural History Survey. Bulletin No. IV: On the Building and Ornamental Stones of Wisconsin.** By Ernest Robertson Buckley, Ph. D.

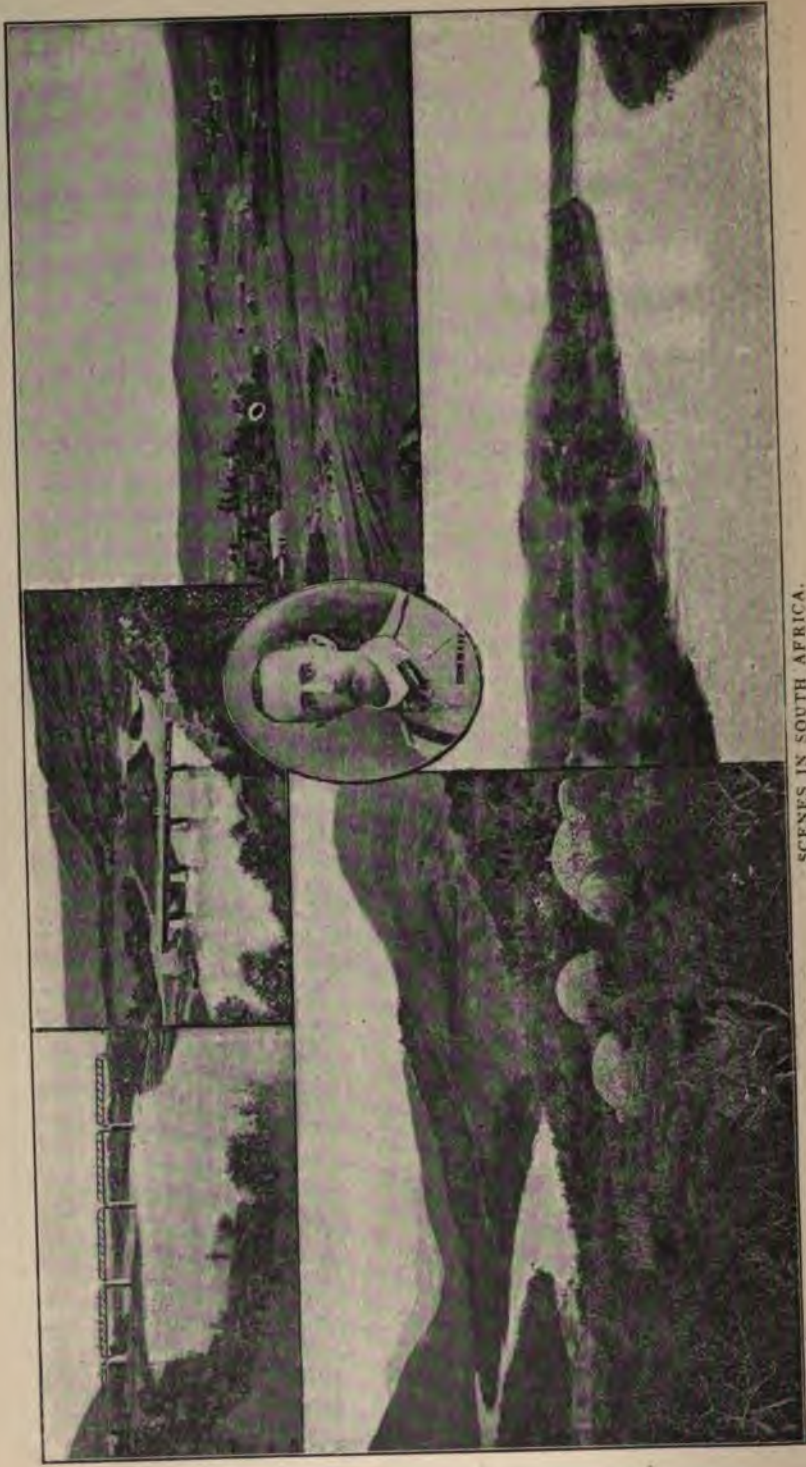
**Report of the Commissioner of Education for the Year 1896-7. Vol. II.** Washington; 1898.

**The Legends of the Rhine.** By H. A. Guerber. Third edition. New York: A. S. Barnes & Co.; 1899.

**Triumphs and Wonders of the Nineteenth Century.** By James P. Boyd. Philadelphia: A. J. Halman.



SCENES IN SOUTH AFRICA.



SCENES IN SOUTH AFRICA.

THE  
*American Antiquarian*

VOL. XXII.

MARCH AND APRIL, 1900.

No. 2.

THE EVOLUTION OF ETHICS.

BY CHARLES W. SUPER.

OUT of political economy has grown, by a natural process of evolution and expansion, that larger science known as sociology, a science that deals with the entire psychic life of man in so far as the forces that underlie it are called into activity by his civic life. Almost up to the present time it has been held by the great majority of Christian people that in order to better the condition of men, both at home and in foreign lands, it was only necessary to preach the Gospel to them; while those whose condition could not be improved here below were taught to anticipate compensating happiness in the next world in an inverse ratio to the privations suffered in this. Now, however, few persons are content to wait until another life shall furnish them the means of enjoyment; the great majority want their full share as they live from day to day. Here, too, the felt need has provided the supply, in part at least, and the promise of it in greater abundance as the years shall go by.

This state of things, though by no means to be deplored, has like every good brought in its train a number of evils. It has engendered a widespread desire on the part of many, amounting often to a demand, that they should be allowed not only to decide for themselves what sort of enjoyment and how much, this world shall provide for them, but also who shall provide it. The proverbial modern rush after riches is the best evidence of this on the one part, and the various schemes proposed by which all may have an equal share of this world's goods, on the other. Whether the relations between employer and employed are at present more "strained" than they ever were before, is a question that no man, unless he is as old as an antediluvian, can decide fairly; but certain it is that these relations are receiving an unwonted share of attention, both at the hands of the law-making powers and the general public all over the civilized world. An element of confusion has been introduced into the traditional conceptions of right and wrong, justice and injustice, except as they may have been set forth in the treatise of some philosopher, who found solace in the creation of an imaginary realm in which it was made plain how much better this world would be if only it were different. One



of the most marked signs of the times is the enormous increase of legislative activity. The popular cry is: Let us have a law for this, or a law against that. The trend of the times is toward state socialism, and a great many persons are of the opinion that men would be all their neighbors wish them to be, if only the proper legislation could be had. Both the movement toward communism and that toward socialism are unconscious attempts to revert to a condition of things either tried or advocated millenniums ago. They are advocated by men, who for the most part know little of history and probably care less. Movement and agitation are not necessarily progress, though there can be no progress without both. Society is such a complex entity, that it may grow in some parts and remain stationary or retrograde in others. Or it may advance in the form of a spiral and repeat its former experiments under somewhat similar conditions. It can not be thought surprising that the world learns so slowly. There is a large measure of truth in the sneering words of Schopenhauer:

Brainless pates are the rule, fairly furnished ones the exception, the brilliantly endowed very rare, genius a *portentum*. How otherwise could we account for the fact that out of upwards of eight hundred millions of people existing human beings, and after the chronicled experience of six thousand years, so much still remains to discover, to think out, and to be said. By far the greater part of humanity are wholly inaccessible to purely intellectual enjoyments. They are quite incapable of the delight that exists in ideas as such, everything standing in a certain relation to their own individual will, in other words, to themselves and their own affairs. In order to interest them, it is necessary that their wills should be acted upon, no matter in how remote a degree.

This is not to be wondered at. Thinking is hard work—much too hard for the great mass of mankind, and impossible to those who have not been trained to it. Men prefer, in every case of doubt, to fall back on use and wont, to take tradition for their guide and leave the results to the gods. It is so much easier to do this than resolutely to face new problems day by day and solve them in the light of the new knowledge that dawns upon the world as time passes on. More than a third of a century ago George Eliot wrote:

After all has been said that can be said about the widening influence of ideas, it remains true that they would hardly be such strong agents unless they were taken in a solvent of feeling. The great world-struggle of developing thought is continually foreshadowed in the struggle of the affections seeking a justification for love and hope.

This is not only true, but the statement is susceptible of a much wider application than is here made of it. In the development of society the intellect is like a choice plant springing up and growing amid a luxuriant crop of bushes and brambles that threaten constantly to choke it to death. It is the inextinguishable, vital spark which, while it keeps the body alive, can not secure for it a healthy and rapid growth. Notwithstanding the

fact that human life is so largely governed by feeling, there is no article in the creed of ethnic faith to which civilized men have held with greater tenacity than that which proclaims the doctrine of human responsibility. It is the corner stone upon which every form of civic life is built up. In spite of the powerful counter influence of the Augustinian theology to which men still give a verbal assent, their actions, whether they are of the church or not, persistently belie their professions. If men are responsible to God or to society, their actions must be under the control of a regulative faculty, and this faculty can be nothing else than the reason regulated by the will. But the will to do right profits him nothing who does not know what the right is. If there were some infallible standard by which all men could determine what is right and what is wrong, it would be comparatively easy to reconcile all differences of opinion. When Byron wrote: "Man being reasonable, must get drunk," he made the particular application to a fact of human experience that is capable of wide generalization. The quest after a universal standard is almost as old as the human race; and when even the most thoughtful men have been unable to find it, what wonder is it that the rest have been groping in the dark till now.

There is no absolute standard of right that is capable of being applied to every circumstance that may arise. Right and wrong, justice and injustice, are largely matters of convention; and, therefore, more or less variable according to the condition of society.

The will is but little influenced by knowledge, and the cause that is advocated on grounds of reason alone has a very weak champion. Yet time is an efficient and invincible ally that generally turns the scales in the end. But the men who have diverted the broad current of history farthest aside from its wonted course, were not the great thinkers of the world. They used their intellects and their wills almost exclusively to put into effect the promptings of their feelings. That inexplicable power some men have over their fellows has rarely been founded on a rational basis. We sometimes find ourselves wondering at the shortsightedness and folly of both rulers and subjects when history tells of some great disaster that they have brought upon themselves. There is a sense in which all the evils that have come upon men as the outgrowth of social and civic life might have been avoided. That they are avoidable is the motive that inspires every good citizen, who labors for the promotion of the public welfare. If they can be prevented in the future, they might have been obviated in the past, for the laws of human conduct are not undeviating, like the laws of the physical nature. On the assumption, then, that man is reasonable and that the ultimate goal of society is the greatest good of the largest number, it ought not to be very difficult of attainment. Yet experience has demonstrated that it is extremely difficult. Men's aims are fairly definite and

their judgment, in the main at least, approximately correct, but in practice they are swayed by all sorts of motives that lead them everywhere, except where they hope to go.

Evolution is constantly throwing more and more light into many hitherto dark nooks and crannies of social life. This doctrine has shown, at least to a small number of careful investigators, that we are much more firmly bound to the remotest past than most people have been aware, or have even suspected. Social and civic institutions could be changed almost in a twinkling, by the united will of any generation; yet they drag along slowly, because fettered by tradition, which only the progress of time can by degrees relax. In every community the progressive forces are represented by the few; the conservative, or static forces, by the vast majority. To the latter, a word that in some way has been adventitiously associated with a hated object often constitutes its entire content and thus becomes an epithet of condemnation that frequently leads to terrible consequences. Owing to a lack of the power of discrimination men can deal only with general ideas. The sting of many an epigram has been deadly. Royalist, republican, revolutionary, have at different times and in different countries been synonymous with traitor. In like manner, such harmless terms as skeptic, evolutionist, rationalist, have been used and are still used to fix a stigma on persons who have been among the benefactors of the human race. It is so hard to turn use and wont into new channels, because the masses, however dissatisfied they may be with the past, have a reverence for it, which they rarely take the time or the trouble to analyze.

The conservatism of religion has become proverbial, and there is hardly any element of tradition that reformers have been so careful not to antagonize. Yet it is doubtful whether the clergy are more averse to innovation than the legal profession. It is hardly too much to say that a new departure in legal interpretation is more of a rarity than a new departure in theology. Whenever a people have sought a change in the government, retrospection has usually played an important part; they have endeavored to show that under existing conditions they are deprived of rights conceded to their ancestors. This is well exemplified in the speeches which Schiller puts in the mouth of the aged Stauffacher in his *Wilhelm Tell*.

Goethe mildly satirizes the conservatism of the legal fraternity in the words of Mephistopheles, thus:

For human laws and rights from sire to son,  
 Like an hereditary ill flow on,  
 From generation dragged to generation,  
 And creeping slow from place to place,  
 Reason is changed to nonsense, good to evil.  
 Art thou a grandson, woe betide thy case!  
 Of law they prate, most falsely clept the civil,  
 But for that right, which from our birth we carry,  
 'Tis not a word found in their dictionary.

As men's ethical relations have rarely been championed for their own sake, they have been slow to receive the recognition to which their importance entitled them. They have usually been side issues to law or religion, or to some other psychic force that in a general way expressed civic or social relations. Impulses, appetites, fancies, reverence for custom, have been so potent a factor in regulating men's intercourse with each other, that the virtues, properly so called, have had but scant room to make themselves felt. As long as the law-abiding citizen or the orthodox believer is regarded as the ideal man, the good old times of the past must take precedence of the better new times that are still in the future. Men instinctively feel a reverence for those who are scrupulous in the observance of law or religion, whatever else they may do or leave undone. Yet so long as conduct is regulated according to any but a purely ethical motive, it is in constant danger of becoming unethical. From time immemorial but very few men have done right solely because it was right.

It is not denied here that there are primitive impulses that are purely ethical. On the contrary, they may be detected in the earliest records of our race, and may still be discovered in those tribes occupying the lowest round of the ladder of social progress. But they are so obscured by other motives and psychic forces, both individual and collective, that their advancement toward recognition has been painfully slow and, perhaps, in a majority of cases, unconscious. How difficult it is for men to see the right and do it for its own sake, is strikingly exemplified in the case of Socrates, the purest moralist of Greek antiquity and one of the most lucid thinkers the world has ever produced. He based his mission, not on his innate worth as a man, or on the reasonableness of the doctrines he advocated, but on the inspiration of a god; in other words, he did not preach righteousness for its own sake, but in the fulfillment of a mission divinely imposed. Herein he merely followed the example of the Hebrew prophets who exhorted the people to do justly, to love mercy, and to walk humbly with God. If they obeyed His commands and lived according to the law He laid down for their guidance, they would be victorious over their enemies and dwell in peace and plenty.

The most purely ethical standard of which we have any record is that set up by Christ in the words: Seek ye first the kingdom of heaven and his righteousness, etc., with the added injunction to leave the results to take care of themselves. If the kingdom of heaven, or of God, is synonymous with the kingdom of earthly felicity, to do the will of God is also to labor for the well-being of man.\* Nevertheless, it is reaching one result by way of another and not directly. It seems to

---

\* I once heard a clergyman asked whether God commanded certain things because they were right, or whether they were right because God commanded them? His answer was, "Both."

admit of no doubt that ethical morality is very like a climbing plant that may indeed put forth leaves and flowers, but which is unable to rise from the earth or to attain its fullest development, except when clinging to some other object. As to Socrates, I admit that he may have adopted a conventional phraseology to make his teaching more readily comprehensible by those he addressed, but it is legitimate to take his words in their obvious, and not in some esoteric sense. Besides, his words are in harmony with those of nearly all great prophets.

Without occupying further space with generalizations that may be regarded either as preliminary to the whole question or as a summary of investigations on a number of particular points, let us examine some of the current terms that throw light on the development of our moral ideas. We shall thus be able to get much light on the question as to the extent that our notions of right and wrong, justice and injustice, virtue and vice are the product of man's gregarious habits and social instincts.

Auerbach says: "Nicht die Sittlichkeit regiert die Welt, sondern eine verhaertete Form derselben: die Sitte. Wie die Welt nun einmal geworden ist, verzeiht sie eher eine Verletzung der Sittlichkeit als eine Verletzung der Sitte." This passage, which can be only approximately translated into English, expresses a truth of far-reaching importance. The world judges men by a formula that is not of their own making, but which comes to them by inheritance. This formula is accepted as a standard by which to measure individual conduct. Conduct is judged as good or bad in proportion as it approaches or deviates from the formula. Few persons take the trouble or have the mental acumen necessary to enable them to look deeper. Many of these formulae are fixed by statute, but this is no evidence that they are any longer obeyed. Others have become fixed by custom and are implicitly obeyed, in spite of the fact that everybody is at liberty to disregard them. "You might as well be out of the world, as out of fashion," is the popular verdict upon those who refuse to recognize the binding force of convention even in unimportant matters. This inexorable law of custom is undoubtedly stronger as we go downward in the scale of civilization, but it is potent everywhere: it regulates the etiquette of courts quite as much as the religious and social observances of the Australian aborigines or the dress of the European peasant. Usage has often been the outgrowth of the environment of primitive tribes, and is afterward observed when it has ceased to signify anything and has no warrant but its antiquity. Pietas, a term that meant so much to the ancient Romans and which has been preserved to our day in the greatly attenuated "piety," was regarded as a leading virtue. That man was pious who scrupulously performed the customary religious rites, or who reverently cherished the memory of ancestors no matter how far removed, or who took pains to keep in fresh remembrance the words and

deeds of departed friends. This pietas often appears in the conduct of Indian tribes, who, almost without exception, protested against being removed to a region where they could not visit the burying grounds of their forebears or make their annual pilgrimages to the same sacred spot.

"What was good enough for my father is good enough for me," is the reason often assigned by ignorant persons in our day, when they are asked to change their habits, or even the routine of their daily life. Frequently, too, persons, who can not be regarded as ignorant, feel and plainly show that they think they are doing an unworthy act when they leave the party or the church of their fathers, though the continuity is in the name much more than in the creed. And no matter how unsentimental a man may be naturally, he can not look upon the graves of his ancestors, or upon any family heirloom, though of trifling value, without feeling that their association gives them a certain character of sacredness, of which other like objects not thus associated are wholly devoid.

---

#### A RELIC FROM THE GLACIAL CLAY OF BRITISH COLUMBIA.

BY JAMES DEANS.

A short time ago, I found an ancient spear point on our farm in the clay of the glacial drift. Several years ago, a ditch was dug in this clay, now there is no longer any use for this ditch, because the field has been drained. It was when filling up this ditch that this relic was uncovered, it having been dug up when the ditch was being made. I think this coast, or northern part of Northwest America, must have been inhabited before the glacial period, or else this relic was carried by the drift from points inhabited before that time. Altogether it goes very far to prove that there were inhabitants ingenious enough to form spear points out of stone before the glacial period.

A few winters ago, I was walking along near my home, where traces of glacial action is plainly seen on every hand, where every rock and hill is covered with ice grooves, and large tracts are so thickly covered with drift stones that a person cannot walk over them, and almost all the flat land is glacial clay. Walking along the bank of a little stream, I came to a point where the winter floods had worn a hole in the bank of the stream. In this clay along-side of the hole, a foot below the surface, I dug out a whetstone, such as was used by the Indians to sharpen their stone and bone implements. After washing it, I found it had been used to put a point on their implements.

## PREHISTORIC WORK BY PROFESSOR PETRIE.

BY REV. WILLIAM C. WINSLOW, LL. D.

THE varied work of the Egyptian Exploration Fund must strike the most casual observer—one, for example, who glances into the last volume of the *Oxyrhynchus papyri*, or that of the *Archæological Survey*, or into "Denderah" for 1898. If he cares more for illustration than for text, he has but to scan the truly beautiful plates, some in colors, in the royal quartos of our volumes on Deir-el-Bahari (the temple of Queen Hatasu). Could there be a more diversified work, under the banner of archæology, than the achievements of Messrs. Grenfell and Hunt in our Græco-Roman Branch and the work of Professor Petrie on behalf of knowledge respecting prehistoric civilization and prehistoric races in Egypt? In the former, the classical and Biblical are concerned; in the latter, the ethnological and anthropological are interested.

This is illustrated in the last excavations by Prof. Petrie; he pointedly said at the annual meeting of the Fund in November, as a sequence of his last efforts:

I hope that it is now clear what a great step we have made historically in the mode of reducing the prehistoric chaos into orderly sequence, and in tracing changes in the civilization of such ages.

I must anticipate the Annual Report with simply some extracts from the type-written copy furnished me in advance. Dr. Petrie was assisted by Mr. Mace in the early stage of the work; also by Mr. MacIver, Miss Orme, Miss Lawes, and Mrs. Petrie. The party settled first at Abadiyeh, and afterwards at Hu (sometimes spelt How), the site of Diospolis. Professor Petrie says:

Altogether, about 1,250 graves of the Prehistoric Age and about as many historic graves—mainly about the Twelfth Dynasty—were opened and recorded. Now, how far does all this work change our point of view, and put us in a different position toward historical subjects? This is the main test of success in excavations. We started with the advantage of having an extensive *corpus* of the forms of prehistoric pottery, ready for reference, the produce of my work at Nagada four years before. This gave a notation for 750 forms, and we added 150 more to that *corpus* during our work.

By this means every jar in each grave, and generally even fragments of pottery, were exactly recorded. And having thus such a mass of observations, as well as those made less completely on some 2,500 graves at Nagada, it was possible to deal with the best and most complete graves in a systematic manner, which had never yet been attempted for any country.

Proceeding upon a scientific basis of the most exact sort, Professor Petrie is able to say:

The final outcome of all this work is that a card catalogue of the contents of over 900 graves, on as many card slips, has been reduced to a near

approximation to the original order of the graves. Such a catalogue is, however, very cumbersome for reference, when we want to settle the relative positions of any fresh tombs. A portable notation for it becomes needful. The whole series is, therefore, divided in, say fifty equal parts, each part representing an equal amount of burials. These, for convenience, I numbered from 30 to 80. Thus we have a system just as convenient as a scale of years, and every kind of object can be relatively dated in it.

From the order of the graves as found, by the pottery I have obtained the history of the development of stone vases, ivories, and the working of flint and metal—for even the earliest of these tombs contain copper. And having done that, a new piece of history becomes apparent in the great change that passed over every kind of work at one point of the scale, about a quarter through the prehistoric age that we are studying. A new tribe seems to have come in with very different notions.

#### Our excavator remarks further:

One of the most curious differences is that the older people largely used signs which are the fore-runners of the Mediterranean alphabets, while the later people ignored such signs. The earlier people used no amulets; the later used amulets, several of which came down to the historic times. The use of a forehead pendant and face veil seems also to belong only to the later people. The characteristic pottery of the earlier people is closely like the Kabyle pottery at present; the later people had some pottery almost identical with that of South Palestine in historic times. All these indications point to the earlier being a Libyan population, overlaid later on by an eastern migration.

#### Other results are stated:

In other lines we have also reaped a good harvest. The cemeteries of the Sixth to Twelfth dynasties have given us the history of alabaster vases and of beads. The cemeteries of the Thirteenth to Seventeenth dynasties have shown the development of pottery, as yet unknown, and splendid dated examples of Fourteenth dynasty copper work, which fix the forms of daggers and axes. An entirely fresh invasion of Egypt by Libyans at the close of the Twelfth dynasty has been traced; several kinds of objects known before, but without dates, have taken their historical position, and we have a sample of the civilization of the Libyan tribes at about 2000 B.C. And coming down to Roman times, we have found the continuance of a longer and fuller alphabet of Asia Minor, in an inscription scratched by a Roman legionary at the camp of Diospolis.

Professor Petrie refers to the "material results" as satisfactory, that is in objects for the museums of England and America, and announces that the historical site of Abydos has been assigned to him by the Egyptian government. He rejoices—who does not?—that Professor Maspero will resume the post of director-general of antiquities in Egypt.



## PREHISTORIC KNIVES.

BY THEOPHILUS L. DICKERSON.

IN the ancient artificial mounds and in graves; about the bottoms and bluffs of rivers and lakes, and near springs and in old camping places, we find the remains of a vanished people, who antedated written history, and of whom but little is positively known. These remains are usually human skeletons, and various implements, utensils, and ornaments of stone, bone, and other imperishable materials.

The great abundance of such prehistoric relics in America, and in many other quarters of the world, suggest many theories as to their age, their probable uses, and of the aboriginal people who made them for certain specific purposes. The thought is also suggested that among the primitive tribes who had not yet learned the use of metals, the implements of stone were the work of skilled artisans, one or more of whom supplied an entire village or, perhaps, the entire tribe. The stone knives and other cutting implements of flint, chert, or obsidian, and also those of shell, bone, and copper, are products of superior workmanship, only gained by long and patient labor. The knives differ greatly in form and size, and were no doubt used for many purposes. Some had edges as sharp as razors, and others were very dull; some were semi-circular in shape, and others were pointed at each end and when used must have been grasped by the hand in the middle. Then, again, some were finely chipped, others are very rude, and many, fashioned out of igneous rocks, are finely polished. It is this class of weapons and domestic implements, the world over, that are the most characteristic of the period of early man, known as the Stone Age.

In studying, in museums and other large collections, the diverse forms and widely differing material of these antique stone implements, we are sometimes at a loss to properly classify them; but close observation will generally detect an identity of purpose among them that is unmistakable. It is well known that the Indians who inhabited America before their discovery by Europeans had far-reaching commercial intercourse, or exchange of commodities, with each other; as is often evidenced by the presence in one locality of implements wrought from material foreign to that region. Thus we find in places that abound with only rude and clumsy stone implements, occasionally some very finely made and finished of obsidian, onyx, catlinite or banded slate, imported probably from great distances. It has been attempted in America to establish the distinction recognized in Europe between very rudely formed stone implements and those polished and of

higher type of workmanship, classing them as palæolithic and neolithic; but the prevailing opinion among archæologists is that all belong to the Neolithic Age.

Mr. Evans, in his "Ancient Stone Implements of Great Britain," described flint knives, which he designated as "trimmed flakes," strongly resembling those of America, but differing in material, and, also, in those of this country being simply chipped, while those he mentions were chipped and afterwards ground; both neolithic in age.

Prof. Nilsson, in "Prehistoric Times," states that many of the ancient knives found in the mounds and tumuli of Scandinavia, made of the pure flint of that country, are semi-circular in form; some with sharp cutting edges, and others toothed or serrated. But in all countries prehistoric stone knives are of various forms, ranging from the pointed or dirk class to those of the broad, leaf-shaped pattern.

In the year 1886 the writer succeeded in effecting an exchange of specimens with Capt. Fallion, of Helsingborg, Sweden, whose splendid collection consists of relics recovered from the mounds in Norway, Sweden, and Denmark. In many respects the stone objects received from him resemble those of this country; but in general show more advanced skill in their manipulation. The flint there is of purer quality than ours; their fishing spears, arrow-points, perforators, and celts more finely finished; and many of their granitic axes are perforated for the insertion of handles, a type unknown in America. The 209 specimens I thus secured are a valuable addition to the 2,000 of my own collecting.

Messrs. Squier & Davies, in "Ancient Monuments of the Mississippi Valley," say that knives of pure flint, and also of obsidian, of identical shape with those of Sweden and Norway, have been taken out of mounds in Ohio. This fact would seem to greatly extend the area of primeval commercial intercourse, or give color to the often-repeated legend of the peopling of North America by tribes from the East.

In Vol. VII. of Lieut. Wheeler's Reports occurs this statement:

Prominent among the stone implement finds of the ancient people who inhabited the islands off California and the adjacent coast are specimens of dagger-like blades, of flint nearly black, measuring from seven to ten inches in length, very finely chipped, with sharply defined edges. These implements, when compared with typical lance or spear heads found in this country, exhibit a noticeable peculiarity, from the fact that the blades are thickest in the middle and slope uniformly to the edges, which are very sharp and remarkably straight, to be chipped stone. The want of strength in such slender blades would seem to forbid their use in warfare in the capacity of spear or lance heads, although well adapted for thrusting into the body of a man or animal with fatal effect.

Therefore, for want of a better name, such weapons should be designated as knives; probably used on ceremonial occasions, or in making sacrifices, as did the Aztec priests before the conquest. Occasionally stone knives are found concave on

one side and convex on the other; but such are rare, and when they do occur the edge is found to be on the shorter or convex side. In some localities knives of serpentine and of porphyry, highly polished, have been unearthed from the mounds, evincing the fine artistic skill of their makers; but the so-called "skinning knives" were usually wrought from flint, chert, or obsidian. A collector in New Jersey, who has made a specialty of skinning knives, has some axe-shaped, nine inches in length, and also smaller ones triangular in form. Some collectors class the celts, or ungrooved axes, as skinning knives; but with little warrant for so doing.

Mr. Powers figures among the stone weapons from the north Pacific coast, two long chipped weapons, pointed at both ends, one of which is nine inches in length. These were no doubt knives, and when in use grasped in the middle. Such knives were collected by Paul Schumacher from mounds in Oregon, made of jasper and obsidian, measuring from eight to fifteen inches in length, and from two to two and a half inches wide at the center.

Knives are the most common of all stone implements found in the valley of the Mississippi; and in design and material bear strong resemblances to analogous implements found in all parts of the world where savage man has lived in a Stone Age, showing that uncultured man everywhere devised the same expedients to meet similar necessities. Among the earliest wants of savage man were cutting implements, and they were the most necessary for his very existence. The cutting tool was primitive man's indispensable aid in preparing food, clothing and shelter (as it is with us); and in wars with each other, or in conflicts with wild beasts, was their most convenient and efficient weapon. The early people of the Eastern hemisphere had, before the beginning of written history, learned the art of melting copper, and by compounding it with tin in certain proportions, making bronze; but the aborigines of America had not progressed so far. They did not know that copper could be smelted, and, consequently, used it only as a malleable stone, beating it with stone hammers into knives and other weapons, and also shaping it into ornaments.

It is well known that marine shells were extensively employed by the American aborigines in the manufacture of appliances for fishing; for knives and for other weapons; for domestic utensils, and a great variety of ornaments. Early voyagers, visiting the American coast, mention the use by the natives of various cutting implements made of shell. In his "History of Virginia," Strackey informs us that "when the omnipotent Powhattan" would punish any notorious enemy captured in war, he always tied his victim to a tree and with mussel shells, or sharpened reeds, the executioner proceeded to cut off his limbs, one after another, and cast them in the fire, and "with shells and reeds to carve the skin from the victim's head and face." Early writers tell us that shell knives

were used by Indian squaws for cutting of their hair, and that the Indian warriors used shell knives for scalping their foes.

The Indians, in preparing a reception feast for Hudson, when exploring the bay that bears his name, killed a fat dog and skinned it with shells that they used as knives. Beverly, in his "History of Virginia," published in 1723, says that before the English supplied the Virginia Indians with metallic tools, their knives were either "sharpened reeds or shells, and their axes were sharp stones, bound to the end of a stick and glued in with sinews saturated with turpentine, and by the help of these tools they made their bows of the locust tree."

In Prof. Drake's "World Encompassed" (Vol. XVI., p. 74), in treating of the tribes of southern South America, the Patagonians, I think, the author says: "Their hatchets and knives were made of mussel shells that were great and a foot in length, ground by great labor to a fine edge and very sharp."

According to an old publication called Sproat's "Savage Life," shell knives were used by the Indians of Vancouver's Island in carving the curious images placed over the graves of their deceased relatives.

Dr. Schliemann found numerous flint knives in the hill of Hissarlik in Asia Minor, some with smooth edges, and others serrated. These relics were buried at a depth of twenty-three feet below the surface. Connected with this find were double-edged knives of obsidian, sharp as razors. These ancient implements bear a very strong resemblance to those found on the California islands and Pacific slope. In comparing these strange and very similar objects, the question of origin of the stone clipping art is forcibly presented. Did the primitive people of Assyria, Egypt, Scandinavia, and America transmit the art one to another; or was it developed by the struggle for existence independently in various widely separated localities?

In view of all the facts before us, we are assured that the knife, of stone or shell was one of the most primitive and most universally employed appliances of man; and we have numerous instances of the survival of its use, made of those materials, among a few tribes of savages to a comparatively late date. The knife, in some form, was probably the first mechanical aid suggested to mankind, and in great diversity of design and material it has continued his most convenient and efficient implement.



HAND IMPRINTS IN A CAVE IN ARIZONA.

## THE SYMBOL OF THE HAND.

BY LEWIS W. GUNCKEL.

[One of the most interesting objects of study possible to be presented to the archæologist is the symbol of the hand found in all parts of world, and yet no one has been able to explain or to say what its significance was.—ED.]

The peculiar weathering which occurs at the end of what is called a "box cañon" (i. e. a cañon which comes to a sudden end, with the two sides closing in), forms generally a large cave resembling an amphitheatre, and, when of sufficient size, like those of Monarch's Cave, Giant's Cave, and Casa del Echo in Utah, the echo is deafening.

The buildings in these caves are similar to those found on the ledges in the cliffs and are generally protected by an out-lying wall from one side of the cave to the other, from four to six feet high, pierced with many loop holes and peep holes.



THE HAND ON INSCRIPTIONS.

The walls of the caves are in most cases, covered with paintings or chiseled pictographs. We have found red, yellow, brown, green, and white paintings of the figures of animals, human beings, symbols greatly resembling rude hieroglyphic signs and many figures of the human hand. This is one of the most perplexing symbols found in this region. We find it in almost every cave, and in many cliff-dwellings, painted or slapped on by the hand (dipped in the paint previously), in red, yellow, brown, green, and white colors. In some of the caves, almost a hundred of these symbols may be seen; in others, only one or two. What peculiar significance does this symbol have? Surely a mere caprice or childish impulse would not be so widely spread over the whole region.

One day, when returning to camp from one of the side cañons in Butler's Wash, Utah, tired and thirsty, for water was

peculiarly scarce, we noticed at one place on the bare stone wall of the cañon, about eight feet from the ground, a painting of the human hand in green. We went over to examine it more closely and found, much to our surprise and delight, directly under it, a small spring of clear cool water, which bubbled out from the sand-stone ledge, ran a few feet over the ground and then disappeared again, the dry soil soaking it entirely up. Was this peculiar symbol put there to mark the spring? Or was it the silent offering of thanks to some unknown deity for the long-wished-for water, so scarce in this region? What ever it was, it was always accepted as a good omen to our party after that incident, and we almost held it in reverence.

The symbol of the hand seems to be the most frequent of all the pictographs found in this region. It appears also to be distributed over a far wider region than this, however. George Smith\* mentions them in his "Assyrian Discoveries"; Le Plongeon† finds them in his explorations among the Mayas and Quiches; Stephens‡ met them often in his travels in Yucatan, and says of them: "On the walls of this desolate edifice were prints of the 'mano colorado' or red hand. Often as I have seen this print, it never failed to interest me. It was the



THE HAND ON POTTERY VESSELS.

stamp of the living hand. \* \* \* These prints were larger than any I had seen. The Indians said it was the hand of the 'master of the building.' The symbol is also a common one on the hieroglyphic tablets of Copan and Palenque. Further north it also occurs quite commonly. Mr. Schoolcraft§ says of it: "The figure of the human hand is used by the North American Indians to denote supplication to the Deity or Great Spirit, and it stands in the system of picture-writing as the symbol of possession of power and authority."

In Algiers at a Moorish native dance, on one of the primitive drum used by the musicians, I saw the symbol of the red hand; again in the bazaars I saw gold and silver stick pins of the open hand, and again, on being rowed out to the ship, I saw that the native boatman had some charm hanging around his neck in a small leather bag, on which was the symbol of the hand. In Tunis, on the doors of an Arab butcher shop, the only sign was two large black hands, and further down the street I saw imprints of the hand on the white adobe walls.

\* "Assyrian Discoveries," by George Smith. New York, 1875. Page 429.

† "Sacred Mysteries of the Mayas and Quiches," by Augustus Le Plongeon. New York, 1886. Page 40.

‡ "Incidents of Travel in Yucatan," by John L. Stephens. Vol. II.; pages 46-7.

§ Ibid. In the appendix to Vol. II.

THE EARLIEST CONSTRUCTED DWELLINGS AND  
THE LOCALITY IN WHICH MAN MADE  
HIS FIRST HOME.

BY STEPHEN DENISON PEET, PH. D.

Much discussion has taken place concerning the locality where the human race began its career; in other words, where man made his first home. The question is appropriate for us to consider in connection with the study of the beginnings of architecture, for in that locality we would be likely to find the earliest specimens, and perhaps be able to identify or discover the stages of progress through which architecture passed. There are various opinions upon the subject, for some have maintained that the caves and gravel beds of Europe present the earliest or most ancient trace of man, and consider caves as being man's first abode. They base their argument upon the fact, that, both in the gravel beds and in the lowest layers of the cave deposits, the bones of extinct animals are found in association with those of man; thus showing that man made his home here at a very early date. Others maintain that the first home was in the tropical regions, and that man at an unknown date migrated to Europe, when its climate was warmer than it is now, and when the tropical animals were present there. The argument has been recently strengthened by the discovery of certain bones by Dr. Dubois in the Island of Java, which he claims were the bones of a human being; or if not, the bones of a creature that represented the missing link between man and the lower animals, which he calls the Pithecoïd Man.

Even those who are uncertain as to this discovery hold, that the tropical regions were the earliest abode of man, and that there he made his first home in the tree tops; the abundance of wild animals compelling him to resort to such places for the sake of safety. These fortify their position by maintaining that man originally was arboreal in his habits, and continued a long time in this condition, as there was no necessity in those regions for him to construct a house for himself.

The argument is a good one, so far as it goes, and appears to be confirmed by tradition. The students of scripture cannot particularly object to it, as the Bible itself represents the first "pair" as dwelling in the "Garden," feeding upon the fruit that grew upon the trees, and apparently had no house in which they lived. A natural conclusion is that this Eden was in a warm climate and in a region where nature was lavish with her products. Moreover, the pen of inspiration incidently brings in the fact that the very animal which would be the



greatest source of danger to man in such regions was present in the "Garden," and was the tempter of the "First Pair."

The picture is a graphic one and true to nature. There is, to be sure, a moral element brought into the record which science does not always recognize, and yet this may be correct, notwithstanding our theories as to the original character of man.

It is very remarkable that the latest discoveries of science confirm this view. Mr. A. H. Keane, the author of "Man: Past and Present," in speaking of the cradle of the Caucasian Race, says:

Where have we to seek the primeval homes of this most vigorous and dominant branch of the human family? No final answer can yet be given, but this much may be said, that Africa north of Soudan corresponds best with all the known conditions. Here were found in quarternary times all the physical elements which geologists demand for great special growth: ample space, a favorable climate and abundance of food, besides continuous land connection at two or three points across the Mediterranean by which the pleistocene faunas moved freely between the two continents. At an altitude of probably over 2,000 feet the Sahara must have enjoyed an almost ideal climate, during late pliocene and pleistocene times, when Europe was exposed to more than one glacial invasion and to a large extent covered at long intervals by a successions of solid ice caps.

We now know that these stony and sandy wastes were traversed in all directions by great rivers, such as the Massarawa trending south to the Niger, or the Igharghar flowing north to the Mediterranean; and that these now dry beds may still be traced for hundreds of miles by chains of pools or lakelets, by long eroded valleys, and by other indications of the actions of running waters. Nor could there be any lack of vegetation or animal life in a favored region, which was thus abundantly supplied with natural irrigation arteries, while the tropical heats were tempered by great elevation and, at times, by the refreshing breezes from sub-Arctic Europe.

From these well-watered and fertile lands, some of which continued even in Roman times to be the granary of the Empire, came that succession of southern animals—hippotamus, rhinoceros, elephant, and lion, which made Europe seem like a "zoological appendix of Africa." In association with this fauna came primitive man himself, whose remains from the Neanderthal, Spv. La Naulette, La Denise, Brux, Podbaba, Mentone, perhaps Galley Hill (Kent) show that the substratum of the European population was of North African origin.\*

Dr. John Evans, also, in his Montreal address in '97, maintained that the region along the Indian ocean further east than Africa showed traces of man's presence, which antedated anything which was found in Europe. From this we judge that the constructed dwellings of a rude kind may have preceded the cave dwellings, which have been studied so carefully and have yielded so many relics. It is not unlikely that there was considerable advancement in art, and that the drawings found in caves and which represent animals, both of the tropical and Arctic regions, were made by people who had dwelt in Africa, or, possibly, Asia; and had migrated to Europe before the Glacial Period. If we were to search for the remains of their houses we should fail to find them, as they were all of a perishable character.

---

\* "Man: Past and Present," pp. 450-452.

The history of man, as a house builder and architect, will probably be found to begin in Africa, or in India, and continue afterward in Europe and America; the historic age in Asia overlapping the prehistoric age in Europe. There are places in India where men and women dwell in trees—rude huts having been erected in the tree tops—while elephants and other animals still roam upon the land below.

Mr. A. H. Keane speaks of the same custom as prevailing in Africa. He says:

In the wooded districts some of the natives have reverted to arboreal habits, taking refuge during the raids, in the branches of huge bamboo trees, converted into temporary strongholds. Around the vertical stems of these forest giants, is erected a breast-high lookout, while the higher horizontal branches, less exposed to the fire of the enemy, support huts and store-houses, where the family of the fugitives take refuge, with all their effects, including, as Nachtigal assures us, their domestic animals, such as goats, dogs, and poultry. During the siege of the aerial fortress, which is often successfully defended, long, light ladders of withes are let down at night, when no attack need be feared, and the supply of water and provisions is thus renewed from caches or hiding places round about. In 1872, Nachtigal accompanied a predatory excursion to the Pagan districts, when an attack was made on one of these tree-fortresses.\*

Mr. H. H. Bancroft speaks of some of the inhabitants of the Isthmus of Panama as dwelling in tree-tops. He says:

The rich and marshy nature of the soil sends forth immense palm trees, in the branches of which the natives build their houses, thus obtaining a purer air and greater safety from the numerous wild animals and dangerous reptiles that infest that region. Cotton textures and the bark of a certain tree were the materials used by the Isthmians to cover their nakedness, if, indeed, they covered it at all. When cotton was used, the costume was simply a small strip of cloth, which both men and women wound round their loins, the women pass it between their legs and fasten it with a string around the waist.

In Costa Rica, many of the natives live in small huts built of plaited rushes. The old Milanese chronicler, Benzoni, describes the dwelling of a cacique and says, it was shaped like an egg and was forty-five paces in length and nine in breadth; the sides were of reeds and the roof of palm leaves, all interlaced and well executed.

Padre Zapeda, a Jesuit, in 1750, in speaking of towns and gardens, says: that when the rains commence they construct small huts in the trees, where they live safe from the danger of floods. In many parts, on the coast of Darien, the villages are built on the water. Others are on the banks of rivers, and many of them are spacious and constructed with great skill. The supporting posts of the roof are large bamboos or palm trees. Three or four of these are driven into the ground at equal distances, proportioned according to the intended length of the house, and across the top is laid the ridge-pole; the whole is then covered with palm leaves, both roof and sides. Other houses are plastered inside and outside with mud, and these have a flooring of open bamboo-work, raised six or eight feet from the ground. The dwellings are divided into two or more rooms, having no doors to the entrances, which are reached by ladders. Sometimes the house is built without walls, in which case, the roof descends below the level of the floor, and the structure is left open at both ends, having the appearance of an elevated platform.

During the expedition of Gaspar de Espinosa in 1517, Diego de Albitez, who invaded the province of a cacique named Tabraba, some distance southwest from Panama, found the inhabitants protected by strong

\* "Man: Past, Present, and Future," pp. 67-68.

fortifications. Their forts are built with much skill. The ground is first enclosed by a deep trench, upon the inner bank of which trees are planted, and the interstices filled up with logs and rocks. In many parts of the country the inhabitants were found living in the tops of trees, like birds, laying sticks across from one branch to another, and building their houses upon them.

In 1812, Vasco Nunez de Balboa surveyed several channels at the mouth of the River Atrato, in quest of gold and plunder. The surrounding country was low and marshy, but the soil sent forth immense palm trees, in the branches of which the natives built their houses. Vasco Nunez, entering an affluent of the Rio Negro, discovered a large tree-top village, the name of whose ruler was Abieiba. The houses were divided into several apartments, each of a size sufficient to accommodate several families. They were built of wood and willows, and were so pliable and yet so strong, that the swaying to and fro of the branches, to which the elastic tenement yielded, did not in the least interfere with the safety of the occupants. Ladders, made of a single large bamboo split in two, were used in making the ascent and descent. These were drawn up at night, or in case of the invasion of an enemy.

On the coast of Veragua, Columbus discovered similar dwellings, and he said he could not account for the custom, unless it was through fear of griffins, which abound in that country; or of enemies, each tribe being at war with every other tribe along the coast. The true cause, however, of their taking to trees for places of residence, is to place themselves beyond the reach of sudden and violent floods, which are caused by the swelling of streams after storms in the mountains, and also in order to be out of the reach of reptiles and wild beasts, in which that country abounds.\*

This description of the tree-top houses illustrates the habits of primitive man, but suggests the thought that there were great resemblances between man and the lower animals. The same thought has been shrewdly set forth by various writers. In fact it is a favorite theory with some, that man began his career as a tree-climber, rather than as a cave-dweller, and so shows his descent from the climbing animals, such as the anthropoid or monkey. It must be noticed, however, that primitive man adapts himself to the surroundings in an intelligent manner and is not altogether dependent upon nature to provide for him. If he is in the tropical regions, where clothing is unnecessary, he goes nearly naked, except as he decorates his person with some kind of ornament, such as a necklace of animal teeth, a head-dress of feathers, a girdle of shells, a short garment of fringe, anklets and wristlets of metal. But in colder climates he puts on the skins of the fur bearing animals, and imitates these animals in their habits of burrowing into the niches of the rocks, or making the caves a dwelling place. This resemblance to the animals is also manifest in the fact that certain animals go in pairs and have separate abodes, while others go in herds and are seldom found separate from their species. The same is true of man, for in certain localities we find the family making a home for themselves; in other cases we find the clan predominant, the homes or houses being clustered into villages which are the abodes of the clan.

---

\* See Bancroft's "Native Races of the Pacific States," pp. 755-757.

Gibbon,\* the famous historian, has shrewdly remarked that the savage tribes of mankind, as they approach nearer to the condition of animals, preserve a stronger resemblance to the animals and to each other. The uniform stability of their manner is the natural consequence of the imperfection of their faculties; reduced to a similar situation their wants and their enjoyments would continue the same.

There is, however, this difference between man and animals: animals never will go beyond the ordinary powers which are bestowed upon them by nature, but always follow the instincts which they have inherited; while man starting out with the same gifts and, perhaps, the same inherited instincts, begins to make progress in house-building and tool-making, and goes on from that point indefinitely, leaving the signs of progress in



TREE-TOP HOUSES.

the structures which he has erected. Man is, to be sure, influenced by his surroundings. If he is living in a cold climate he will not only dress in skins and furs, but will make warmth his first object in seeking a home for himself, and will resort to caves, or will excavate a place in the ground and build a rude structure over it, which he will cover with earth, timber, or stone. But if he is in a hot climate, he will build a house in the tree-tops, or construct a platform above the water, where the air is cool, and where there is freedom from insects. Sometimes he will even erect high platforms of earth and stone on which he will place his habitation. Illustrations of this may be found in many localities and in different periods.

In reference to early man in Europe, the impression is that he was a troglodyte and associated with wild animals, but made some progress in manufacturing and using tools; but had

\*See "Decline and Fall," Chap. xxvi.

not learned his first lesson in house building. No such creature has ever been discovered in America.

The archæologists have built up a theory as to the delay of architectural skill, and have imagined that a whole period had elapsed between the beginnings of art, and the beginnings of architecture. The fact, however, that wooden houses, brush shelters, huts made from reeds and poles, booths constructed for shade, thatched huts and other structures made from perishable material are so common among the rude tribes of America—all of whom are in the Stone Age—would indicate that man adapted himself to his surroundings, both in his art and architecture, and made a virtue of necessity.

There are different stages of progress in house building, even in America, but these stages follow the different belts of latitude, and advance from the colder to the warmer climate; the highest specimens being found in the tropical regions, which would seem to prove directly the opposite to that which has been already asserted. Two processes must, then, be considered. One of them is the result of environment; the other, of progress. Man, in his lower condition, provides for himself only that which is necessary; but, in his higher state, he unconsciously enters into different stages of advancement and surmounts necessity by convenience, and uses his inventive skill to provide for himself luxury and elegance. In the beginning the struggle to gain the bare requisites of life was hard enough, but after a certain point was reached, there was rapid progress toward a higher stage. This progress is manifest, as we have said, in two different lines: the geographical and the chronological. The geographical is especially manifest in America, the chronological in Europe. The chronological line is the most difficult to trace, and yet has been studied more closely, though there are many points which remain to be cleared up by the study of the geographical line.

We have already established the fact that man began his architectural career before the Cave-Dwelling Period. In reference to the Cave Period, we are led to say that there was not as much growth in architecture, as in the period which preceded, or in that which followed; for man depended upon Nature to provide a shelter for him, as well as a protection from the wild animals. Still, there is a record of progress even in the caves. In the first place, man, instead of taking the low, dark caves which have narrow entrances, such as were the favorite resorts of the beasts, chose those which were high and well lighted and were comparatively easy of access. In the next place, he lighted a fire and cooked his food, either in the cave or at the mouth of it, a thing which he could not do in the houses which were built upon the tree tops. In the third place, he made a record for himself in the relics and remains which were deposited in the caves. This record in Europe goes back to a very early period, but is followed by a complete series, which lead up to historic times. The same is true, also,

of some parts of Africa, though no such continuous record is found in America.

A reference to the recent discoveries will be appropriate here. Mr. George Leith found in Cape Colony and on the south coast of Africa and in the Transvaal, caves, rock shelters, a massive relic of an old cave floor, shell mounds, kitchen middens, mines, gravels, brick earth, special implements, which together make a complete record of man's progress from the Paleolithic to the Neolithic Age, up to the Historic Period. These, with the discoveries by Mr. J. A. Bent in Mashonaland, make Africa a very interesting field.

Mr. Leith visited one cave which was occupied by three Hottentots, who presented a picture of prehistoric man at home. They were naked to the waist; one being engaged in tearing the meat off of a bone with his teeth; the others being busy helping themselves from a pot standing between them. He discovered in another cave what is called "bone splinters." On the shore were shell mounds which contained corn, grinding stones, and perforated digging stones, also axe-shaped tools, showing that the people had reached the agricultural stage. The rough stone deposit depots of the mining districts, give the opinion that mining was here, at least two or three thousand years old, and that waves of foreign nations—Phœnicians, Moors, Indians, Portugese—had all in turn visited that empire through the centuries.

This record in South Africa is certainly very different from that given by the caves of America; for the first begins with the Paleolithic Age, and shows the changes which occurred during that and the Neolithic Age, and continued into historic times; while the latter gives only a view of the one age, viz.: the Neolithic.

It will be understood that European caves were inhabited by man several thousand years before he appeared in America, at a time when he associated with animals, and was not very different from them in habits or appearance. No such troglodyte has, however, been found in America; for, notwithstanding the belief that man began his career on this continent in an early geological period, and passed through all the stages of social development and progress here, in parallel lines with man in other countries; yet, as a matter of fact, Neolithic Man was the first to make his appearance here, and that, too, as a house builder, rather than as a cave-dweller or troglodyte. Many of the caves in the Western part of America are filled with houses which the so-called Cliff-Dwellers had erected, which are as well built as those upon the mesas, showing that the caves were resorted to for the purpose of defense, and by people who were quite far advanced in the art of house building; in fact, had reached a high stage of architecture before these caves were occupied at all.

There are, to be sure, caves scattered over the different parts of the continent; some of them in Pennsylvania,

Kentucky, and Tennessee; others in Arizona and New Mexico and the Northwest coast and Central America. But all of them, so far as they have been explored, present neolithic relics, and show that man was in the neolithic stage of progress.

A very marked distinction can be drawn between the layers which contained the bones of extinct animals and those which contained the relics of man.

Mr. Dall maintains that there was a people on the Northwest coast, who preceded the Cave-Dwellers, and were, perhaps, at a lower stage. He calls them littoral or shore people, but Mr. H. C. Mercer, who has explored various caverns in Pennsylvania, and the valley of the Ohio, as well as caves in Central



CAVE AT WURTEMBERG.

America, has shown that the people who inhabited them were immigrants, and at once introduced into the caves the relics of the New Stone Age.

Mr. Mercer, in speaking of the advantages of cave explorations as throwing light on the history of man, says:

In outer fields of investigation the clues were disjointed and scattered: the buried city, the mound, the lake dwelling, the quarry, excavated severally, failed to tell certainly which, among many sites, was the oldest. But in a cave—formed by nature for man, often before he appeared upon the scene, lasting as long as he lasted, and where the halting ground, limited by rock walls, light and darkness, had remained the same for all visitors—the whole archæological problem was buried in one spot.

Continued investigation has established the fact that, of searching-grounds known to archæology, caves best answer the question which lies at the bottom of the science, namely, the question of sequence which came first and which next? When and where was the beginning, middle and end of the story?

We fancy the bone-carving Eskimo—the descendant of the French cave man—coming to America from Europe, across a pre-glacial isthmus in the North Atlantic. We discuss the probability of Asiatics bringing jade to Central America; of Polynesians drifting to Peru in canoes; of Caribs coming over the Eastern Sea; of Mayas wandering to Africa by way of the sunken "Atlantis." Still in the dark as to these simple questions, ethnology searches for an answering reference in the life and customs of existing savage peoples; while archæology studies mounds, ransacks village sites and graves, and photographs ruins, filling museums with the results.

But we are learning that there are caves in Pennsylvania and West Virginia full of a new and valuable evidence, and that the limestone of eastern Tennessee is honey-combed with caverns which contain hearths and midden heaps, to testify to the true relation of peoples and the time of man's first coming to the Eastern region. As far as examined, this evidence has repeated itself and tallied with cave evidence in other parts of the world, so strengthening the inference that all savage peoples everywhere, when confronted with convenient natural shelters, have gone into them and left their trace there, that the question of man's antiquity in eastern North America seems in a fair way of being settled.

Two years' study of caves in Ohio and Tennessee valleys has simplified the inquiry. A series of excavations at the Lookout and Nickajack caves in Tennessee, at Hartman's Cave in Pennsylvania, at Thompson's Shelter in Virginia, at Cave-in-Rock in Indiana, and at Lake's Cave in Kentucky had brought us within reach of a solution for the North American problem. It had fallen to my lot, in the late autumn of 1894, to search for human traces in the bone cave at Port Kennedy, Montgomery County, Pennsylvania. The bones of an unfamiliar race of extinct animals, represented by the sloth, the tapir, horse, and mastodon, had been ground to powder, or broken and deposited in stratified beds, and their appearance gave evidence of a flood, yet unexplained, that had overwhelmed the creatures, when their day had come, or whirled in destructive torrents their whitening skeletons. Once for all the contested question of the antiquity of the human race in North America would have been settled at this place, had we found in the interbedded layers, forty five feet below the surface, a jasper chip, arrow-head, hammer-stone, or potsherd, to positively connect the fossils with the presence of man. We had clearly gone back one geological step, and in some degree understood how and when those pleistocene layers, which we had as yet failed to find in other caves, might be searched for and found again.\*

Mr. Mercer puts the subject in the right light, for it remained still uncertain whether man in America was ever associated with the extinct animals. The celebrated caverns, like the Mammoth Cave, the Grotto in Elyria in Ohio, and that called Wyandotte in southern Indiana, if they had shown any relics of man, contained no bones of extinct animals. The caves which Mr. Mercer explored showed a distinct dividing line between the animal remains and the human relics. It was owing to this uncertainty that he undertook the expedition to Yucatan and began exploring the caves there.

It is very remarkable that his explorations resulted in proving that man in America was considerably advanced in the very beginning; and that his art and architecture were both superior to the earliest man in Europe. In fact, the creature which we call the troglodyte has not been found in America; on the contrary, the caves were occupied by those

\*See "The Hill Caves of Yucatan," pp. 10-13.



who lived upon the surface and built houses of various shapes and kinds, and only resorted to the caves for temporary shelter, or for the purpose of getting water. Mr. Mercer, in one cave, dug down fourteen feet through different layers and reached the rock, and settled one important point: that no human trace, no blackened film, showing the coming and going of man on an earlier cave floor, existed below the limit of the hearth deposit encountered near the surface. No fossil man antedating the maker of the superficial rubbish, by a geological epoch, had been found in the cave.

Of all the underground shelters yet seen in Yucatan, the one at Loltun was best fitted to answer the question. He says:

The secret of the ruins, the chronology of the Mayas, the clue to the Paleolithic savage lay buried beneath our feet. Either we should find something new there, or there was nothing new to find in Eastern Yucatan. The other caves had left us in doubt. Now, at last, the great question seemed settled, and we have a chain of evidence, without missing or broken links. The bottom of Layer three marked the line of human interference in the cave earth. Taking the whole culture-layer into consideration, its contents, in comparison with objects found at the ruins, indicated the handiwork of one and the same people. Neither here, nor anywhere



CAVE OF LOLTUN, YUCATAN.

else, had we found tokens of a tribe or race of cave-dwellers. As in other cases, the fire builder appeared to have been a visitor. His visits may have lengthened into longer haltings as time went on. He may have waited on occasions for religious purposes, or to cook food; but his main object was to get water and go away.

When all was summed up, the study of the trench indicated once more that the first comers to the cave were pioneer bands of Mayas. Discovering the cave in their search for water, they had built fires upon the floor. At last we had evidence clear and full to verify the work done at Oxkintok. What we now knew, none of the other caves contradicted, and there was little room left for doubt. A people, generally identical with the builders of the ruins had come to the cave.

Reaching the region in geologically modern times, and always associated with still existing animals, they had not developed their culture there, but had brought it with them. No human visitor had preceded them.\*

This, then, confirms what was said before. The caves in America were occupied by those who had built their houses

\* See "The Caves of Yucatan," p. 124.

upon the surface, but who temporarily resorted to the caves; to those in Yucatan for water.

The original immigrants could not have found a satisfactory supply on the surface, but it is certain that they must have ransacked the caves and have searched until they found water. This is confirmed by Stephens, who has given an account of several of these caves and describes the ladders which were used to go down into them. It is to be noticed, however, that the caves were used for this purpose by the poor people, and that artificial tanks and reservoirs were constructed by the rich, who built their palaces and temples, as the ruins of many of these tanks are still preserved. The cisterns have been searched and found to contain many interesting specimens of art, and so we learn from them the stage of advancement which had been reached. The relics found in the cisterns or tanks were generally of a superior character to those found in the caves.

This shows the difference between the caves of Europe and those of America. Those in Europe were generally permanent abodes and were occupied through successive periods of time, and present a great variety of relics and no architectural features. On the other hand, those in America were resorted to as temporary abodes, or, if permanently occupied, they always present some architectural features, as well as art products, which show that they were quite advanced in culture and architectural skill. We give two cuts to illustrate this point.

The first one represents the cave at Wurtemberg, called Hohlefels. There are no signs of a human habitation around it. It is not a rock shelter or a grotto, but a real cave, about 100 feet high, including some lateral galleries. Several species of bears, including the cave bear, the reindeer, the wild horse, cave lion, and human bones, bearing unmistakable traces of having been gnawed by wild beasts. The tools are stone articles and were the simple tools for fashioning the articles of horn and bone. It appears, also, that the exceedingly primitive people were acquainted with the manufacture of pottery, but they were deficient in mechanical skill, for there were hardly any well-defined tools or weapons. It was evidently the home of the troglodytes.

The cave of Loltun, represented next, contrasts with that at Wurtemberg in all particulars. There were no bones of extinct animals. Their pottery was of a high order. There is at present a native hut just above the entrance, which shows the kind of houses which were built and occupied at the time the cave was resorted to for water. This hut is a typical one of the natives, and seems to have been the primitive house of the Mayas. There are representations of just such huts carved into the façades of the palaces, suggesting that there was a sacredness to them as the abodes of their ancestors.

We now pass from the study of the caves, and take up the various structures which appeared during the next period. The peculiarities of that period were, that the animals, which abound at present, had made their appearance, and that the extinct animals were for the most part buried beneath the surface. In fact there was a change from the Paleolithic to the Neolithic Age. It is held by the European archæologists that there were no constructed dwellings before the Neolithic Age came in, and though man may have existed in the tropical regions, he was not a house builder. This conclusion would make the succession of people to begin with the cave-dwellers; but would place the beginnings of architecture subsequent to them.

The fact is, however, that man, during the cave period, made very considerable progress in art, and the question is, whether he had not acquired some skill in architecture also. As a matter of convenience, we may begin the series with the cave-dwellers or troglodytes, making them constitute one class; the people who left the kitchen middens another class, those who built the mounds the third class; those who erected the stone monuments a fourth; those who constructed the great circles a fifth, and those who built the great towers the sixth. We must remember, however, that some of the mounds were erected at the very time that the kitchen middens were deposited, and some of the shell heaps were formed while the people were occupying caves, and that the series overlapped one another throughout the entire prehistoric period. We cannot make any hard and fast lines between them. It should be also said that the character of the abodes depended upon the locality, for those who dwelt among the mountains might be occupying caves long after those who dwelt by the rivers, or on the seacoast, had built their huts and had begun to deposit their shell heaps. The fishermen on the seacoast may, also, have continued their employment long after the people of the interior had begun to erect mounds for themselves, the dwellings and burial places of the two classes varying according to circumstances.

We must remember, also, that the occupations and modes of subsistence of the people were influenced by their surroundings. As at the present time, so in prehistoric times: the fishermen occupied the seacoast, the hunters the forest, the herdsmen the plains, and the agriculturalists the rich valleys; all may have been contemporaneous. If we go further and take in the whole history of man, we shall find that this distinction according to time is somewhat misleading, for there were fishermen on the seacoast of America long after the time of its discovery. There are at the present day hunters living in camps in the the forests of America; people in the Philippines, resembling the Lake-Dwellers, who live in houses built over the water, and others, who build towers on the seacoast to be used as watch towers, or signal stations.

The history of architecture is to be written after we have

examined these, and have compared them with the remains of structures which belonged to the prehistoric times.

Let us now turn to the shell heaps and consider their character and distribution. We begin with those on the coast of Denmark, for they were the first to be studied, and are perhaps the most ancient, and so may be supposed to have presented the earliest constructed dwellings. They contain evident remains of hearths, scattered potsherds, and traces of charcoal and ashes; millions of shells of eaten oysters, mussels, and snails, as well as countless bones of wild beasts. These are for the most part found near the sea coast and were left by those who were both fishermen and hunters. They are marked by rings or depressions, which show the sites occupied by the ancient huts. These were surrounded by the remains of the feasts which were gathered from the sea and thrown upon the shore, technically called the kitchen middens, though they are virtually nothing more nor less than shell heaps; among which was scattered the refuse from the kitchen or rude fires in which the food was cooked. A large number of these shell heaps found on the sea coast of Denmark and Sweden were examined by the Swedish naturalists, and were found to contain the bones of animals and relics which point to the close of an early age. Mr. J. J. A. Worsaae says of these:



HOUSE SITES IN SHELL HEAPS.

With the exception of occasional rare discoveries of mixed or transitional objects, the contents of the refuse heaps or kitchen middens found on islands, coasts, and fjords, present a living picture of a hunting and fishing people, clad in skins alone. For a long time, without the slightest change, development, or least acquaintance with metal, they continued to stand on the same low level as at their

first arrival. The west coast of Jutland offered in amber, a material elsewhere early used for all sorts of trinkets. The first inhabitants of Denmark, or of Southwest Scandinavia, are, therefore, to be compared most closely with the long-vanished savage races, which formed corresponding refuse heaps on the coast of Japan and America, especially along the river margins of the latter; or, with the partly still existing people in South America, off the coasts of Japan, and in the South Seas, who support themselves in the same way on shell-fish fishing and hunting.\*

Shell heaps are numerous on the sea coasts of nearly all northern countries. There are very few specimens of architecture in them, for such buildings as once stood in their midst

\* See "Pre-History of the North," pp. 13-15.

have long since perished. Still, as we examine the contents, we conclude that there was a rude type of architecture, even in the most ancient, and a more perfect type in the modern heaps. A study of the relics contained in them reveals the fact that primitive man was a fisherman, as well as a hunter, for a large number of the remains of shellfish and the bones of wild animals are found in them, as well as many fishhooks, stone spear-heads, and other relics. That he was already a fisherman and hunter is shown by the pictographs and carvings found in the caves of Europe, for there are many figures of seals, dolphins, eels, fish, and occasionally of harpoons; also, the reindeer, the wild horse, and the ox, with the hunter in the midst of the animals.

These shell heaps at the North continued to be occupied by fishermen, and the people remained in about the same condition, dwelling in their rude huts and drawing their subsistence from the sea, using implements of stone, wood, and bone; while the people at the South advanced from the condition of fishermen and hunters to that of agriculturists, their house-building keeping pace with their progress in other respects. In fact, we find the Stone Age continued at the North, after the Bronze Age appeared at the South.

The kitchen middens have been found in Terra del Fuego, Brazil, in Japan near Omori, between Yokohama and Tokio, and in the Andaman Islands. Mr. Archibald Blair says:

The natives of the Great Andaman Island are probably in the rudest state of any rational animals which are to be found; both sexes go perfectly naked; have no other houses than small huts or sheds, about four feet high. They depend principally on shell fish for their subsistence. Their greatest stretch of ingenuity appears in the construction of their bows, arrows, fish gigs, and small nets. The only appearance of their civilization is their being formed into small societies and some attention being paid to a chief, who, with his family, are generally painted red.\*

The art of navigation may be supposed to have been inaugurated at the time these kitchen middens were formed and continued throughout the whole period. Probably boat building continued to improve even while the people were fishermen, at least we find some of the best models of the boats on the Northwest coast, in the same region where shell heaps are numerous. As a general rule, we may say that the houses kept pace with the boats, the people improved in both respects. We find, also, village life advancing and the organization of society improved. There is a contrast between fishing and hunting in this respect. Hunting demands large tracts of country and frequent change of habitation, the same as does the pursuit of cattle breeding. On the other hand, fishing, like agriculture, leads naturally to a sedentary life and favors the village organization. As a matter of fact, we find that the art of carving advanced among the fishermen of the North-

---

\* See "Indian Antiquary," December, '99; page 325.

west coast more rapidly than among the Cliff-Dwellers and Pueblos of the interior, and the conveniences and comforts of home life were quite equal to those enjoyed by people who had long been agriculturalists; in fact, there are settlements on the coast of Florida which present an immense quantity of shells, which were made to protect embankments and earthworks, behind which whole villages were erected, a marvelous stage of



MODERN KLAMATH DWELLING.

architecture and of engineering being manifest in them. We have only to refer to the discoveries made by Mr. Frank H. Cushing on the islands, to show that the fishermen here, were quite as far advanced as the Lake-

Dwellers were in Europe. We retain the description of these for another time. They only call to mind the fact that people make advancement according to their employments, as well as their surroundings. Fishermen and sea-faring people are better navigators and build better boats than agriculturists.

Perhaps the best place for the study of kitchen middens and the architecture exhibited by them, is to be found along the Pacific coast from California to Oregon and further north.

Here we find the kitchen middens connected with harbors and canals on the coast, with villages on the mesas or rocks above the coast, with the ancient mines, where ollas and stone vessels were secured, which are so numerous in California. There are not many remains of boats, but there are many sites of vil-



GROUND PLAN OF KLAMATH DWELLING.

lages that are marked by a great number of relics. An interesting place for the study of kitchen middens is found on the coast of California, on the islands of San Miguel, Santa Rosa, Santa Catalina, and others. The Island of Santa Catalina was discovered by Cabrillo in 1542, and belongs to James Lick. It was explored by Mr. Schumacher in 1875, and described by him in the Bulletin of the United States Geological and Geographical Survey, Vol. III.

It appears from his account that the kitchen middens of

California were connected with pueblos and of a comparatively modern date, and differ from the ordinary kitchen middens of Europe, which are supposed to be very ancient. There are, however, localities where remains of houses of a primitive type were discovered. Mr. Schumacher says:

We found in a mound whale bones, indicating the last resting place of those that accumulated the kitchen-stuff, but by digging into it we found the ribs of whales to be the remains of houses, rather than the marks of graves. They were planted in a circle and their natural curve so adjusted as to form the frame of a hut, in shape not unlike a bee-hive, which was in some instances quite well preserved.\*

Mr. Schumacher explored kitchen middens on the coast of Oregon which seemed to be the site of an old deserted Indian town, the kitchen refuse consisting of all kinds of shells and a great many bones of elk and deer, and averaging about eight feet in depth. Houses were discovered which resembled those occupied by Klamath Indians.

We reproduce two cuts from Mr. Schumacher's report as an illustration of the manner of constructing huts among the Klamath Indians; also, a cut which represents the depressions in the shell heaps, caused by the huts which have been destroyed. There are representations in the report of harbors along the coast, which were suitable for canoes and boats, the entrance to them being very narrow; but the harbor itself afforded protection for the boats. Mr. Schumacher says:

The houses we examined were square, that is to say, the subterranean part reached to a depth of about four feet below the surface, and measuring variously from six to ten feet square. The casing of the excavation consisted of boards, arranged horizontally, contrary to the vertical position in the houses of the present Klamath Indians, and were kept in place, by posts along the front. The general impression which the traces of an old aboriginal town-site makes is that of a group of huge mole-hills inverted, or sunk to a small rim at its base. Although the excavation was found to be square—the remaining cavities, always shallow, and hardly more than three feet deep, were circular, which is attributed to the circular embankment that still surrounds it, and to the natural action of the elements in filling up a depression in loose ground. No doubt, the superstructure of the hut was of a circular shape, corresponding to the remaining embankment, and was probably placed in such a manner as to meet conically, and was covered with earth, &c. The fire-place, we find on one side of the floor, in a small excavation, and the smoke escaped through a draft passage.

We find, among the house sites, a few well-preserved ones, exceptionally, with square embankment, but they are, no doubt, of recent date, and a modification between an aboriginal hut and a white man's shanty, such as we had occasion to witness among the present Klamaths at the mouth of the Klamath River. One of which I show in a sketch, as, also, an inner view, a plan, and a section. The inner view shows the depression, which is in this case pentagonal, incased by boards placed horizontally, with a fire-place in the centre. The excavation is reached by a notched board, after entering the house through a circular door near the ground.†

\* See "Bulletin U. S. Geological-Geographical Survey," Vol. III., p. 47.

† See "Researches in Kjek ermoddings and Graves of a Former Population," pp. 27-30.

## ANTHROPOLOGICAL NOTES.

BY ALEXANDER F. CHAMBERLAIN.

**HUMAN ACTIVITIES.**—Under the title "L'Activité de l'Homme" (Paris, 1898, p. 261), W. Tenicheff, the author of a previous work on the "Activity of Animals," publishes an interesting volume, which, however, lacks something, from the absence of personal knowledge of primitive peoples. The author first elaborates his philosophy of human activity (pp. 23-144) and then illustrates it from the Eskimo, to a study of whose activity the rest of the book is devoted. Activity is discussed under the following heads: distinctive physical traits; environment in relation to individuals or classes; history; folk-life; social dispositions, customs, and laws, relations of fellow-citizens; beliefs, knowledge, language, letters, and arts; family, life-habits; sex-relations; children, birth, education, instruction, preparation for independent life; obstacles to life and their effects. Tenicheff treats of the Eskimo in the period anterior to European influence, his authorities being chiefly Kranz and Klutschak. The author holds that the increase of our knowledge of how men and women act under given circumstances is of great importance to statesmen, and will, moreover, "weaken the influence of the morbid doctrines of Schopenhauer, Hartmann, Tolstoi, and in general of all thinkers who set forth ideas hostile to life." Perhaps only a Russian could write this book.

**THE PUEBLO CHILD.**—The "Education of the Pueblo Child, A Study in Arrested Development," by Frank Clarence Spencer, forms Vol. VII., No. 1, of the "Columbia University Contributions to Philosophy, Psychology, and Education (New York, 1899, p. 97). The four chapters of the work deal with: "Geography and History of the Land of the Pueblos; Social and Industrial Life of the Pueblos; Institutional Life of the Pueblos; Education of the Pueblo Child." From personal investigation and study of the literature of the Pueblos Dr. Spencer establishes the thesis that the peculiar civilization of the Pueblos, is "a product of their environmental condition," and that the educational methods (the apprentice system in particular) employed by these Indians are "exactly suited to perpetuate a static condition." Practically no serious changes have taken place in the social and industrial life of these people for at least 360 years, and probably none have occurred for a much longer period than that. Priest-control, the apprentice-system, with the almost entire suppression of invention to the advantage of imitation, together with environmental conditions, have produced in the



child a practical "arrest of development," the net result of which is to perpetuate the "good old way." In the industrial, moral, and religious spheres the method of instruction is the same, aiming at "an exact reproduction of the skill or wisdom in the possession of the tribe by generation after generation. Mr. Spencer's study is a valuable contribution to the literature of the psychology of primitive peoples and one of the few good treatises on primitive education we possess.

**SOUTH AFRICAN ARCHÆOLOGY.**—In the *Journal of the Anthropological Institute* (London), for February-May, 1899 (New Series, Vol. I., pp. 258-272), Mr. G. Leith, of Pretoria, writes about "Caves, shell-mounds and stone implements of South Africa." Caves on the Stormberg at Mossel Bay, at East London; shell-mounds on the South coast; large stone implements near Cape St. Blaize; stone implements from the Transvaal, and various special implements are described. According to Mr. Leith, "the Bushman represents Neolithic man in South Africa, and any investigation into the habits of prehistoric races in South Africa should begin with him and work backwards." He also considers that "the existence of barbed stone arrow-heads in South Africa is not sufficiently established." In the mountain haunts of the Bushman the characteristic implement is the "scraper," a score of which are to be found, as against a single knife-shaped implement or arrow-tip. Scrapers in handles are rare, if present at all. Mullers, pounding, hammering and digging stones, sharp-edged ring-stones, rimmers, etc., are also found. With shell-mounds "the coast from Cape St. Blaize to Great Brak River is literally dotted."

"Eoliths," implements of the plateau gravels of the Transvaal, are thought to be "cognates of the implements discovered in the plateau gravels of Kent, in England." Correspondents of the American "turtle backs" were also found by Mr. Leith. In the discussion on this paper Mr. W. Y. Campbell maintained that "mining in Rhodesia was anywhere up to 2,000 to 3,000 years old," but that "the rough-stone dépôts of the mining districts of Monomatapa were other than dépôts and head kraals of a ruling and most probably Bantu race, he could not admit." This conclusion he based upon "the multiplied evidence obtained in some 2,000 miles of travel in Monomatapa, now Golden Rhodesia."

**VEI ALPHABET.**—In *L'Anthropologie* (Vol. X., 1899, pp. 129-151, 294-314), M. Maurice Delafosse, formerly French consular agent at Monrovia in Liberia, has an interesting article on "The Vei, their Language and their System of Writing." This West African people, of Mandingo stock, occupy a territory some 50 by 75 miles in extent, between the rivers Soulimah and Half-Cape-Mount. The alphabet possessed by these people has been long considered an evidence of their intellectual superiority over

their fellows of the neighboring tribes, there being no other real negro people in Africa with a true system of writing. The second part of the author's paper is devoted entirely to the consideration of this alphabet, its origin, relations, etc.

A valuable part of this paper is the lists of *old* (*i. e.* in use in 1848, according to Forbes) and *present* (according to the personal investigations of M. Delafosse in 1898) Vei alphabetical characters. This syllabic alphabet consists to-day of 226 characters in general use, many of which are of very complicated form; while, since there are no printing establishments, individual deformations and changes due to bad memory have to be taken into account,—we are not surprised, therefore, to find several very different characters serving to represent the same syllable, and used indifferently for it. The resemblances one with another of some of the characters for different syllables is also very great. According to Forbes (and Koelle followed him in his belief), the Vei alphabet was "invented" about 1829-1839 by eight natives, whose names he gave. Delafosse casts doubt upon this story, pointing out that Forbes was none too conversant with the subject and had spent very little time in Africa—the Liberian, and not the Vei, really interested him. Delafosse believes that the Vei alphabet is much older, and instead of becoming a dead letter, is used by an increasingly large number every year,—there are even many Vei women who employ it. The Vei alphabet is put to good use by the natives themselves in preserving their popular tales, fables, legends, songs, etc., although this use has not yet extended very far. As schools hardly exist, it is the father who teaches the script to his child; besides, there are certain wandering teachers of writing.

It is by no means conclusively proved that the Vei alphabet was invented by the Vei people themselves, but the probabilities are that the alphabet originated in a fashion somewhat similar to the famous Cherokee syllabary of Sequoyah, from observation (without knowledge of their exact phonetic significance) of manuscripts, books, etc., of European or Arabic derivation. The analogies discoverable between certain Vei characters and certain signs in the Berber, Greek, and Latin alphabets may be fortuitous. At any rate the Vei, upon whatever basis their alphabet was built up, must be credited with evolving more than 200 syllabic characters, an unparalleled feat among the negro peoples of the Dark Continent. This Vei alphabet deserves further investigation from the point of view of the anthropologist.

NUMISMATIC ANTHROPOLOGY.—In the *Archiv f. Anthropologie* (Vol. XXVI., 1899, p. 45) C. von Ujfalvy discusses the anthropological significance of the portraits on Greeco-Bactrian and Indo-Scythian coins. As compared with Alexander and his immediate successors of Macedonian stock, the later Greeco-

Bactrian Kings show a higher head and forehead, less prominent supraciliary ridges, shorter and broader nose, less prominent chin. The type of Greeco-Bactrian Kings is often met with in the natives of the Western Himalayas, Afghanistan, and other parts of Central Asia. Some of the peculiar heads, among the Afghans, Dards, and Kafirs, may go back to the old Macedonian conquerors. The Greek element in the population of this part of the world, although frequently noted by travelers and ethnologists, still awaits thorough scientific investigation.

SAMOAN INDUSTRIAL ARTS.—In the Internationales Archiv f. Ethnographie (Vol. XII., 1899, pp. 66-77) W. von Buelow, describes, with considerable detail, the preparation of *tapa* (the characteristic fibre-cloth of the Samoan Islanders) from the bark of the *Pipturus incanus*; of *lega*, or turmeric, the yellow color obtained from the root of the *Gurcuma longa*; and of the black color obtained from burning the nut-like fruits of the *Alcurites moluccana*. The preparation of the black color,—*o le tutu lama*,—is a monopoly in the hands of the tattooers, whose art is said to depend upon it. The making of the *lega*, or yellow color, like many other arts in Samoa, belongs to the women—and thieving, envious, quarrelsome individuals, and slanderers behind the back are precluded from engaging in the work, as that would spoil it. Hence, before anything is done, the woman-leader exhorts her fellow-laborers to follow the old, right ideas.

According to von Buelow, the Samoans are acquainted with at least seventeen vegetable fibres, and a considerable number of dyes. The author also describes the old whetstones of the Samoans,—hollows worn in the lava or basaltic rocks by the waterside, near the village. These are used by the present generation as bowls or mortars in which to crush the fruit and leaves, of which they make a hair and scalp wash.

AGE OF SWISS LAKE DWELLINGS.—Quite appropriately, at the thirtieth general meeting of the German Anthropological Society, which took place on the shores of the Bodensee, Dr. Montelius, of Stockholm, gave a brief address on "The Chronology of the Lake-Dwellings" (Correspbl, Vol. XXX., 1899, pp. 83-85). According to Dr. Montelius, "there can be no doubt that on the Bodensee, in Switzerland, in Germany, and in Austria, man, with Neolithic culture, domesticated animals and agriculture, was already dwelling, more than 3,000 years B. C." Copper, he thinks, was already known in some parts of Europe in the third millennium B. C., at least,—it was far older in Egypt. Some lake stations, *e. g.*, Auvernier, Mörigen, Corcelettes, etc., belong to the latest bronze period (Mörigen dates from 1100-1200 B. C.). Many of the South German, Austrian, and Swiss stations belong to the older bronze period, dating, partly, at least, from the middle of the second millennium B. C. The stations of the Stone Age, are, of course, much older, dating,

perhaps, a thousand years or more earlier. The most modern stations, belonging to the Iron Age, are not very numerous.

**PREHISTORIC FINGER-PRINTS.**—Not content with his success in restoring the woman of Auvernier, Dr. Kollmann, of Basel, (*Correspbl. d. deutschen Anthr. Ges.*, Vol. XXX., 1899, pp. 86-9) now gives us an account of the finger-prints of the Lake-Dwellers of the station at Corcelettes, on the left shore of Lake Neuchâtel, as rehabilitated from the finger-marks on a piece of pottery found some twenty years ago, at this station, which belongs to the Bronze Age. On this piece of pottery were the marks of human fingers, and after a cast had been taken, through a happy thought of Professor F. A. Forel, the finger-ends could be studied, since they now stood out in relief. The examination of these finger-prints (index and middle finger of the right hand; index, middle, and ring finger of the left) by Professors Forel and Kollmann lead to the conclusion that the potter, the impress of whose fingers was left on the work, was a woman. Dr. Kollmann, also, concludes that she had narrow hands, and, by correlation, a long and narrow face; and possessed in general the bodily form of a fine, cultivated race. There is, doubtless, some fancy about Kollmann's restorations, but they are always full of suggestion.

**PRIMITIVE SCULPTURE.**—Dr. M. Hoernes, in the *Correspblatt der deutschen Gesellschaft für Anthropologie* (Vol. XXX., pp. 85-86) compares the beginnings of sculpture with the finished art of historical times. The latter consists of three constituent elements: 1, imitation of nature; 2, adornment of given objects; 3, religious or (generally) psychic content. These three elements correspond to three human instincts or impulses—the instincts of imitation; of ornamentation, and the instinct to sensualize the supersensual (the theomorphic or anthropomorphic impulse of the primitive view of nature). In perfect art there is a harmony of all these elements, only according as one or another notably preponderates, can we speak of "naturalistic," "decorative," "religious (poetic)" sculpture. With primitive man, however, these three elements develop in their separate way. With the early hunter-tribes we find the realistic sculptures of the river-drift, true to nature,—but neither religious nor decorative. Then comes the religious sculpture of the primitive agriculturalists and shepherd-tribes,—rich in psychic content, but neither realistic nor decorative (plastic, idols, etc.). Next, we have the decorative, figural sculpture of industrial and commercial peoples,—neither realistic, nor religious, but eminently ornate and stylistic. In primitive art we thus find positive and negative qualities together in every case. With keen observation of nature we find paired lack of psychic content; with deeper significance, repulsive formlessness; with a marked decorative style, neglect of truth to nature and coarse lack of sense.

## NOTES ON ASSYRIOLOGY.

BY REV. J. N. FRADENBURGH.

MAGIC FORMULÆ are an essential part of the religion of the Babylonians. Hymns of praise to the gods and earnest prayers are connected with low sorcery and witchcraft; and seem, indeed, frequently to be incidental to some magical spell. The only reasonable explanation is that the Babylonian religion was formed by the union of originally heterogeneous elements. It is probable that Chaldean magic was the gift of early Sumerian population. These religious forms, once introduced, remained unchanged for many centuries; but we must believe that the Babylonians filled them with a new spirit. According to the belief of these ancient people, evil spirits and witches were the cause of all ills. They were active and to be met with, everywhere. No home could be protected: they would creep through every crevice, in spite of all precautions; they lingered especially about the bedside of the sick and dying, and waited to seize upon the body of the dead; they skulked behind the door, ready to spring upon any one who passed; they destroyed the peace of families, sowing dissensions and discord; they hover around tombs, cluster together in caves, frequent dark thickets, resort to dark corners, fly screaming through the air, and take every chance to torture, poison, and destroy; they are innumerable—every person is watched and pursued by a multitude of demons. And the witches are equally malevolent—haunting the footsteps of the traveller, ready to cast the fatal spell, causing suffering, disease and death, producing evil dreams. With such a belief, the people must have lived in constant terror, unless they schooled themselves to stoical indifference—impossible except to the rare few.

It was a most serious problem, how to counteract the evil of the various demons and socerers. Man himself seemed to be helpless; but he could call to his aid more powerful good spirits. There came into use magic knots, magic words, magic herbs and other substances, magic formulæ, magic ceremonies, and magic chants by which the good spirits could be engaged and evil demons defeated. The number seven, the number of completeness, is frequently employed in these chants, prayers and services; and appeal is constantly made to "sympathetic magic."

The material now available for the study of this subject is still inadequate, although it is receiving many welcome additions. Lenormant's "Chaldean Magic" has not lost its value. It marked out the main outlines of the subject, which later researches have not materially changed. The more elaborate

work of Professor Sayce, in the "Hibbert Lectures, 1887," is, also, valuable. His translations are a mine of wealth. I know it has become fashionable in some quarters to discount the accuracy of the work of Professor Sayce, but the mistakes—whatever they may be—are not often vital. Important, also, are Tallquist's "Die Assyrische Beschwörungsserie," and Zimmern's "Die Beschwörungstafeln"—these are among the most reliable works. Zimmern's "Babylonische Busspsalmen," and Reisner's "Sumerisch-Babylonische Hymnen" should also be studied. The most valuable work in the English language is Jastrow's "Religion of Babylonia and Assyria." Special works are King's "Babylonian Magic and Socery," and Elworthy's "The Evil Eye." With these various volumes the student may enter upon a comparatively thorough study of the subject. For the study of modern magic there are many works. Among the latest we may mention Frazer's "The Golden Bough," and especially the remarkable work, Hartland's "The Legend of Perseus." The former is in two large volumes, and the latter in three stout volumes—one of which is not yet issued.

\* \* \*

AT a meeting of the Archæological Institute of America, recently held in New Haven, Dr. Talcott Williams gave a summary of the work accomplished by the Babylonian Expedition to Nippur, sent out by the University of Pennsylvania. The latest excavations have laid bare a portion of the pavement of Naram-Sin. The walls above are being platted and drawn, and when this is done, the work of exposing the pavement will be continued. Two inscribed stone vases and a stone stela were found early in the work; and when the pavement was reached, there were discovered a small head of yellow marble and a badly-broken torso of black stone. In the level of Ur-Ninib, a black stone vase, more than two feet high, was discovered. It bears eleven lines of inscription. At the Ur-Gur level were uncovered a pedestal of bricks, laid in mortar rendered tenacious by the use of straw; a bronze saw, and bronze and silver nailheads. The condition of the statues confirms Dr. Hilprecht in the belief that the temple was sacked during the reign of Hammurabi. In the eastern corner of the temple was discovered the fragment of a marble vase of King Lugal-zaggisi. Two bricks contain the legend of Lugal-sur-su, a hitherto unknown *patesi* of Nippur, who has been assigned to the fourth millennium before the Christian era. In the same trench was found the fragment of a brick of Ashur etil-ilani, son of Assurbanipal of Assyria, who repaired a portion of the temple. In about the same level, or perhaps the very same, as Naram-Sin were brought to light a polished disk of marble with an archaic inscription, and another of bluish-gray stone, bearing an inscription of Garne; a copper knife blade below this level; a prism of lapis lazuli, with a low

relief human head, and other objects of archæological interest. Many tablets have been unearthed and added to the former stores. For the future everything is full of promise.

\* \* \*

THE GERMAN EXPEDITION under Dr. Koldewey has made two important discoveries in the Kasr Mound of Babylon. The first is a stela of dolorite found in the east corner of the ruins. On one side is the image of a Hittite god. He is bearded, one foot in advance, both arms raised from the elbows—the left carrying a trident and the right a hammer—and a sword carved on the left side. He wears a Phrygian cap, the hair hangs in a long braid, the outer garment is decorated and extends to the knees, and the shoes are curved at the pointed toes. It has been suggested that this is the Hittite god of thunder, Tishub. On the other side of the stela is a Hittite inscription of six lines. Another stela found not far distant bears a relief—Ishtar and Hadad, and other images. Over the worshipping man are the words: "Image of Shamash-Shaknu, the man from the lands Shuchu and Maru." Between the worshipper and the image of Hadad are words that have been translated: "A measure of meal, one measure of wine I have appointed as a settled matter by this stone tablet; he who guards the palace shall enjoy these." An inscription of five columns rehearses what Shamash-Shaknu has done for his country to insure its security and prosperity. It contains, also, much new geographical material. The work is being prosecuted with great vigor by the German Expedition, and we await with confident expectation most important results.

### MOSAICS OF CHALCHUITE.

BY WILLIAM P. BLAKE.

In my paper\* upon ancient mining for turquoise in Arizona reference was made to various pieces of mosaic work of turquoise of prehistoric origin. In further illustration of the estimate in which chalchuite was held for decoration and ornament by the ancient races of Arizona I am now able to present other examples.

At Flagstaff, Coconino County, Arizona, recently, I found in the collection made by Mr. Love from the ruins of an ancient cliff-dwelling on Oak Creek, fifteen miles from Jerome, Yavapai County, an ornament or relic encrusted with a wide border of chalchuite mosaic.

The figure from the photograph represents the object at quarter size. It measures  $3\frac{5}{8}$  inches long and  $3\frac{1}{4}$  inches in width. It

\* THE AMERICAN ANTIQUARIAN, Vol. XXI., No. 3, p. 273; September-October, 1899.

is composed of a central object made from a large clam shell, cut into the form of a cross, but with very wide and short arms. It has the general form of a Greek cross, and appears to be the object of chief value, the marginal decoration or border being the setting, like the frame of an enamel or gem of value. This cross is surrounded by a border of mosaic work in chalchuite, about three-fourths of an inch wide. The tesserae are oblong and rectangular, and are about one-eighth to one-quarter of an inch in length. They are squarely cut or ground down so as to present sharp edges and angles. They are set or mounted in a pitch-like substance upon a back-ground, the nature of which was not exactly ascertained, owing to the fact that the whole object has been mounted by the collector with cement upon a board, the better to preserve the specimen.

The object and use of this relic is a matter of conjecture and surmise. A critical examination shows that the shell cross was



SHELL CROSS WITH MOSAIC BORDER.

fashioned out of one of the large marine shells, probably one of the massive pectens. The surface has been ground off and roughly polished, so as to nearly obliterate what appear to have been costæ or ribs in low relief. The inner angles of the cross are sharply cut, but the outer angles at the ends of the arms are smoothed off and rounded, as if worn away by long use, probably as a pendant worn upon the breast, and before the mosaic work was added. Additional evidence in support of this view is found in the fact that at the upper end of the shell and in the center there is a perforation, at exactly the point where one would be made to receive a string or cord by which the cross could be suspended. This perforation, which is now filled up by a carefully fitted pellet of the chalchuite, is oval in shape, not round as it would be left by a drill; but it is elongated upwards, precisely as it would become by the long continued wear of a cord.



I am thus led to the conclusion that the shell cross, or central figure, whatever its origin or intention, was an object of veneration and high estimation as a relic. It was evidently worn for a long time, so that its outer angles became worn and rounded off. After years of use in this way, as an ornament or talisman, it was preserved as a relic and was ornamented by the border of mosaic of the precious and much-esteemed chalchuite. At the same time the hole at the top, by which the object had been so long suspended, was carefully filled up.

If this shell cross is to be regarded as a Christian religious emblem, or token, it, of course, shows that the object is posterior in date to the advent of the early fathers of the church, and also that the art of mosaic inlaying and ornamentation survived to modern times. This, however, we are led to expect and believe from the accounts given by the earliest explorers.

According to Bourke\* "the cross was found in full vogue as a religious emblem amongst the aborigines all over America." But the peculiar form of this cross is more closely allied to the mysterious symbol known as the *Swastika*, supposed by some to be a symbol of good-luck, a benediction, or blessing, and in use anterior to the introduction of Christianity. Interesting notes upon the Swastika may be found in the article upon terra-cotta antiquities by A. F. Berlin,† from which it appears that the symbol is found in the oldest oriental countries and that both American continents have produced it. The perforated terra-cotta spindle whorls of the land of the Incas were sometimes decorated with a cross of the Grecian form.

In the Smithsonian Report for 1896 Mr. J. Walter Fewkes describes objects found in the Pueblo ruins and graves near Winslow, Arizona. One, a polished slab of lignite, was ornamented with five small turquoises, one at each corner and one in the center. The figure of this ornament, given on the plate facing page 534, shows a perforation at one end at the medial line, intended, no doubt, to receive a cord for suspension. Another object is a mosaic frog, of which a beautiful colored figure is given opposite page 529. This ornament was found upon the breast of a skeleton in the ruins at Chavez Pass. Mr. Fewkes states that wood, bone, and shell, incrustated with turquoise mosaic, were familiar objects to the inhabitants of the Cheylon, and that the women before marriage had ear-pendants made of rectangular fragments of lignite set with turquoise [chalchuite] bone incrustated with the same, or simple turquoise.

It is also stated that the cross amongst the Cibolans (1540) was a sign of peace,‡ and that it was received by the Indians at the time of Coronado's Expedition (1540) with deep veneration.

\* Rept. Bureau of Ethnology, Vol. IX., p. 480.

† THE AMERICAN ANTIQUARIAN, Vol. XX., p. 275. In the reference to Dr. Thos. Wilson's work, "The Swastika," the Smithsonian Report for 1894 is given as the source, but this is an error.

‡ Smithsonian Fourteenth Annual Report, p. 518.

## ARCHÆOLOGICAL DISCOVERIES IN NORTH VICTORIA COUNTY, ONTARIO, 1899,

BY G. E. LAIDLAW.

THE season just closed proved a very prosperous one in archæological matters, for this particular locality. The evidence of aboriginal occupation in new localities amounted to nine new sites being placed on record, and a large quantity of artiffacts being secured, numbering in all, exclusive of pottery fragments, some three hundred specimens. This material has a direct tendency to show that the primitive population was a peaceful one of sedentary habits, which is further borne out by other characteristics disclosed in examining the sites. The artiffacts recovered seem to pertain to the home life and domestic economy of such a people, and exhibit an extreme paucity of those weapons or implements that are generally supposed to be used by a warlike or hunter people. This fact, coupled with the finding of numbers of mealing stones on the places of occupation, and quantities of carbonized corn in the ash beds, gives evidence that this cereal furnished a large portion of their food, helped out by such food products as the forest produced, in the shape of wild fruit,\* game and nuts, though this is not an essentially nut-bearing district, and the game was probably scarce on account of the density of the population,† together with quantities of fish easily obtainable from the different magnificent systems of lakes and rivers that the country abounds in; the varieties of fish being mascalonge, bass, salmon, trout, pickerel, whitefish, and the smaller sorts, as trout, herring, perch, suckers, eels, catfish, etc.; all within reach of a day or two's journey.

These newly recorded sites possess the same characteristics of formerly recorded ones, with the exception of an embankment at one site, and consisted of various numbers of various sized ash-beds situated near to perennial springs, in the immediate neighborhood of soil suitable for their primitive operations in agriculture, generally a light sandy loam. Several of these sites had graveyards quite close by, some of which being opened disclosed a few human bones at a depth of about two feet. The graves had largely been filled up with surface stones, and may have been opened subsequently to burial for

---

\* This section is noted for large quantities of wild fruits, acres of huckleberries and cranberries, groves of wild plums and cherries, besides abundance of blackberries, gooseberries, thimbleberries, raspberries, etc., abound.

† Parkman mentions the scarcity of game in the Huron country, owing to the density of population.

the removal of remains to some other place for tribal burial, as the bones remaining in these single graves were few in number, generally the smaller bones, and did not seem old enough to warrant one believing that the missing ones had decayed from lapse of time.

Almost all of these sites have been subsequently grown over with a heavy growth of pine, standing on ash-beds, graves and cache pits. This growth has been removed in the last forty or fifty years; some of the remaining stumps have a diameter up to five feet; others average from three and one-half to four and one-half feet. The five-foot trees, with an average of sixteen annual rings or cortical layers to the inch, which is the smallest of a series of averages of pine grown in this section, twenty-two inches being the largest, would show an age of four hundred and eighty years, or thereabouts; three hundred and eighty-five for a four-foot tree, and three hundred and thirty-six for a three and one-half foot; twenty-five to fifty years must be added to give their approximate age, and as it is two hundred and eighty-five years since Champlain passed through this region, and mentioning nothing of these towns, it is reasonable to suppose that they were abandoned or destroyed by enemies (Iroquois) before his advent.

The only one attempt at embankment in thirty examined sites in an area of twenty by twenty-five miles, precludes any idea of defensive arrangement, and indeed these places are so straggly, and in several cases immediately commanded by high hills, that there would be hardly any use in endeavoring to protect them with palisades, the construction of which would cost an immense amount of labor with primitive methods. Palisading does not seem to have developed much until the Hurons were driven to the northern portion of their peninsula (Simcoe county) by the Iroquois, where they were found by the French occupying and building close, compact palisaded towns; the labor being lessened by the people being more concentrated and possessing European axes.

The herein mentioned sites, show a great affinity to the Huron towns west of Lake Simcoe, both in the shape of some of the ash-beds—suggesting "long houses"—and in the proportion of similarity of relics contained therein; but lacking the ossuary style of burial, which may have been more fully developed where the Hurons made their last stand. The absence of ossuaries and palisaded villages, and the occurrence of single graveyards with extensive sites, are particularly noted along this portion of the Huron "drift," till they come to and round the southern end of Lake Simcoe, when gradually the single graves give place to ossuaries, and the loose, straggling villages to the close, compact, densely occupied towns in the northern part of the peninsula, which were occupied when the French came in contact with them. This fact is borne out by the gradual appearance of European articles in the sites in the northern portion of the county of York, and increasing greatly

in numbers the further north one goes in Simcoe County,\* until one comes on them in large quantities (especially French axes) in the ossuaries and towns noted by the Jesuits.

Though the sites under discussion have not furnished any article, or artifact, denoting European contact, it does not mean that we do not get such in this district; several isolated graves of the Algonquins have yielded such, and occasionally some are found along trails and water courses as surface finds.

It forcibly strikes the writer, from known facts, that the Huron nations, drifting westward, separated at some point east of this, presumably at the junction of the Scugog River with the Trent system of waters; the main body following up the Scugog waters—river and lake—then ascending the valleys draining to Scugog Lake on the west side; crossing over the divide, which is not very pronounced, into the drainage basin of Lake Simcoe, rounding its southern extremity, changed their route north to their last possessions in Ontario; all this route was through a fertile, well-wooded and watered, undulating country. The other branch, at the point of separation, followed the northern route through a more rocky, hilly and less fertile country, bordering on the granitic formation to the north, from which they may have taken their name "Aren darrhonons," or "Rock Nation," as their territory when first visited by the Jesuits was the most north-easterly of the Hurons contiguous to the sterile granite hills; but this may not be so, and their name may have arisen from the fact that they controlled the deposits of Huronian slate, steatite, syenite, etc., in the above formation (Laurentian). Be this as it may, other aboriginal peoples have designated themselves "rock," or "stone," from some reason or other; notably the Oneidas and the Assinaboins, the latter having a branch of their tribe in the Canadian Rocky Mountains called "Stonies." It seems to have been the rule not to have had these villages directly on or near water-courses, but in localities having local features of defence, such as swamps, hills, or approaches through rough country, which were the natural and perhaps the main defensive means. Again, the land is generally better suited for aboriginal cultivation a little distance back from the lakes, than immediately on their shores. Those small sites on the shores are now conceded to be fishing camps and the ends of portages; so we may say that the places for occupation that were chosen were suitable for cultivation nearest to bodies of water, yet not too close to be observed by enemies travelling by water, and not too far away to be inconvenient to the inhabitants.

There is some doubt about the afore-mentioned embankment, but there is no doubt that it is on an aboriginal site, for there are ash-beds between it and a creek several hundreds of

\* See Hunter's "National Characteristics and Migrations of the Hurons," read before the Canadian Institute, Sept. 25, 1891, and "French Relics from Village Sites of the Hurons," read Nov. 9, 1889.

feet to the east of it; though its connection with them may be accidental, for there is a local legend, derived directly from the Indians (Mississagas and Algonquin tribes) occupying the district when the white settlers came in, that French, coming from the west by way of Lake Simcoe, crossed over to this place and fought the Indians, constructing this embankment for defensive purposes. The Indians defeated the French, who buried their dead by the embankment, while the Indians used another place for their dead. There is no doubt that there are two burial places; one immediately north of the embankment,



PIPES FROM ONTARIO.\*

of stone and pottery discs in all stages of manufacture abound. Shell articles are very few, being limited to mussel shell scrapers and small shells perforated for suspension. Chipped flint implements are extremely rare all through this section, though an occasional knife or arrow-head is picked up.† Stone pipes are also rare. Mealing stones occur quite

\* Upper figures are side and back view of black soap-stone pipe; plowed up 35 years ago in Eldon Township, Victoria County. Lower figure is a clay pipe from site in Fenelon Township, Victoria County, 1899. Secondary hole drilled in front of bowl, after stem was broken.

† The only large, chipped flint implements that have been obtained in this section, to the writer's knowledge, are two; one in the writer's possession is nine inches long, two and five-

the other being on the summit of a conical hill, sixty feet or so in height, some hundred yards west of the embankment. The writer opened a grave in each. The grave on the hill having a pine stump of large size, three and one-half feet in diameter, standing over it. If this earthwork was constructed for defensive purposes, it seems strange that the site selected should be commanded by several high conical hills, fifty to seventy-five feet high, within 150 yards. This place has been known to the whites for 107 years, and at that time the edges were more distinct. Length, 220 feet; breadth of ditch and embankment, ten to twelve feet each; height, from bottom of ditch to top of embankment,  $2\frac{1}{2}$  to  $4\frac{1}{2}$  feet; showed no traces of supporting palisades on examination by the writer; general direction north and south, but curved out to the west, the ditch being on the outside.

The preponderance of artifacts on these sites are pottery fragments, and next in order bone articles, including those of teeth and horn; then comes clay pipes; after those, hammerstones, both hand and degraded celts; rubbing stones probably outnumber celts, chisels and gouges. On some sites quantities

frequently; and what are particularly noticeable are large numbers of spheroidal and ovoidal stones of various sizes, some natural and others artificially shaped, which are found in and around the ash-beds. Articles of polished slate are extremely rare and are generally knives and gorgets.

Notwithstanding the easy facilities of catching fish, very few fishing implements have been recovered from these sites, and these only comprise several barbed fish hooks of bone, and bone and horn harpoons. The bone harpoons are small affairs with small barbed notches on each side, while horn ones present two varieties; but neither are numerous. One sort having two deep barbes on one side, with a perforated base for attaching a thong. The other kind being a tine of deer's horn, sharpened at the point, with a hollowed base socket for inserting a shaft; the sides being produced to a barb, on each side of the shaft; then a hole is completely pierced through the implement, about one-third of its way up, either for a pin to firmly fasten the head to a shaft, or for an attached line, Esquimaux fashion; a transverse section of this harpoon is oval or round. The hollow socket, for inserting a shaft, is also observed in horn arrow-heads.

The long, one-barbed, square-based harpoons, occurring in western Ontario and south of Lakes Erie and Ontario, have not been noticed here as yet, as neither have the notched stone sinkers, or the elaborate permanent fish weirs and traps noted in other places. Though there are fish stakes occasionally recovered from the "narrows," between Lakes Simcoe and Couchiching, where Champlain halted with his Huron warriors for a few days, to replenish his stores with fish for their warlike journey against the Iroquois. The Jesuits mention frequently the dependence placed on dried fish for food, the descriptions of fish, and the manner of taking them by nets and through the ice; also the peculiar customs indulged in, such as the marriage of the nets to virgins, offerings of tobacco to propitiate the gods of the water, and such like. Without doubt the people that we are dealing with used the same methods, and would depend on the "runs" of fish in the different seasons to lay by a large stock of food.

---

eight inches broad and three-eighth inch thick. It is leaf shaped, of slender-pattern material, and of a dark grey, translucent, quartz-like material; the other implement is eleven and one-half inches long, of chert limestone, and shows signs of digging, for the ridges between the flakes are worn down slightly. This one is thicker in proportion than the former, but has the long, leaf shape, being more ovate; both come from near each other. The latter being in the James Dickson collection, Ontario Archæological Museum.

## CORRESPONDENCE.

### MONITOR PIPES.

EDITOR OF THE AMERICAN ANTIQUARIAN:

Dear Sir,—Referring to the article on "Mound Pipes" in the January-February number



MONITOR PIPE.

of THE AMERICAN ANTIQUARIAN, it may be of interest to note that, while Mr. Boyle claims there are no Monitor pipes in Canada, they have been found not far from there. My brother has in our collection at Niagara Falls, N. Y., a Monitor pipe (see cut), which was found on the Vogt farm at Niagara Falls. The material is grayish stone; fine texture, well-wrought, and highly-polished. One end of the base shows where it was broken while drilling the stem-hole; the workman then commenced at the other end, with better success.

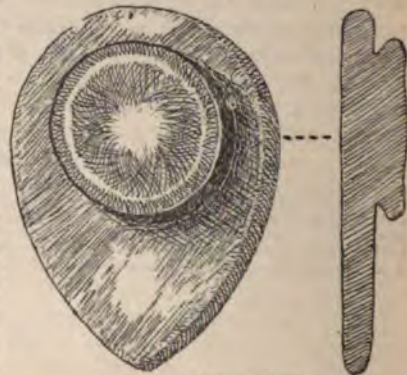
In April, 1885, while Mr. Vogt was clearing a portion of his farm, he uprooted a white oak stump, which measured thirty inches in diameter at the point where severed from the trunk. The pipe was found eighteen inches below the surface and underneath the stump.

Yours truly,  
W. J. MACKAY.

### A PECULIAR RELIC.

EDITOR OF THE AMERICAN ANTIQUARIAN:

Dear Sir,—Dr. Frederick H. William's paper "Prehistoric Remains of the Tunxis Valley," published in the American Archæologist, gives a cut (Fig. 37, page 203) in the August number, 1898, of a peculiar relic of prehistoric workmanship, which I think should receive further notice. Dr. Williams was the first (so far as I am aware) to bring this beautiful and almost unique relic to the notice of archæologists. In my cabinet I have an almost exact duplicate, and singularly enough, it was found in the same county (Hartford County, Conn.), exact locality not known, about 1854, and has been in my possession over forty-



A PECULIAR RELIC.

two years. I enclose a drawing (see cut), front view and cross-section, respectively; size of nature. It is, apparently, made from a dark-colored, hard, and fine-grained sand-stone, with edges nicely rounded, and a well-marked groove between the circular part and the main section, as seen in the cross section. The back is slightly convex, as is the center of the circular front. It is of fine workmanship, nearly symmetrical, and has the appearance of a greasy polish over almost the whole surface.

I enclosed drawings of my specimen, with full description, to Dr. Williams, and in reply he says: "Your picture is almost a perfect representative of my relic; so much so that, had I lost mine, I should have thought that you had it. It is almost exactly the same size. Mine appears to be sand-stone; but the polish is so perfect that I am not sure. I dislike to mar the beauty of it by cutting into it, to ascertain its real nature.

It would be interesting to know when, by whom, and for what purpose they were made; but it is perhaps fruitless to inquire. We may, however, learn if they have been found in any other part of the world, or are confined to the Connecticut valley and, perhaps, to Hartford County.

My relic came from a small collection in Hampshire County, Mass., in 1857, that was said to contain a duplicate; but, besides Dr. William's relic, I know of no others. Suspended upon the breast by a cord passing around the neck and fastened in the groove, it would have made a fine ornament, or a badge of distinction. Was it so used? Was it a charm, or had it a religious significance? Who can tell?

W. A. CHAPMAN.

Irving, Ohio.

---

#### CONTINUITY OF THE PALEOLITHIC AGE.

THE French and Belgian archæologists are divided as to the separation of Paleolithic from the Neolithic periods. Mortillet and Cartailhac have asserted that a great break exists, while Quatrefages, Dupont, Joly, and others maintain that they were continuous.

The evidence on this point may be classed under three heads: 1st, that which testifies to the geological changes; 2nd, that which relates to extinct animals; 3rd, that which depends upon the shape of the relics.

As to the first Prof. Prestwitch maintains that there was a period of submergence between the two ages which possibly corresponded with the deluge, or gave rise to the tradition of the deluge. As to the second point, nearly all geologists claim that there must have been a change of climate, for the bones of the reindeer are found in the cave deposits above the remains of the tropical animals, such as the rhinoceros, hippo-



potamus and the mastodon. The archæological evidence is to the effect that the relics found in association with extinct animals were all used in the hand and without handles, and are so rude as to be hardly distinguished from natural boulders and large pebbles, or "accidental fractures"; while those of the Neolithic Age were so shaped as to show that they were wrought, and some of them were designed to be fastened by withes, or wrapped in hides. There are double-bladed axes, with a suspension between them picked and sometimes ground, which were far better wrought than the Neolithic weapons.

On the other hand, there are archæologists who hold that there were intermediate stages, in which the Paleolithics were chipped in such a way as to show that a handle was placed around them, and they were used as a compound instrument, resembling an axe with a handle. Spear-heads with a marked depression, showing that they were designed to be placed in the shaft and bound to it, were characteristic of the Neolithic Age,

Mr. Allen Brown says: "It is remarkable that the hafting of stone, with a bent or split bough to form an axe or hatchet, or held in the double coil of a withe, should have originated in the earliest period of man's history and continued down to our own day among existing savages, such as the Australians and the North American Indians."

That this mode of hafting was continued from the Paleolithic into the Neolithic is shown by the fact that ground celts have been discovered with the decayed, bent brush coiled around them.

General Pitt Rivers has drawn attention to the gradual evolution of the iron axe from its prototype in the earliest Stone Age.

A large number of coarsely-chipped, rudely-finished implements have been found at Cissbury, England. It is difficult to assign a use for them, though they may have been employed as a kind of bolus, covered with skin and with thong attached.

The relics from the caves seem to have undergone a similar process of improvement, as the older implements, on the higher level river gravels, are formed from nodules of broken stones; whereas in other layers the relics are made from prepared nodules. Spear-head flakes, often six inches long, are found.

The natural conclusion is that the relics of man shade into another through all the ages, even when the animals change in character, habits and appearance.

## EDITORIAL.

### SOUTH AFRICA.

THE interest which a few months ago was concentrated in our New Possessions has been directed to South Africa, and makes it appropriate that we should consider the ethnology and archæology of that region.

We might say that the English have furnished much information about the prehistoric antiquities of South Africa in the past, and we are still dependent upon them, for no one else is especially interested. The majority of readers will be inclined to say: what of it! we care nothing for the past of South Africa! What we want to know about is the present and the effect of the war upon the future. The fact is, however, that struggling humanity is found in all of these remote regions of the globe, and our sympathies naturally go out toward those who are oppressed and in danger of being exterminated, rather than civilized. War is, so far as it goes, an exterminator, and, if it continues long, is likely to drag down the best standards which civilization and christianity have established, and lay low that which it has taken so many years to build up, and to waste the wealth which has been accumulated after much toil and hardship and self-denial. Our sympathies naturally go toward those inhabitants who have by degrees been brought out from savagery into a partial civilization.

Here, the question again arises, as before among the Philip-pines, whether the result is civilization or extermination? The newspapers are publishing cartoons representing the Zulus as throwing off the garments borrowed from civilization, and donning those which were worn when they were savages, thus virtually expressing the thought that savagery is better than civilization. We do not believe, as some profess to do, that all the so-called heathen ought to be left alone and allowed to work out their own system, independently of christianity and the civilization which it brings in; but we do believe that Christian nations should be held to the same standards and motives that individuals are. There may, indeed, be a difficulty in the way of incorporating the lower races with the higher and giving them the common rights of humanity. There seems to be, also, as much difficulty in the way of incorporating the partially civilized with the more advanced, and the tendency is toward a centralization of power throughout the whole globe.

It is with these intrrogations that we present a view of South Africa as represented in the Frontispiece, also a list of the tribes which are situated near the seat of war. The first

may be familiar, but the second is not so well known. Fifty years ago, this whole region was familiar to Christian philanthropists as the place where the Missionary Livingstone began his life-work and where his father-in-law, the celebrated missionary, Dr. Robert Moffat, began his labors. The picture of Africa as it was, is represented in the lower part of one of the plates—that part which shows the group of Luts surrounded by a fence, and the river flowing in its wildness through the mountain scene. The progress, which can be recognized as we look upward from this and see the wagon bridges and the railroad bridges and the villages, and then, still further on, notice the larger villages and the city with all its public edifices, has been made as a result of Christian civilization; but to make the picture more expressive, we take the face of the general, whom nobody knows, out from the centre and put in its place that of Dr. Livingstone, whom everybody knows, and see that all this has resulted from the peace-loving spirit which conquered even the fiercest savage by the law of kindness. A peace-loving man as he was, he needed not a military escort to secure safety and to win the attachment of the people and the admiration of the world. It is with professional pride and no admiration for recent military exploits that we look upon this peaceful scene.

The change which has come over the nations does not move us from the feeling and conviction that this is the true way of civilizing the world, and is so much better than the effort to civilize it by war. The names on the map of South Africa are expressive—Natal, Zulu, Bechuana Land—and are associated with missionary work and the memory of Moffat and many others. The name of Colenso is associated with that of the scholarship of the first Bishop of Africa. The Orange Free State gives rise to the thought of our own great republic, and of the efforts to establish a free state in Africa, and at the same time brings up the name of William, Prince of Orange, who struggled so long for the deliverance of the Netherlands from the dominion of Philip II. of Spain. Lady-smith, Utrecht, Dundee, Kimberly, Amsterdam, Richmond, and Bulwer, are also all expressive names.

Is it because diamonds have been discovered in Africa that the change has come, and that there should be such a contest for dominion? The words of the immortal Lincoln, in his second inaugural address, remind us that the gain which has come from the discovery of diamond mines, may be counteracted by the loss which has come from so expensive a war, and whatever wrongs have been committed, may come back in suffering upon those who are indirectly responsible.

The year 1900 is to be commemorated by the great Exposition at Paris. What will be the display from South Africa? Will it be the cannon and military equipments, and the steel guns, all of which seem so hard and cold and cruel; or will it be the native fruits and products and the fabrics, which come from

peaceful pursuits, and the thousand and one improvements which come from the civilization which was gradually spreading among the natives.

An expert statistician asserts that there are many distinct tribes and nations in South Africa south of the Zambesi River. Rough guesses place the number of natives at from 2,000,000 to 10,000,000, but no one knows what it is. The Kaffirs, the Zulus, the Basutos, the Bechuanas, the Swazies, the Amatongas and the Matabeles are the chief or best known tribes. The Kaffir, in his uncivilized state, is an overgrown child; but when he imbibes a little learning and knowledge of English, he becomes all that is worst in a human being. He is very unlike the American negro, as is the Zulu. The Zulu is pure-bred, and is the real Ethiopian of the ancients; the cuticle is transparent, so that the red blood can be seen coursing beneath it. The flat feet and the bowed legs of the American negro are all missing. The Zulu is extremely virtuous. Infraction of the law of morality is punished by death. On the other hand, the Hottentot, having been a close companion of the white man, is the most immoral and depraved human being, perhaps, in existence. The Matabeles are moral, so are the Basutos and Mashonas. The Bechuanas are less so, but the Bushmen rank next to the despised Hottentot; the Zulus will not work in the same mine with one, or sleep in the same room or kraal. The most advanced tribe is the Basuto nation, in which there are 50,000 Christians, with 144 schools. For more than 100 years the tribe has been undergoing a process of forcible civilization. Basutoland, while nominally independent, is yet a British colony. The native chiefs adjudicate all disputes between the natives, but an appeal can be taken to the magistrate's court, while cases between whites are tried. Whites are not wanted in Basutoland, the land belongs to the natives, and the unutilized soil is allotted to householders for grazing purposes. The chief allots fields to each householder who cannot sell the land, but whose descendants get it on his death. Several times a year the chiefs of the nation hold a national assembly; any native can freely express his opinion without fear. He would take refuge behind his status as a member of the Basuto Parliament, or "Long House." In this respect, the Basutos are like the Iroquois: they are in advance of the other tribes, the most of which are chiefs, who are more renowned for their appetites for blood, than for anything else. Civilization without christianity seems to have a degrading influence upon the natives here, as it has had upon the natives in America.

It will be acknowledged that civilization has gone on rapidly, since this country was open to the white man. The nations of Europe have all sought to establish their claims. Spain, perhaps, by the right of discovery, has the best claim, but the least territory, including only the territory designated as Rio de Oro, just south of Morocco; but the dominion of

France extends from Algeria and Tunis around to the west to the Gulf of Guinea, and south to the mouth of the Congo, covering 3,000,000 square miles—equal to the entire area of the United States, the Moors at the extreme north, the Berbers further south, and the Negritic population in the Niger and Congo valleys.

Portugal, the earliest nation to make discoveries and establish stations, has about 800,000 square miles, with a population of 8,000,000. Argola is on the west coast, Mozambique on the east. Her possessions are separated by a space of 600 miles, the extreme distance across the continent being 1,800 miles.

Italy claims the territory which fronts the Red Sea and has an are of 100,000 square miles. Turkey holds Egypt and Tripoli and the Soudan, with an area of 1,750,000 square miles.

The British possessions in Africa are widely scattered. Cape Colony is the farthest south; northeast of this is Natal; directly north is Bechuanaland; north of that Rhodesia; farther north, beyond the German possessions, is British Central Africa, also Uganda and British East Africa, which stretch northward until they merge into the Egyptian Soudan virtually under British influence. They end with the Mediterranean. The British really occupy the entire distance from the Cape to Cairo, except about 600 miles, and that is reduced 200 miles by the waters of Lake Tanganyiki. Through this British territory the plan now is, to extend a railroad from the Cape to Cairo, a distance of 5,000 miles. Of this railroad 1,360 miles from Cape Colony northward has already been built, and another portion from Cairo southward to Kartoum of 1,100 miles, was recently completed; so that half the distance has already been opened.

It is remarkable, however, that there are more republics in Africa, than in any other continent. These are, as follows: Congo Free State in the heart of Africa, recognized in 1885, with a population of 3,000,000 and an area of 900,000 square miles; Liberia lies on the west coast, has a population of about 1,500,000 natives, with 25,000 colored emigrants from America. Abyssinia, known as the ancient Ethiopia, is an African Empire; it has an area of 180,000 square miles, and a population of 3,500,000. It occupies the highlands, or extensive tablelands, from 6,000 to 10,000 feet above the sea, diversified by mountains and river gorges, and being thus comparatively inaccessible has been able to maintain its independence for many years. There are two Boer republics, which are nearly surrounded by British territory; situated entirely in the interior, without a port on the ocean, and separated from the Indian Ocean by about two hundred miles. They were originally populated by Dutch, who first settled in Cape Colony and Natal, but who became dissatisfied with British rule. Those now called Boers quitted Cape Colony in 1836, and established the Orange Free State in 1854; its area is estimated at 48,326

square miles; its population is a little over two millions. The great Kimberley diamond mines are located just west of the territory of the Orange Free State. The Transvaal lies north of the Orange Free State, and is a republic founded by the Boers, who left Cape Colony in 1835; established their independence in 1852, and were annexed by the British government in 1877; took up arms in 1881; self government being restored, an agreement was signed in 1884, by which the State was to be known as the South African Republic. The seat of government is Pretoria, with a white population of ten thousand. One-third of the population of the republic is engaged in agriculture, the lands outside of the mining districts are exceedingly productive, and the demand for farm products is great. The gold mines are the most productive in the world; they have already turned out gold to the value of more than three hundred million dollars, and, according to experts, have still three billion five hundred million "in sight."

Foreign goods for the Transvaal reach it through several ports: Natal and Cape Colony (English), Lourenco-Marques (Portuguese); but they are in telegraphic communication with the surrounding states. Great dissatisfaction has been felt among the British residents of the republic because of the heavy taxation imposed upon them by the government of the State, and their inability to participate in the government, owing to the long term of residence required to obtain even a partial right of franchise.

The gold production in the Transvaal has increased from 208,122 ounces in 1888 to 3,699,908 ounces in 1898. The total quantity of diamonds found in 1898 in the Transvaal were valued at \$212,812.

The greatest interest centers in Rhodesia. This occupies the territory known as British Central Africa and lies directly north of Bechuanaland. The territory was originally controlled by the British South Africa company, Hon. Cecil John Rhodes, manager, and includes the country known as Mashonaland and Matabelaland, with a population of two hundred and forty thousand. These are the localities where very interesting antiquities have been discovered. The total area of Rhodesia is about seven hundred and fifty thousand square miles—equal to about one-fourth of the United States—and it has a population of from one to two millions; six thousand of them white.

The Kimberley diamond mines, which are located in British territory, just outside the boundaries of the Orange Free State and about six hundred miles from Cape Town, now supply ninety-eight per cent. of the diamonds of commerce, although their existence was unknown prior to 1867, and the mines have thus been in operation but about thirty years. It is estimated that three hundred and fifty million dollars' worth of rough diamonds, worth double that sum after cutting, have been produced from the Kimberley mines since their opening in 1868-69;

and this enormous production would have been greatly increased, but for the fact that the owners of the various mines in that vicinity formed an agreement by which the annual output was so limited as to meet, but not materially exceed, the annual consumption of the world's diamond markets. So plentiful is the supply and so inexpensive the work of production, that diamond-digging in other parts of the world has almost ceased since the South African mines entered the field.

The gold mines of South Africa are, as we have stated, the richest in the world. Recent discoveries lead to the belief that these wonderfully rich mines are the long lost "gold mines of Ophir" from which Solomon obtained his supplies; making "a navy of ships in Ezion-geber, which is opposite Elath, on the shore of the Red Sea, in the land of Edom; and Hiram sent in the navy his servants, shipmen that had knowledge of the sea, with the servants of Solomon; and they came to Ophir and fetched from thence gold and also talents and brought it to King Solomon."

---

#### SIR. J. WILLIAM DAWSON.

SIR J. WILLIAM DAWSON was born at Pictou, Nova Scotia, in 1820. He graduated at Edinburg University, and returning home devoted himself to geology and paleontology. In 1843, he began contributing to scientific periodicals. He wrote a monograph on the Devonian Carboniferous Floras of North America. His work on "Acadian Geology" appeared in 1855.

He became known as a discover of what was called Eozoon Canadense, which he maintained was the earliest relic of animal life. Considerable discussion arose about it. This led him to write his book on "The Dawn of Life." He was opposed to the Darwinian theory, and wrote "The Story of Earth and Man" to refute the theory. He held to the marine origin of the drift deposits, and at the meeting of the American Association at Minneapolis argued in favor of "water ice," rather than "land ice." His work on "Fossil Man" was about the only purely archæological book he ever wrote; it was based on the discovery of the remains of the ancient village or city called Hochelaga, on the site where Montreal now stands. In it he described the prehistoric relics, and compared them with those of Europe, but failed to make as close a distinction as many other archæologists would consider desirable.

His work on "Eden Lost and Won; or, The Studies of the Early History and Final Destiny of Man, as Taught in Nature and Revelation," as well as the work that followed it: "The Historical Deluge," and another on "Modern Ideas of Evolution as Related to Revelation and Science," were written with the idea of reconciling science and religion. In these he held the traditional view. The last-named work reached a sixth edition, and had great influence over the public mind.

His best books were perhaps "The Meeting Place of Geology and History," "The Chain of Life and Geological Time," and "Egypt and Syria; Their Physical Features in Relation to Bible History."

As principal of the Magill University for forty years, he assumed a prominent position as an educator and built up the institution into permanent success and influence. He was appointed president of the Royal Society of Canada in 1882, and in the same year was elected president of the American Association. In 1886, he was president of the British Association. He received the honor of Knighthood in 1884. He died at Montreal, November 19, 1899.

Principal Dawson will be remembered by those who knew him, as a gentleman of kindly spirit, modest and courteous; a good pattern of a Christian gentleman, who never failed to secure the respect, even of those who differed with him in opinion. His convictions were decided and he was free to express them on public occasions, when opportunity offered. There are some points which the consensus of opinion has settled contrary to his conclusions, but his position as to the Bible as a work of revelation, which can endure the light which advancing science might throw upon it, won for him the confidence of all thoughtful men of all Christian lands. His works have been read extensively, and will survive him.

---

#### PRESIDENT EDWARD ORTON.

ANOTHER gentleman, who, like Principal Dawson, was educated as a theologian, but became prominent as a scientist and made his mark upon his generation, by the breadth of his views and catholicity of his spirit, has just passed away, namely, President Edward Orton, of Columbus, Ohio.

It has been often said that clergymen, by reason of their profession or education, were unfitted to become scientists, but facts show that it is a mere presumption.

President Orton was the son of a clergyman, Samuel D. Orton, D. D.; a graduate of Hamilton College; studied theology under Dr. Lyman Beecher and Dr. Edward J. Park. He was best known as a geologist, but was at the same time interested in archæology and history. He served on the Geological survey of Ohio under Prof. J. S. Newberry, and afterward was State Geologist for many years. He was elected president of the American Association, when it met in his own city (Columbus), and gave an address on the "Wonderful Century and the Progress accomplished in it."

Prof. Orton was most useful as a teacher; a calling to which he was devoted for more than half a century. From our personal acquaintance, we are glad to give testimony to his courtesy and kindly spirit.



## ARCHÆOLOGICAL NOTES.

DISCOVERIES IN NICARAGUA.—An article published in the Chicago Tribune, furnished by Mr. Henry W. Fischer, describes the finds in Nicaragua. They are important because they show that there was contact between this country and Asia in prehistoric times. Among others was an image resembling the Chinese Buddha, with almond-shaped eyes, pigtail and all. It was in the shape of a vase, seven inches high, and beautifully enameled and polished; it was made from Nicaragua clay and represents Buddha has sitting.

"There are many places in Nicaragua where mementoes of ancient American civilization of Asiatic origin are to be had for the digging. One is the Province of Nicoya, and another on the slopes of the Volcano Irazu, 8,000 feet above the sea level. Mr. Chable also found several islands in Lake Nicaragua rich in buried treasures of clay, gold, silver, and semi-precious stones. These islands lie almost on the line that will be followed by steamers crossing the lake from the mouth of the San Juan Rivel to the canal at Las Lajas.

"Mr. Chable also dug up gold and jade amulets and all sorts of pottery of ethnological value in the Solentiname group of islands, while the Island of Ometepe, with the two volcanoes of Ometepe and Madera, yielded him fine specimens of stone carving and remnants of household goods of former races that were buried with their owners. Pottery of a rough and uncouth sort is found everywhere about the route of the canal.

"Local tradition has it that the buriers of these pots and jewelry were Aztecs, who came by seas as far south as Nicaragua, where they took the name of Mangués, and after a time drifted into Nicoya. Those who hid their dead in the Volcano Irazu were probably another Aztec tribe, who paddled through the San Juan River and up the San Carlos River, then proceeded along the crest of the mountains until they reached Irazu. Thus it will be seen that the Aztecs, who supposedly came "from the far north," practically followed the route laid down for the proposed twentieth century canal.

"The existence of a race far superior to the aborigines from which the present Indians have sprung, is attested by their burial places. They had three kinds of graves—some walled in, with flagstones on top and bottom; some partially walled, and others without top or bottom, scooped out in the earth. In all of them the diligent archæologist will find pottery made of a coarse, raw clay, that the modern artisan would not touch.

"Mr. Chable, who opened hundreds of these graves, says he rarely came across remains in the shape of bones. The graves are situated from five to six feet below the surface, seldom more, the heavy laja or top stone, five by six feet in size, rest-

ing firmly on the flagstone side walls. When the lid is lifted with crowbars, it remains to remove the dust which has sifted through the interstices of the stone in centuries past.

"This done, you begin to look for reward,' says Mr. Chable. 'All the bodies are laid out facing the rising sun, and as a rule two pieces of pottery are found at the head, one on either side of the cranium that was. At the side, within reach of the hands, there is more pottery, some of it containing a mould, an analysis of which showed remnants of cocoa or toasted corn; and more pottery at the feet, and above the neck some precious ornament of jade, olithoclase, or gold, if the grave be that of a rich man.'

"As to the Asiatic-American's pottery, no living man can make its equal to-day. The fowls of the air, the beasts of the land, and the fish of the sea—they limned them all on their bowls and jars and vases. The birds are full of motion, as though a Japanese artist had painted them with a stroke of his never failing brush. It was evidently the artisan's chief aim to depict the animal world.

"Among the articles dug up by Mr. Chable, and which New York scientists are gloating over, are cups and jugs, household utensils and bells, jewelry, idols, and musical instruments of quaint design. Here are frying pans of clay, varying in size and of ruddy color, in ochre and Titian reds. The handles are shaped after a hundred patterns—snakes, duck and alligator heads, fishtails, caciques' heads, human forms, and what not. Even the clumsiest of household pieces were carved in some rude manner. The large stone used for grinding corn, for instance, is often found in beautiful shapes, the commonest being that of a tiger carved out of volcanic stone. On the jicara, a gourd-shaped drinking vessel, the artist must have spent months of patient toil. The tracery is delicate, the shape full of careless grace; the colors are subtle, yet full of warmth. These vessels, having round bottoms, required stands fashioned like napkin rings wherein to place them when not in hand.

"Love of children must have been one of the traits of the Asiatic-American Indians, for Mr. Chable found numerous specimens of toys for children, articulated dolls, too, all of clay—clumsy, some of them, as if they had been fashioned by youngsters. Arms, legs, and the head work in sockets and are fastened to the trunk by pita fiber passed through holes in the two pieces.

"Many musical instruments were found: whistles in the shapes of birds, men's heads, frogs—all clay, all grotesque, all with the five holes of the octave. Here is a small duck of black earth, with beryl wings and gaping beak. Blow through the aperture in the folded wings and you will hear the five tones of the Chinese lute—F, G, A, B flat, B natural. Two jars of enameled clay, stained red and brown, make up the

twin whistling vases. Each is ten inches high, with long, straight neck and full, round body. A narrow duct connects the necks, and the bodies are also joined together. In the neck of one is a stopper pierced with five holes. Pour water into the open neck, and as the first fills the air is expelled from the second through the perforated stopper. It comes out whistling softly—again the five tones of the Chinese lute. If you apply your fingers you can play all sorts of melodies. But that isn't all. The striped clay tiger sings when you blow through his tail. Who will explain it all—the Buddha, the Chinese musical scale, and the rest?"—Chicago Tribune.

++ ++  
++ ++

AN INTERESTING ANTHROPOLOGICAL "FIND" will soon be announced by the American Muscum of Natural History. It is nothing less than the discovery, on a lonely island in Hudson Bay, of a lost tribe of Eskimo—a community which has been without intercourse with other representatives of the human species for centuries, and whose members never saw a white man until a few months ago. They are still in the Stone Age, knowing no metals; they grow no plants, and their houses are built of the skulls of whales. The tribe comprises only fifty-eight individuals, about equally divided as to sexes. Its members speak a dialect peculiar to themselves, and quite unlike that employed by any other Eskimo. A strait about thirty miles broad separates Southampton Island from the western shore of Hudson Bay, where there is a colony of Eskimo, and once in a very long while it freezes clear across. This happened, it is said, seventy-five years ago, and then a few hunters came over from the island to the mainland, where they were much surprised to encounter other human beings like themselves, having doubtless imagined that they were the only people in existence. This is now a tradition with the natives on the mainland, who say that the strangers brought two sledges with them, but went away again and never returned. Neither before nor since has any news come from the lost tribe.

++ ++ ++  
++ ++ ++

ANOTHER VERY STRANGE ETHNOLOGICAL "FIND" has just been made by Mr. George H. Pepper, who is connected with the American Museum of Natural History. This is nothing less than the turning up in Northern New Mexico of deposits representing memorials of ceremonials which were conducted perhaps one thousand years ago by the ancestors of the modern Moki Indians. Of late years many descriptions of the Moki snake dances have been published, exciting no little attention, and hence the interest attaching to evidences of the great antiquity of so remarkable a mode of religious observance. The Pueblo Bonito, where the discovery was made, is the largest of the many prehistoric ruined cities found in that part of the country. Last summer Mr. Pepper started digging

operations, one result of which was the partial uncovering of a nest of human artifacts that is certainly pre-Columbian, and, in all probability, were older than this term would imply. The deposit was in the floor of a kiva, and consisted of certain charms, which possibly were worn by the medicine men. They have been reported as commemorating "fossil snake dances, but the imagination of ordinary reporters is always vivid.

++ ++  
++

FINDS IN ECUADOR.—Near Manti, Ecuador, is a remarkable archæological relic, one of the most interesting monuments in South America of an unknown and extinct civilization. Upon a platform of massive blocks of stone, upon a summit of a low hill in a natural amphitheater and arranged in a perfect circle, are thirty enormous stone chairs, evidently "The Seats of the Mighty." Each chair is a monolith, cut from a solid block of granite, and they are all fine specimens of stone carving. The seat rests upon the back of a crouching sphinx, which has a decidedly Egyptian appearance. There are no backs to the chairs, but two broad arms. This is supposed to have been a place of meeting—an open-air council of the chiefs of the several tribes that made up the prehistoric nation, which was subdued by the Incas of Peru several hundred years before the Spanish invasion. Tradition teaches with more or less obscurity that the territory now known as Ecuador was divided into several independent but allied kingdoms, and that the people reached a high stage of civilization. They worshipped the sun and the moon, to both of which they raised temples. They had a knowledge of astronomy and were skilled in other sciences and art, but they had no written language, and the only records that tell of their existence are mute monuments like the chairs described.

++ ++  
++

GEOMETRICAL AND HUMAN FIGURES.—The following in reference to human figures on pottery, is from a private letter written by Dr. J. Walter Fewkes: "I did not find in my collection of pottery from the Upper Gila (Pueblo Viejo) a single specimen of decorated pottery with human or animal designs painted on it, but there were two specimens with a human figure in relief. On the Little Colorado and its tributaries, Four Mile, Chevdon, Komoloti, etc., there were many bowls, vases, etc., decorated with animal and human pictography, but no human figures in relief. The geometrical patterns on the Gila and Little Colorado pottery are very similar, probably have like meaning. As a rule animal and human figures on black and white ware are rare, geometrical designs predominate. Whether that means that this pottery is more ancient or not, is as yet unknown. It is very hard to obtain any information as to the age of pottery from its texture, color, or decoration.

AMERICAN HISTORY ON THE STAGE.—In reading of the early history of the South one cannot help noticing that in the young days of the republic there was much romance and a love of chivalry below what has so long been known as Mason and Dixon's line. A great portion of Virginia was a one time colonized by representatives of aristocratic families from England and France, and they brought with them many of the customs, habits, manners, and fashions of the old world. Many of their home were built entirely with materials imported from the mother country, and they were a people unused to business and to whom the thoughts of trade were obnoxious. This, it must be remembered, was long before the gospel of work and progression had reached the ears of the Fairfaxes of Fairfax and the Carrolls of Carrollton. The young men rode their thoroughbreds up the broad oaken staircases for the slightest wager, and history bears witness to the fact that it was a time when many a woman was wooed, won, and married in the saddle with her lover's arm around her. It is with these people and the social conditions that existed in Virginia during the early days of the present century that Eugene W. Presbrey's comedy, deals.

++ ++  
++

EXPLORATION IN THE FORUM.—A frieze belonging to the age of Antonines has been found in the Via Sacra. Eighteen layers of the Via Sacra have been laid bare; near the Arch of Titus it has undergone a violent disturbance. A fine mosaic pavement, of the time of Minerva, has come to light, in the Court of the Vestal Convent, and a much more magnificent one in the Forum, probably belonging to the times of Justinian. The buildings of Vespasian and Maxentius can be seen side-by-side.

++ ++  
++

A ROMAN PAVEMENT near Dorchester, England, has been discovered; it lies about two feet beneath the surface and contains a central octagonal ornament, surrounded by scrolls, guilloches, and flanked by oblong spaces, with a centre vase with two small handles.

++ ++  
++

THE MOON SYMBOL.—The symbol of the curved non-descript creature pictured on the pottery by Dr. Fewkes in the Smithsonian Report for '95, is interpreted by Rev. Mr. Voth as a symbol of the moon.

## LITERARY NOTES.

THE OVERLAND MONTHLY is one of the most valued of all our exchanges. During the last year it has contained a great many finely-illustrated articles, some them on archæological subjects; among these we may mention the article by Cunyngham Cunningham on "A Picturesque Pueblo, near Soro Monte, Mexico"; another, "A Trip to Mt. Adams," and another on "The Pagodas of China." The article on "The Literary Developments of the Far Northwest," by Herbert Bashford, is also very instructive.

\* \* \*

THE JOURNAL OF THE POLYNESIAN SOCIETY is another of our valued exchanges which treats largely of archæology and ethnology. The September number had an article on "Polynesian Native Clothing," by Rev. Samuel Ella; another on "The Fire Walking in Fiji, Japan, India, and Maritius."

\* \* \*

THE BULLETIN OF THE AMERICAN GEOGRAPHICAL SOCIETY has a finely-illustrated article on "The Great Lakes and Niagara," by Ralph S. Tarr. The view of Niagara Falls, as given by Hennepin, Kalm and other early visitors, as well as the photographs of the Falls as they are to-day, help us to understand the changes which have occurred. It has been pointed out by Hensen, that thirty independent estimates of post-glacial time, based upon different data, give results of between 5,000 and 12,000 years; so the age of the Niagara Gorge would be from 7,000 to 10,000 years, but the problem is by no means solved, as some make an estimate of from 30,000 to 50,000 years. The region about the Niagara Falls has been rising about one foot and a quarter in a century. Gilbert believes that the Great Lakes will discharge into the Mississippi past Chicago, from five to six hundred years from now, and that in 3,500 years Niagara will be dry. The change amounts to six inches in a century at Duluth, and nine inches at Toledo and Chicago.

\* \* \*

PROF. J. H. DEFOREST, D. D., has an article in *The Independent* for February, on "Japan," and Capt. Alfred T. Mahan one on "The Philippines and Transvaal." The question raised, is whether the right to landed property, either conquered or purchased by one nation from another, transfers the people on the land to the purchasing nation, and whether allegiance is due. Ethnologists will understand that originally there was no nation in these islands, the land having been occupied by clans and held in common by the clans. The conquest of an island may have secured a title, which can be transferred; but as long as the native system of clans and tribes continues, it will be difficult to convince the natives that such a transference is possible.

\* \* \*

HARPER'S MAGAZINE for September, '99, has an article on "The Centuries Progress in Experimental Psychology." The same number has the famous article by Mark Twain concerning the Jews, and begins the series of articles on "The First American," which contains pictures of his homes and household. Harper's keeps up to the standard, even though the price has been lowered to \$3.00.

APPLETON'S POPULAR SCIENCE MONTHLY for September, '99, has an interesting article on "The Survival of African Music in America," by Jennette Robinson Murphy. The author takes the position that the greater part of their music, their methods, their scale, their type of thought, their dancing, their patting of feet, their clapping of hands, their grimaces and pantomime, and their gross superstition, come straight from Africa. Some of the later songs we may call modified African; but it seems hardly just, to call the genuine Negro songs, the folk songs of America. The stock is African, the ideas are African. The veneer of civilization and religious furor and Bible truth is entirely superficial, the African is under it all. This imported music, the strange, wierd, untamable barbaric melodies, have a rare beauty and charm. The November number has an article on "The Wonderful Century," by W. K. Brooks, who compares the conduct of modern nations, who call themselves civilized, with that of the Spanish conquerors. They use their vast armaments for their own agrandisement and for the injury of their neighbors, but their Christian governments do not conduce to the improvement of the nations.

\* \* \*

W. G. IRWIN has a description of old Fort Ancient in the *Scientific American* for February 17. As to the age of the fort, the weight of opinion is that 1,000 years will cover its existence; there are many evidences of long occupation. The fort is divided into three sections, has terraces twenty feet wide, and what are called stone pavements between the walls. The skulls that have been exhumed are of two classes, the long heads and the broad heads, thus corroborating what the editor of this journal has stated and what Prof. Putnam confirms: that there were a northern and a southern race, which occupied this region in southern Ohio; one of which may be called Mound-Builders, the other Indians; though neither term exactly expresses the thought.

\* \* \*

PROF. MASPERO has completed his great work "The Dawn of Civilization," and has brought the history of the Orient down to the time of the Shepherd Kings of Egypt. The second volume, called "The Struggle of the Nations," brought history down to the reign of Shalmanezer. The third comes down to the conquests of Alexander the Great. In dealing with the subjects the author makes use of the Greek historians, the Hebrew scriptures, the recovered writings of the Assyrians, Babylonians, Egyptians, Hittites, Persians, Armenians, and others. The book is published by the Appletons. Edited by Prof. A. H. Sayce.

\* \* \*

THE NEW ERA has an article on the question "Can White Men Live and Thrive in the Tropics?" The author takes the ground that they can, but view is opposed by many good authorities. The same magazine has an illustrated article on "Life Among the Cannibals."

\* \* \*

THE AMERICAN ARCHITECT AND BUILDING NEWS for February 17, has articles on "Italian Gardens" and "Ramsey Abbey." The Abbey was founded by the son of King Alfred; many Roman coins have been found there. Both articles are well illustrated.

## BOOK REVIEWS.

ENCHANTED INDIA. By Prince Bojidar Karageorgevitch. New York and London: Harper & Bros., publishers (1899); pp. 305.

QUAINT CORNERS OF ANCIENT EMPIRES: SOUTHERN INDIA, BURMA AND MANILA. By Michael Meyers Shoemaker, author of "The Southern Seas" and "Palaces and Prisons of Mary Queen of Scots." Illustrated. New York and London: G. P. Putnam's Sons, the Knickerbocker Press (1899); pp. 212.

These two books should be read together, for the first contains a general view of India, as seen by a native prince, and contains a description not only of the varied architecture of the country, but the more lively scenes of human activity which everywhere prevails, with an occasional reference to the terrible scenes of disease and death with which that country is celebrated. Some of these descriptions are absolutely pathetic and contrast very strangely with the columns, gateways, statues of the gods, bas-reliefs of the most bewildering perspective, which represent the art of the past. The 1,452 gods of the Jain Paradise are represented on a sculptured pyramid under a pagoda. "Around one pagoda, towering over a wretched village that lay huddled in the shade of its consecrated walls, a proud procession of stone bulls stood out against the sky, visible at a great distance, in clear outline, through the heated, quivering air."

"Ancient buildings, the remains of still majestic magnificence. Thorn breaks cover supporting walls as broad as crenellated terraces; fragments of light and fantastic architecture stand up from golden blossoms; tottering colonnades overhang tanks, all green at the bottom with pools of brackish water. Native lancers maneuvering, charged at top speed in a swirl of golden dust, which transfigured their movements, making them look as though they did not touch the earth, but were riding on the clouds; their lances quivered for an instant, a flash of steel sparks against the sky—a salute to the Maharajah. A long train of wailing women, loud in lamentations, came slowly out of a house where one lay dead. A dangerous madman behind a grating which shut him into a kind of hovel. A tame white antelope, wandering about the garden of the old Rajah's palace, under a shower of gardenia-like flowers. A temple, carved and pierced and overloaded with ornaments. Stations for prayer stood all along the road, where foot-prints, are worshipped. Elephants come along, stepping daintily, but filling the whole width of the street. Beggar women came up, to sing from door to door, asking alms."

It is an enchanted land and is described in a charming manner. The book contains a series of word pictures which show a marvelous command of language. It contains no illustrations, and one needs to read it carefully to get the real scene fixed in the mind.

The second book supplies the deficiency, for it is full of illustrations and gives an idea as to the art and architecture which prevail. The tank of the golden lilies at Madura; the stately procession of elephants at Tanjore, and the stone bull; the seven hundred and fifty pagodas at Mandalay, and the golden palace; the famous pagoda on the rocking stone at Moulmein; the City of Pazahn; pagodas and enshrined Gautamas at Rangoon; the cathedral of Manila; earthquake ruins in foreground, and the oldest church in Manila, are the titles of a few of the engravings.

The style of the author is by no means as brilliant or magical as that of the Hindoo Prince, and yet it sets off the events which occurred, and furnishes many good descriptions of the scenes and objects of interest.



**THE HISTORY OF ILLINOIS AND LOUISIANA UNDER THE FRENCH RULE; EMBRACING A GENERAL VIEW OF THE FRENCH DOMINION IN NORTH AMERICA, WITH SOME ACCOUNT OF THE ENGLISH OCCUPATION OF ILLINOIS.** By Joseph Wallace, M. A., author of the "Life of Colonel Edward D. Baker." Second Edition, with maps, etc. Cincinnati: The Robert Clarke Company (1899); pp. 433.

**THE OLD NORTHWEST; THE BEGINNINGS OF THE COLONIAL SYSTEM.** By B. A. Hinsdale, Ph. D., LL. D. Revised Edition. Boston, New York and Chicago: Silver, Burdette & Company (1899); pp. 430.

These two volumes supplement one another. The first gives the history of the discovery and exploration of the interior. The second gives the history of the settlement and the conquest of the same region; conquest, first, from the Indians; second, from the French; third, from the English, as the colonies of the English were continued even after the colonies on the Atlantic coast had asserted and maintained their independence.

The local history and the descriptions of particular localities are given in the book by Mr. Wallace, and are so graphic and complete that they form a good background for the picture which is drawn by Prof. Hinsdale; the political history being given by the latter very fully. To the archaeologist and the antiquarian, both books are exceedingly valuable. It seems to be positively criminal for any one, who may live in the interior, to be ignorant of the region, so long as such interesting books as these are at hand.

Of course it is expected that the residents of the Atlantic coast will be familiar with the localities where great events have taken place, for the very names of cities, lakes, rivers, and railroad stations are so suggestive, that one almost unconsciously looks out of the car window at their announcement, and, perhaps, the younger the traveler is, the keener the interest. The traveler in the West, however, hears such names as La Salle, Joliet, Hennepin, and Marquette and hardly thinks of the places as having been trodden by the early explorers. He may even enter into excellent hotels and cross over parks which bear these time-honored names, and never think of history. When, however, such books as these are in our public libraries, and can be on our tables, there is no excuse for ignorance. It is to be hoped that with the antiquarian discoveries that have arisen in so many localities in the Eastern States, with the tracing out of genealogies, and with the large number of splendidly illustrated books which represent local scenes and events, that the historic spirit will be aroused throughout the entire country.

++   ++   ++

**HISTORIC TOWNS OF NEW ENGLAND.** Edited by Lyman P. Powell. Illustrated. Second Edition. New York and London: G. P. Putnam's Sons, The Knickerbocker Press (1899).

**HISTORIC TOWNS OF THE MIDDLE STATES.** Edited by Lyman P. Powell. Illustrated. New York and London: G. P. Putnam's Sons, The Knickerbocker Press (1899).

These two beautiful volumes originated in a novel way. The author in 1893 escorted a body of students to historic spots in Philadelphia, Germantown, Battlefield of the Brandywine, and the site of the winter camp at Valley Forge; and in 1894, conducted excursions to Hartford, Boston, Cambridge, Lexington, Concord, and other places of historic interest. Among the parties were some of the most distinguished writers, such as Col. T. W. Higginson, Dr. Edward E. Hale, Talcot Williams, C. C. Coffin, Hezekiah Butterworth, and many others. The result was that Dr. Lyman P. Powell, the projector of these excursions, became the editor of a series of historic sketches, which were written, for the most part, by residents of these noted places, and who were familiar with all the historic events and

scenes. They were so familiar with them, that they perhaps would not have thought of writing about them, except for the impetus which was given through these excursions.

There is an inspiration in the sketches, for they bring before us the names and characters of those persons who have been the prominent actors in American history, but whose home life is almost unknown. It is like taking a series of portraits of prominent men and putting them into a framework which would represent the very scenes with which they were surrounded, and making one set off the other. The places are crowded with a throng which knows little of the past, and cares less; but there are those who look with different eyes, and who recall that life which once throbbed with such pulsations as to effect the remotest parts of our country, and have the ability to tell the story of the exploits which make the places memorable.

It is not, then, merely a description of a few historic houses, or relics, or local surroundings, which makes the reading in these books so fascinating, but it is the fact that everything is filled with the memory of the great and good men, who once lived in them; they seem to have been brought to life again. It is not merely the cities and the show places, but many out-of-the-way and quiet rural towns are described, and events which are almost forgotten are told, with the scenes in which they were enacted brought clearly before the eye. Nothing can be more gratifying to the lovers of history than this. It is taking archæology and history and making them both speak with eloquent words. The artist may paint the scenes; the historian may write them; but here the two are united in one.

Such places as Portland, Salem, Boston, Concord, Plymouth, Providence, Newport, and Cambridge, come in for the lion's share; but such little places as Rutland are mentioned. This was the dwelling place of Rev. Manasseh Cutler, who was a great man and who did more than any other man to secure all the Northwest territory against the extension of slavery, and for the settling free industrious people from New England. The place is called the cradle of Ohio, because from it went out the men which first settled at Marietta, which was the forerunner of all those bands of emigrants and colonies which so rapidly filled the Mississippi Valley with an intelligent population, and carried into the West New England institutions.

The battles which occurred in the State of New York and made such places as Saratoga and Schenectady and Newburgh historic, because of the victories that were won, are as graphically described as though the writer was an eye witness of the events. The battlefields were visited, and every locality is described, as the scene where each particular struggle took place. Even the houses, the springs, and the hills are brought into the account, and the part which men and women took in each event is shown.

If the Interior could be visited in the same way, by parties who are well informed, and every historic place could be described, it might take away the ignorance which now prevails, and bring citizens who dwell unconsciously near these places to realize the importance of local history and awaken more patriotism, which now is looking so far away for its inspiration, and make it closer and more practical.

We commend the two volumes to the reading public, and hope that they may be found in all the libraries.

++ ++ ++

THE ROMAN HISTORY OF APPIAN OF ALEXANDRIA. Translated from the Greek by Horace White, M. A., LL. D., with maps and illustrations. Vol. II.—The Civil Wars. New York and London: The Macmillan Company, Limited (1899).

It is very remarkable that a man who is as industrious as Mr. Horace White has been in other lines should find time to prepare a translation of a Greek book, which is out of print, but which will be very useful to scholars and literary men. The book was first published A. D. 150, during the reign of

Antoninus Pius. The earliest account of Appian's works is given by Photius Encyclopædia in A. D. 891.

Samuel Musgrave, the English scholar, in 1780, began to gather material for translation. Prof. Schweighauser published it in 1795, in three volumes. There was an English translation in 1575, in old English black letter; another one was made by John Davies, and published in folio form.

Mr. White has subjected his translation to Prof. Theodore Lyman Wright, Professor of Greek Literature in Beloit College, for revision. The portraits used as illustrations were selected by himself at Rome, and are very excellent, especially that of Julius Cæsar, which forms a frontispiece to Vol. II.; and Scipio Africanus, which is found in the first volume. There are also several *facsimiles* of Vatican manuscripts, which were secured at Rome.

The authorities on Roman history are, as follows: the works of Cicero, those of Polybius, who was an eye witness of the third Punic war; Cæsar's Commentaries; the works of Sallust, and the works of Livy. Appian's history has never been read as much as that of other Latin writers, probably because it was written in Greek. The history of Rome, naturally comes under the Latin department, and is taught by Latin professors; consequently a Greek book is not used as a text-book, and the style of Appian is not so attractive as that of Livy and other writers; but, judging from the translation, it has the same general characteristics, and, in fact, is in some respects even better than theirs.

The book is dedicated to Prof. Joseph Emerson, D. D., LL. D., Professor of Greek in Beloit College, as the late-coming fruits of his instruction, and is published by the Macmillan Company in their usual elegant form.

++ ++ ++

**PLANTATION PAGEANTS.** By Joel Chandler Harris, author of "Uncle Remus," etc. Illustrated by E. Boyd Smith. Boston and New York: Mifflin & Co., The Riverside Press.

The writings of Joel Chandler Harris are valuable because they contain the folklore and myths of the Africans in their own dialect, without any interpolations from the white man. The present volume on "Plantation Pageants" does not contain as much dialect as the others, but is mainly given to the narrative of events which occurred after the war.

"The Story of a Strange Wagoner" is one that gives a picture of the character and a turn out, which could only be found in the South. The talk about fox-hunting brings up another scene peculiar to that region. There is, however, an undercurrent of negro superstition which makes the animals to be like human-kind and enables the negroes to understand their language—a quality which is possessed by them alone.

It is interesting to take such books and compare them with the books on folklore and mythology of the Indians, for by this means we learn the peculiarities of each class of myths. Those of the negroes leading us mainly to such animals as frequent the inhabited places and are familiar to the negroes, like the fox and the rabbit and the coon. Those of the Indians were generally wild animals, such as the wolf, panther, raven, eagle, etc., who were regarded not as companions, but as totems, and perhaps as divinities.

++ ++ ++

**HISTORY OF THE NEW WORLD CALLED AMERICA.** By Edward John Payne, Fellow of University College, Oxford. Vols I. and II. Oxford: The Clarendon Press (1899).

There are several respects in which this history of America will interest the archæologists and ethnologists of this country: First, it is about the early history of America, which has taken advantage of the discoveries and investigations in their line of study, or has ever given the results which would help to solve the problem of the peopling of this continent. The work begins with the usual account of the discoveries which preceded

those of Columbus, including the journey of Marco Polo to China; the voyage of the Norsemen to Iceland, and the fabulous and uncertain voyages and journeys which gave rise to various traditions which prevailed, and which led to the placing on the map certain names which were significant.

There was a tradition among the Romans about the Ogygian or Kronian Continent, and among the Greeks of the Island of Atlantis. There were certain names, such as "St. Brandon," "Antilles," "Isle of the Seven Cities," and "Ultima Thule," which kept up the expectation that a continent would yet be discovered beyond the great western sea. When the continent was discovered, it was found apparently to be as well occupied as many parts of the Old World, and rivalling them in the abundance of its gold and the grandeur of its cities. So the descriptions of Marco Polo of India were almost realized in America.

The name "New World" (Nova Terra) soon began to be wonderfully expressive, but the impression continued for a long time, that it was a part of the Old-World-India-Land of Cathay, and the effort was continued for many years to pass through it and reach the regions which were familiar. It seems strange on this account that, after it was once ascertained that the "New World, called America," was a separate continent, and that the separation should be regarded as so great and distinct and long continued as many historians and archaeologists have been inclined to make it.

The great merit of this book, is that after the account of the discovery and a description of the character and resources of the continent, that nearly the whole of the second volume should be given to the discussion of subjects which relate to the geological, geographical, ethnographical studies. These subjects are treated in a scholarly way, and give results which are unfamiliar to even American scholars, but which, nevertheless, are worthy of consideration. The English scientists, as a general thing, take the ground that America was separated from Europe, but united with Asia, in geological times, and it was peopled by Asiatics. The animals and the people of the two continents corresponded very closely with one another. Mr. Payne, the author, thinks that there was a pre-glacial race—a race of pigmies—of which the Eskimos are, perhaps, the survivors, and that they were followed by post-glacial tribes, who entered by Behring Straits and made their way down as far as Central America and Peru. He does not hold to contact during the late historic times.

The discussion of these topics is very candid and ought to secure the confidence of American readers. It may be that after reading the volume, the archaeologists, who have become so heated over certain mooted points, will become more charitable to those who differ with them, and see that there is another side to the shield—"that there are people who live beyond the mountains."

++ ++ ++

THE DIVINE PEDIGREE OF MAN; OR, THE TESTIMONY OF EVOLUTION  
AND PSYCHOLOGY TO THE FATHERHOOD OF GOD. By Thompson  
Jay Hudson. LL. D. Chicago: A. C. McClurg & Co. (1899.)

This book treats, as its title would indicate, about the character of the human mind as independent of the body, and so traces "the divine pedigree of man." The author holds that there is a subjective and an objective mind. "Materialistic scientists have succeeded in demonstrating, that the objective mind is a function of the brain, and that it is inherent in the brain." But it does not necessarily follow that the subjective mind is inherent in any one or more organs of the body; on the contrary, all the facts tend to prove that it exists independently of any specialized organ whatever. The objective mind cannot, of its own volition, move one purely involuntary muscle. On the other hand, the subjective mind can and often does take entire control of the whole body and wields it at its will. This is universal law in the supreme hour. Therefore after the brain has forever ceased to perform its functions, and the objective mind is totally extinct, there is an interval before the soul takes its final departure, in which it shines forth

with phenomenal lustre, to give assurance to the world, that the death of the body is but the birth of the soul into a higher and a more perfect life. "The emotions" of man are obviously identical with the "animal propensities" of his lower ancestors; and as they ante-date the brain, they are necessarily faculties of the subjective mind. It follows that with man, as with animals, the subjective mind is the store house of ancestral memories, and when we add to these, the perfect memory of individual experiences and of acquired knowledge, we may begin to approach a realization of what a vast store-house of latent intelligence, is the subjective mind of the average civilized man. The fundamental issue resolves itself into this question: does mind ante-date physical organism? If the affirmative is true, it necessarily involves the theistic interpretation of the origin of mind and life; if the negative is true, physical organism necessarily originated mind and endowed it with its wonderful powers. How? By an accidental juxtaposition and subsequent union of certain chemical substances protoplasm was formed, and protoplasm originated mind. This, in plain terms, is the atheistic hypothesis of the origin of life and mind."

These quotation, taken at random, will show the character of the book and its method of treatment. The sociologists may not all of them accept the reasoning, yet it is well that this side should be presented. The trend of the argument will be not to show that God is infinitely human, but to prove that man is potentially divine; that the soul of man is made in the image of man.

++ ++ ++

ZOROASTER, THE PROPHET OF ANCIENT IRAN. By A. V. Williams Jackson Professor of Indo-Iranian Languages in Columbia College University. Published for the Columbia University Press. New York and London: Macmillan & Company, Limited.

Zoroaster, it is believed sprang up in the seventh century before the Christian era, somewhere in the land between the Indus and the Tigris. During the very life-time of Zoroaster—if we accept the traditional dates—the Jews were carried into captivity in Babylon, and their return from exile to Jerusalem takes place less than a generation after his death. He became the founder of the Persian religion, and is regarded as one of the greatest masters of the world. A great many legends have gathered about him, which convey the idea that there were as many miraculous events connected with his birth, life, and death, as there were with those of Christ. These have been put together by the author, but in such a way as to make it uncertain whether he believes them to have arisen in a period subsequent to the birth of Christ, and thrown back to the earlier days and applied to Zoroaster; or considers them as genuine and as reliable as those contained in the New Testament.

The biographical sketch shows that Zoroaster was totally unlike Christ, in his personal character, life-work and means of accomplishing it. There can be but little doubt that much of his time was spent in the care of the sacred fire, or in the furthering of the special cult throughout the land. Tradition counts that one of the most important features of Vishtaspa's conversion was his active agency in founding new places in which the holy flame might be worshipped. Fire worship existed in Iran before Zoroaster's time. The spread of the fire cult by Zoroaster is the chief result of his life.

There was an ancient enmity between Iran and Turan, which broke out into a war of creeds, but which ended in battles. Victory led to other attempts at universal conversion, but the conversion was to be accomplished by force. Thus we see the contrast between Christ and the Persian Zoroaster.

The death of Zoroaster occurred about B. C. 583. The writer says: "His is no ordinary end. He perishes by lightning, or a flame from heaven, which recalls the descent of the fiery chariot and the whirlwind in the apotheosis of Elijah"; yet he says: "the accounts of Zoroaster's death seem to be legendary. According to Iranian tradition, his death was

violent, and occurred at hand of a Turanian, whose name is preserved to ill-renown."

The book contains an appendix of about 150 pages and a plate representing a very remarkable sculpture, in which are four figures, one of which is supposed to be Zoroaster. The appendix and the biography, as well as the legends and traditions about Zoroaster, are worthy of close study. There is no other book which contains them in such fullness. The science of archæology will need to be called upon before these religious founders of the East can be placed on a level with Christ, the Great Redeemer. Thus far it has set back the dates of history and confirms the traditionary view.

++ ++ ++

**THE YOUNG PURITANS IN CAPTIVITY.** By Mary P. Wells Smith, author of "The Young Puritans of Old Hadley," "The Young Puritans in King Philip's War," and "The Jolly Good Times Series." Illustrated by Jessie Wilcox Smith. Boston: Little, Brown & Company.

This is one of the stories which are founded upon the local history of the Valley of the Connecticut in the time of King Philip's War, and incidently gives many details of Indian customs. The worst barbarities of the Indian treatment of prisoners are not pictured, but there are enough to give an idea of the sufferings and dangers through which the early settlers passed. The best side of the Indian character is not seen in any of these books, only the dark side. In this respect they can hardly be called history, for history takes a broader view.

The story of Capt. Smith and Powhattan is certainly different from any of the stories in this book. It shows the friendliness of the Indians and the favors which the white men received, while this book dwells on the atrocities on one side and sufferings on the other. The author appears to be familiar with the scenery, and has presented the story in its proper setting by way of scenery and natural surroundings. The engravings illustrate the narrative.

No doubt the volumes will be sought for because of the tragic events that are described, and on account of the local history which is in a manner recorded.

++ ++ ++

**THE MIRACLES OF MISSIONS—MODERN MARVELS IN THE HISTORY OF MISSIONARY ENTERPRISE.** By Arthur T. Pierson. Third Series. New York and London: Funk & Wagnall's Company (1899).

There is one fact brought out in this book which will interest our readers: a missionary among the Indians of Canada, so remote from civilization that the word bread was unknown, was endeavoring to teach them, but found it difficult; at last he invented a series of ideograms. He made a character which he pronounced *ma*; another, *ni*, and another, *too*. The three characters were then read together, making the word *manitoo*. With this he went on, until in less than three weeks some of the Indians could read the Bible in their own language; and in a full year, over eighty per cent. of those in the village were reading the Bible. This man was the famous John Evans, who accomplished so much and whose memoir has been published.

"Ecuador" is the title of a chapter which is very instructive.

In a quiet way the work of civilizing and christianizing the degraded races is going on. The author of the book, Mr. Arthur T. Pierson, is a representative man in this work.

++ ++ ++

**A YEAR BOOK OF COLONIAL TIMES.** Compiled by the Rev. Frederick S. Sill, D. D., member of the Society of Colonial Wars. New York: E. P. Dutton & Company (1899).

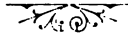
This book is printed with every other page left blank, probably with the idea that the calendar, which is continued from the beginning to the end, may be made to embrace events in the Colonial times, which may

come to the knowledge of the reader, and so may be recorded under the day of the month, the year varying according to circumstances. Those who are interested in this period will find it very useful. There is a quotation attending each record of events, which the author has ordered to be printed. If the purchaser follows the pattern, the book will prove in the end a literary treasure, which will vary according to the taste of the owner. It is a novel way of publishing a book, but may prove helpful and suggestive.

---

BOOKS RECEIVED.

- Report of the Commissioner of Education for the Year 1897-98. Vol. II., containing Parts 2 and 3. Washington: Government Printing Office, 1898.
- National Educational Association Journal of Proceedings and Addresses of the Thirty-eighth Annual Meeting, held at Los Angeles, California, July 11-14, 1899. Published by the Association.
- Triumph and Wonders of the Nineteenth Century; the True Mirror of a Phenomenal Era. A volume of original, entertaining, instructive, historic, and descriptive writings, showing the many and marvelous achievements which distinguish an hundred years of material, intellectual, social, and moral progress. By James P. Boyd, A. M. L. B. Copiously and magnificently illustrated. Philadelphia: A. J. Holman & Co.
- Smithsonian Institution United States National Museum. Arrow-points, Spear-heads, and Knives of Prehistoric Times. By Thomas Wilson, Curator, Division of Prehistoric Archaeology, United States National Museum. Washington: Government Printing Office, 1899.
- Documentary History of the Campaign on the Niagara Frontier in 1812 (with maps). Part 3. Collected and Edited for Lundy's Lane Historical Society by Major E. Cruikshank, author of "The Story of Butler's Rangers," &c. Welland: Printed by the Tribune.
- American Journal of Archaeology. Second Series. The Journal of the Archaeological Institution of America. Issued bi-monthly. Illustrated. Vol. III., No. 6, November-December, 1899. Norwood, Mass.: Published for the Institution by the Norwood Press.
- Pompeii; Its Life and Art. By August Mau, German Archaeological Institution, Rome. Translated into English by Francis W. Kelsey, University of Michigan. Illustrated from original drawings and photographs. New York: The Macmillan Company.
- The Africanders; A Century of Dutch-English Feud in South Africa. By Leroy Hooker, author of "Enoch, the Philistine," "Baldoon," &c. Chicago and New York: Rand, McNally & Company.





MOUNTAIN SCENERY IN MEXICO.





VIEW OF ORIZABA, MEXICO.

THE

# American Antiquarian

---

VOL. XXII.

MAY AND JUNE, 1900.

No. 3.

---

## SOME RELICS OF THE STONE AGE FROM PUGET SOUND.

BY JAMES WICKERSHAM.

THE State of Washington is divided into two widely different regions by the Cascade mountains, which extend north and south through the center of the State. West of this range, the country is a vast forest into which the natives penetrated seldom in pursuit of game, and through which they traveled only along a few trails. They lived along and traveled upon its highways, avoiding its interior forests as much as possible. They were distinctly a maritime people, whose front door opened just above high tide and looked out upon natural oyster or clam beds, or a salmon fishery. The wilderness behind the house was the gloomy home of Seatco, the demon of the dark forest, with whom was associated a host of minor imps. Its impenetrable thickets and gloomy recesses prevented the prospector from finding whatever of stone was there suitable for implement making, and it is certain that this region presented the poorest opportunity of any in the United States for the development of the arts of the Stone Age. It is really doubtful if any quarry of stone suitable for implement making was known in this region.

It is too early, however, to announce any conclusions upon the archæology of western Washington. The shell heaps and other sources of archæologic wealth have not yet been fully examined; the village and grave sites are generally covered with dense thickets of timber. We know, too, that upon the death of the owner, all his implements were formerly destroyed, or placed in his buried canoe, that he might have them for use in Otlaskio, the underground land of the dead. Having no quarries of stone, he made his implements of bone, shell, or wood, and these soon decayed. In short, the conditions which surrounded the Puget Sound tribes gave them the minimum supply of stone relics, and the conditions which yet confront the inquiring student afford him also the smallest return for a vast amount of hard labor in searching for them.

When the archæologist of the future examines the miles of shell heaps and kitchen refuse along the Pacific and Puget Sound beach, he will conclude that the tribes that built them were extremely poor in personal property. In this conclusion, however, he will be mistaken, for these people built large, warm wooden houses; carved great canoes out of cedar logs; made trunks, boxes, cedar-root baskets, beds, images, spears, paddles, bows and arrows, war clubs, water buckets, food trays, totem sticks, nets, fish-hooks, traps, bowls, cups, spoons, plates, pipes, drums, blankets, capes, skirts, coats, caps, hats, and masks, out of the cedar tree and its side products, bark and roots. A large Indian village containing a thousand persons might exist for years in peace and plenty on Puget Sound, without an implement of stone among them; the dearth of stone relics in this region is no evidence whatever of a low state of civilization, or the want of aboriginal wealth.

Labor among the Indians of Puget Sound was specialized. While all were carpenters, in a broad sense, yet there were those who were specially skilled in canoe making, and who, from working under masters in planning and adzing out these great war boats, became highly technical in that line. Others made paddles, while some were devoted to the manufacture of bows and arrows; others were skilled only in the manufacture of images which were used in religious rites or mythological performances, while there was always in each tribe a skilful builder of the ancient barrier fish-trap. No man was more highly respected than one skilled in working metal, of which they seemed always to have had a limited supply. The last of the old Nisqually Indian bow and arrow makers died some ten years ago and I obtained his last old Scythian bow and a hundred fine arrows, and no better workmanship can be found in all Indian-land.

The Columbia river region, east of the Cascade mountains, presents a complete contrast to western Washington in soil, climate, and archæology. It is largely an arid region, without covering for its rolling hills and rich valleys; long ago quenched volcanic fires threw upon its surface vast fields of molten matter, which on cooling left exposed the richest and rarest treasure for an aboriginal workshop. The most precious arrow-making material is there flung with reckless prodigality to the native artizan, and here it was that arrow making reached its highest perfection. Along the Columbia river are found the most perfect arrows, the rarest forms and most beautiful specimens of the arrow maker's skill known to archæologists—thousands of them but half an inch long, and others a foot in length. If there can be said to have existed a fine art in arrow making, it was here. Not only were the forms varied, unique, and perfect, but the material was chosen with an artist's eye. Silicified wood, agate, crystal and rose quartz, and the rarest and most beautiful stones were sought and worked to the greatest advantage from an artist's standpoint; obsidian and other

forms of silica, mixed in many colors in nature's crucibles, were manufactured into very jewels in arrow and knife patterns.

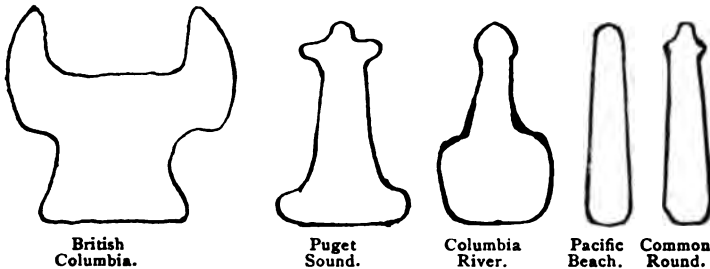
Mrs. Helen A. Kunzie, who resides at the junction of the Umatilla and Columbia rivers, has, with the spirit of an enthusiastic archæologist and many years labor, made a collection of these upper Columbia river relics, which has certainly never been equalled in richness in that region. Her splendid knives, bronze macana, and three-legged carved metate, would be prizes in any Aztec collection, yet they were all found within twenty miles of Umatilla.

The artizans of western Washington fashioning their implements from the most abundant and easiest worked material are fairly classed as aboriginal carpenters; the distinctive feature of archæology in the upper Columbia basin was the skill of the natives in working precious stones—they are, of all the natives in this region, entitled to be known as lapidaries. In a much lesser degree the carpenters were workers in stone, and the lapidaries were hewers of wood.

#### SOME TYPES FROM WESTERN WASHINGTON.

##### PESTLES.

There were two stone implements in constant use by the carpenters—the pestle and the adze blade. The pestle was from three to ten inches long and weighed from four to five or



British  
Columbia.

Puget  
Sound.

Columbia  
River.

Pacific  
Beach. Common  
Round.

##### STONE PESTLES.

six pounds, and was used as a maul or hammer in cutting and splitting logs, driving pegs, and generally all purposes for which a hammer would be used. With it and the elk horn wedge they cut down immense standing cedar trees and split out such timber and boards as they needed, which were fashioned afterwards by the adze. With this hammer they built the house, the bed, the boat and the great fish trap. The Nisquallies call it "pud-di." and attribute its origin the divine Doquebatl, the Changer. There were at least five forms of this implement from British Columbia to Oregon; beginning with British Columbia, we find an unique type, with the hand hold on top and a guard on each side of the hand; the Puget Sound type was round, with an ornamented head, and a flaring

base; the Columbia river type presented an enlarged base, with a square shoulder; the coast type was square in cross section, without the flaring base; while the common round form was found both on the Columbia river and Puget Sound. The Indians had many superstitions concerning this implement and its manufacture; it was made from the common grey river worn boulders. While the above forms are types in the localities mentioned, yet trade and traffic often carried the type of one region over into another.

#### ADZE BLADES.

With the adze the aboriginal carpenter made his splendid great carved canoe, with its graceful lines and immense capacity. I have seen the old canoe maker burn and split out the interior of the canoe, and then adze away day after day, with one hand on the other side to measure the thickness of the gunwale; he adzed industriously, measuring with his eye, until the boat was finished, its sides three-quarters of an inch in thickness—the most graceful and useful boat made by uncivilized man. From Alaska to Rogue river this maritime peo-



STONE ADZES AND HANDLE.

ple made the most buoyant and seaworthy boat in America; while the natives upon San Francisco bay rode upon a raft of reeds. With the adze our carpenter made great boards, which he set up behind his bed and which passed from father to son as heirlooms. I have seen them five feet wide, twelve feet long, with a uniform thickness of one inch and a half, straight and true, but marked over both surfaces with the small chip marks of the stone adze blade. In the great communal houses at Neah Bay and on the west coast of Vancouver's Island I have seen large house timbers forty feet long, round, eighteen inches in diameter at each end and twenty-four inches in diameter at the middle, entirely hewn out with the old adze blade. In some of these large villages there were many such houses, with many thousands of feet of these large, long, squared, and rounded timbers, and great quantities of lumber, boards and studding, joists, posts and rough boards, all hewn out with the adze.

Stone adze blades are found all over western Washington, even along the rivers inland, where the canoe makers and hewers of wood plied their trade. When new they were about six inches long and three inches wide, and only sharpened at one end. They were fastened into a wooden or bone handle

by green thongs or hide or bark, which on drying became yet tighter. Some of the handles were only the forks of a small tree, one branch of which was fashioned into the handle and to the other the adze blade was bound; others were carved in wood or bone with the adze bound on the bottom. The Indian adze man always cuts towards himself with an adze, or other cutting instrument. Many of these stone adze blades are much shortened by sharpening, while many places show that the blade was sometimes broken on hard knots or by accident. The stone from which these blades are manufactured resembles a fine whetstone, and seems to come from the vicinity of Frazer river; it may, of course, be found in the neighborhood of Puget Sound, but I do not know its situs. I have two specimens in my collection from the Frazer river, made from a nephrite; one is a chisel, sixteen inches long, such as the Indians in that region used, and the other is an adze blade; both are highly polished, as nearly all the adze blades are.

## ARROWS AND KNIVES.

I have found some rough specimens of arrows in the kitchen refuse and shell heaps which seem to be of local manufacture. Some of these were probably used as skinning knives, but others were certainly arrow or spear heads. These rough and



ARROWS.

KNIFE.

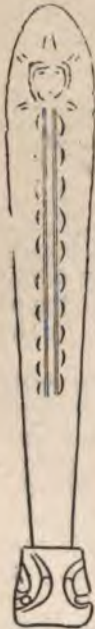
local forms are rare, but so distinct in character from others, which are so clearly traced to eastern Washington, as to admit of but little doubt as to their local origin. The shell heaps furnish but few arrows, the types of which are shown in the following forms:

Specimens of the arrow and knife maker's art were formerly imported into this region from the upper Columbia river—from Wenatchee, Yakima and Klickitat, via. the passes of the Cascade mountains. These eastern tribes were traders and travelers, and made their way over the mountains down into the prairies lying midway between Puget Sound and the summits. Here they camped, and sent out parties to reach the different tribes on the Sound, from whom they purchased supplies, paying in those things which they brought along for barter. In time intermarriages and even permanent settlements in these midway prairies resulted from this inter-tribal commerce; but the prairie bands were always more closely united to the tribes east of the mountains, than to those on the Sound. It resulted that the arrow maker's art was imported, with a supply of material, to these prairie settlements.

Snoqualmie, Tenalquot or Connells prairie, Nisqually plains and Cowlitz prairie, were the largest of these beautiful green prairies, set like jewels in the great forest covering of western Washington. In these and some smaller prairies the tribes met on neutral ground for trade, marriage and inter-tribal intercourse; and in these prairies the archæologist finds the stone implements of eastern Washington, and often the rough material just imported. At Connells prairie, on the old Klickitat trail from Yakima to the Sound, are found many arrows, pipes and other stone relics of the Yakima type. We find here the beautiful small points so common on the Columbia river and which have become known as Oregon points. These upper Columbia river arrows are found on Cowlitz prairie and down on Gray's harbor and Shoalwater bay, where they seem to have been carried in trade. The Makah people say that they formerly made arrows of stone.

#### WAR CLUBS.

Another stone implement found in western Washington is the war club. It is known to the Makahs and more northern tribes, whence it seems to have reached the Sound, as "cheetoolth," and to the Nisqually bands, as "slubbets." It is the Mexican "macana," and splendid specimens have been found from Alaska to Mexico, on the Columbia river and in western Colorado. There are two forms of this implement, the most widespread being about eighteen or twenty inches long, three inches wide at the broadest part, and three-quarters of an inch in thickness. This is the "macana" type, and beautiful specimens were made from whale bone at Neah Bay and northward, several of which I have in my collection. Specimens of this form in stone have also been found; one at Olympia, and another on Whidby's Island; and a specimen in copper on Hood's Canal. In the Kunzie collection is a beautiful bronze macana, found in a grave on the north bluff of the Columbia river in Klickitat County, Washington. It is the same size and bears the same ornamentation as one of stone, found in a mound in Bent County, Colorado, and immediately recognized by Kit Carson as a common form among the Indians of that region. Another form of this stone war club is shorter than the macana type, and is diamond shape in cross-section. Like the former, it was hung to the wrist with a deer hide thong and hidden under the warrior's cloak until he was in striking distance of an unsuspecting victim, when suddenly the blow was given, as with a policeman's "billy," and with about the same effect. These clubs are made of a dark gray stone.



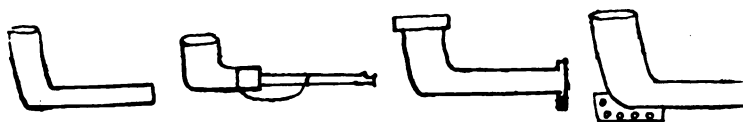
STONE WAR CLUB.



STONE WAR CLUB.

## STONE PIPES.

In Alaska the natives embellished their pipes with a wealth of mythological carving; but in Washington they are quite plain, though highly polished. Few are found along the coast or on Puget Sound; many more are found on the midland prairies, having once belonged to Yakima or Klickitat owners. The Nisqually Indians of Puget Sound not only obtained the highly-ornamented pipes from the Tlingits of Alaska, but I have a beautiful red pipestone peace pipe from the Dakota Sioux, which was found in the kitchen refuse on the shore of Puget Sound near Olympia. The pipes figured here are in my



STONE PIPES.

collection. The one from British Columbia was obtained from a coast native, and it is made of a dark sandstone; the next one, from Connells prairie, is a beautifully polished serpentine; the next seems to be a dark soapstone, which hardened by smoking; while the Wenatchee specimen is a yellow limestone or marble.

## STONE AXES.

It is quite probable that other stone axes will be found in this region, but so far I have seen but one found on Puget Sound or the Pacific beach, and that one was taken from an ancient grave at Twenty-fourth and East Dock Streets, Tacoma.



STONE AXE.

It is at rifle less than four inches long, and has the handle groove cut deeply on both sides and the front, but is straight down the back. It is well polished, and is a beautiful and well-finished specimen, but a slight imperfection on one side shows that a water-worn pebble was utilized as the basis of the implement. It looks very much like an Ohio or Illinois implement far away from home. In the large Kunzie collection, gathered with so much care, and covering so wide a region on the central Columbia river, I do not remember to have seen one stone axe.

## STONE MAT PRESS.

This implement will, I am sure, be new to most Eastern archæologists, yet it is not at all a rare form on Puget Sound, where the natives made as many kinds of mat work as the Japanese. Every household has one, but most generally it is made of hard wood. It is about three or four inches long, and the bottom part is fashioned into a half circle, and the working edge deeply grooved. The outer ends are frequently carved



into an animal or bird head. When the mat maker had forced her needle and bark thread through the tule stocks or softer leaves, thus fastening them together side by side until she made



STONE MAT PRESS.



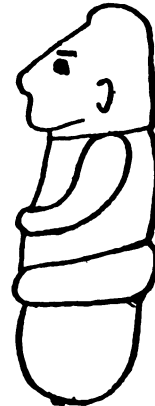
WOOD MAT PRESS.

a mat many feet long, she used the grooved under face of this tool to press the tule fibre flat and even with the rest of her work. I have one black slate and many wooden presses in my collection.

#### STONE IMAGES.

Many stone images are found along the Columbia river, and the Kunzie collection possesses some rare specimens. Many implements are ornamented by the natives of Puget Sound with animals and bird heads, and frequently the human features are carved in wood and whale bone, but stone images are rare. The State University has one large specimen from Sumas prairie, near the British Columbia line: it is a human figure, roughly outlined on a large stone, and very nearly resembles the figure of the small one from Neah Bay in my collection. The Sumas figure must be three feet or more in length, and weighs several hundred pounds.

In a collection of Neah Bay workmanship, brought down to illustrate the fishery industry among the Makah Indians at our Inter-State Fair, some years ago, was the stone image figured here. It is carved out of a soft sandstone, and seems to be the outline figure of a human being, with a flattened head and folded arms, in a squatting position. The image was given to me, and I learned its history, which may be of interest to those who see an object of worship in every image made by uncivilized man. It seems that the Indians of Cape Flattery visit the halibut banks off the Cape, as they have done from time immemorial, and that at least one man had "poor luck"; to secure better results he made this image, and upon reaching the fishing ground he lowered this "good-luck" stone near his hooks, and the inevitable result was a greater catch of halibut. At his death this stone with his baskets and fishing



STONE IMAGE.

tackle was placed on his grave, from whence it came to the Inter-State Fair. The image is ten inches long and weighs five or six pounds.

If, now, it be conceded that the artizans of Puget Sound were deficient as stone workers, yet they must be given the highest praise as workers in wood. They felt little necessity for stone tools or implements, and were possessed of more wealth and comforts than the tribes east of the mountains, who exhibited such skill as lapidaries.

Pestles and adze blades are quite numerously found, but all other stone implements are very rare on Puget Sound. All kinds of woodenware and basket work of the finest variety were common to every family. I know of but one stone axe, four stone images, and four stone war clubs found so far—they will always be rare, as compared with the Columbia river region.

---

## THE ARCHÆOLOGY OF ETHICAL IDEAS.

BY C. W. SUPER.

In a former article I tried to show briefly that the development of ethical ideas is intimately connected with the experience of the race, especially the experience gained by living in a more or less organized society. In the present, it is proposed to examine certain terms that embody this experience, with a view to ascertaining what light they throw on the moral history of mankind.

All modern languages contain a considerable number of words that have been in use for ages with but little change of form, but of which the ethical significance differs widely from that which it originally had. Even in the case of a language whose history is so brief as that of the English, the unwary translator is in constant danger of reading into a modern word a meaning which its ancestor of a few generations ago did not embody. The danger is doubtless the greatest with the English words of Latin origin, where similarity of form suggests identity of content. Because such terms as *virtus*, *conscientia*, *humanitas*, *honor*, and many more are evidently the progenitors of virtue, conscience, humanity, and honor, why not translate the former series of words by the latter? Yet every person, who has studied Latin with any care, knows that the process is rarely so simple. Words that have a more or less abstract meaning are interpreted by their users in the light of their environment. How widely do persons differ as to the meaning of so common a word as "religion!" Again, if I were to ask the first score of individuals whom I might chance to meet to give me a definition of a "good man," I am sure I should find a considerable difference of opinion, though there might be some essential qualities in which they would all agree. If then the definition of a familiar expression at the same date in

the same community shows such a diversity of views, it follows as a matter of course that similar divergences in the same class would be found if we took different periods in the history of the same community or the same social group.

It seems certain that some peoples are incapable of raising themselves by their own unaided efforts above a certain level of progress, while others again seem unable to do so with the assistance of superior races. The attempt to elevate them has resulted in their extermination. We see the same thing in the case of individuals. Some will "get along" no matter how adverse the conditions under which they begin life; while others again come to a standstill as soon as the elevating and instructive forces are withdrawn. It is related of a certain chief on one of the islands of the Pacific, who had two wives, but who had been taught by a missionary that it was wrong for him to have more than one, that he came to his instructor one day to inform him that he had only one wife now. When asked what had become of the other, he replied that he had eaten her. The anecdote, whether true or not, illustrates the workings of the uncivilized mind. The ideas of right and wrong are so circumscribed that their whole content can not be comprehended at once. The same characteristics may be noted in children. They will yield to their avaricious instincts and take what does not belong to them. When charged with theft, they will lie to clear themselves, even when they are not under the fear of punishment. In like manner we find men whose commercial integrity is beyond question indulging in breaches of the law against chastity or profanity. The idea of moral obligation is circumscribed, further, by the nearness of the person with whom it comes into relations. In the primitive state this idea of obligation does not extend beyond the family or clan. The Latin language, though far from being primitive, has the same word for stranger and enemy. By many persons it is not regarded as a crime to steal from a member of another tribe, or to kill or belie him, whose fidelity to a friend is unimpeachable. This feeling was very strong among the ancient Jews, and the early Apostles had great difficulty in persuading their brethren that the new religion recognized no difference of race, condition, or class.

The case was not different with the Greeks. They held that all men who were not of themselves were barbarians, however high their civilization might be in some respects. The word barbarian did not, it is true, originally convey the stigma now contained in it; nevertheless, it implies the notion of inferiority. On the other hand some of the more thoughtful among the early Hebrews had arrived at the conviction that God is no respecter of persons; that who does right is acceptable to Him, no matter where born or whence descended. But the doctrine gained ground very slowly. So, too, among the Greeks, Socrates taught that moral obligation and the laws of right conduct are of universal validity, yet few of his country-

men accepted his teachings. In general, their recognition of obligations did not extend beyond the narrow limits of their own territory, or their real or imaginary kindred. We see the same moral myopia in the doctrine that faith need not be kept with heretics. Even now there are few persons who are ready to admit that, man for man, a foreigner is just as good as one of their own countrymen. To the majority outlandish is synonymous with barbarous. The same statement is true, or has been true until lately, of the attitude of the various religious denominations toward each other. Identity or similarity of creed has sometimes bridged the chasm that separated nationalities from each other, though it has often been powerless when stronger passions were excited. Jew has fought against Jew; Romanist against Romanist; Protestant against Protestant; nevertheless it is perhaps not doing violence to the etymology of the word *religion* to connect it with *obligation*, and to assume that originally it served as a bond among men that were separated by tribal lines.

It must be plain to every one that the experience of the race has constantly operated to enlarge the sphere of moral obligation. It has followed slowly, very slowly, indeed, the course pointed out by many of the moral philosophers ages ago. In this great work the state has been on the whole a potent agent. If we no longer hold that faith must be kept with friends, but need not be kept with heretics or foreigners or enemies, it is because the ever-widening sphere of states and their relations with each other have taught men by experience that "honesty is the best policy." The commercial integrity of the most advanced nations is the highest. What the most enlightened philosophers could not have taught men by argument, they have learned in the school of practical life. We not care to have dealings with men who can not be trusted; and if we are constrained thereto by the exigencies of circumstances we call upon the law, that is, crystalized public opinion, to aid us.

Most children have by nature the evil propensities of savages, but experience soon teaches them that it is often inexpedient to indulge these propensities because of the penalties which the law inflicts on convicted transgressors. It is neither prudent nor wise to act in contravention of usage. Neither can we conceive of man as living in isolation. He is not only a social, but a political animal. It is the political instinct that raises him far above gregarious brutes.

Albeit, while the state is a promoter of morality in a large way, there is a sphere within which it can not and does not attempt to regulate man's conduct. It may be able to make him pay a note, but it can not and does not try to make him keep a verbal promise. It punishes the slayer of a fellow man by direct means, when the crime has been detected and proven, but it attaches no penalty to murder by various indirect means, such as criminal neglect and the infliction of mental anguish.

The law is in truth a clumsy device, but until some method is discovered for laying bare the hearts and motives of men, there can be no better. The highest private morality is always in advance of the public standard. The intrinsically good man is always a law to himself. History furnishes many examples of men whose zeal for what they felt to be right carried them beyond the limits set by their fellows and brought upon them great sufferings.

The most general term for moral excellence is our word virtue. In modern English it is rarely applied to a material object, but in the older language its use was more general. Its ancestor, the Latin *virtus*, did not necessarily, or even generally, mean moral goodness, at least as we now understand it. In the second and third odes of the Second Book, Horace has clearly in mind two types of virtues, one of which has the modern signification, the other the ancient meaning, which may be translated courage or fortitude. The Greek correlate is ἀρετή. In Homer this word has only a faintly discernible moral content. It has regard solely to what has value in the eyes of men in a comparatively low stage of civilization. Some of the commentators on certain passages of Thucydides are at a loss to understand why this author should use the term as applicable to such men as Peisistratus and Antiphon. But there is nothing surprising in this to the student who is careful not to read into ancient writers what they did not intend to put into their text. A man may be ἀρετή which is the attribute corresponding to ἀγαθός from the standpoint of his clique or party, and yet from a more general point of view be a bad man. This truth may be illustrated by the case of the Jesuits.

We have not yet ceased to make a distinction between personal and public virtue. In popular opinion a man may be patriotic, that is, devoted to the welfare of his country, and to this extent a good man; yet he may at the same time be profane or vulgar in speech, unchaste, careless of pecuniary obligations, and more things of the same sort. The German word *Tugend* corresponds to the Greek ἀρετή. It is probably derived from *taugen*, to be efficient, and expresses the idea of *Tuechtigkeit*, closely connected with which is *tuechtig*, and the English word doughty. The course of its development is almost exactly paralld by that of virtue.

The poet says, "An honest man's the noblest work of God." Let us examine somewhat closely this word *honest*. It is directly derived from the Latin *honestas*, a word that rarely if ever means honest in the modern sense. Its close relation to *honor* is evident. But honor in Latin means a public office. It seems clear that a man was in remote times regarded as *honestus* when honored with a public office; with a position where the real or supposed interests of the clan or tribe could be most effectively served. This was the highest mark of esteem that could be conferred on a man. In Germany we find the corresponding term *Elre*, from which is derived

*ehrwuerdig*, honorable, now a mere title. From it *ehrlich* has been differentiated to designate personal uprightness. In like manner the aristocracy were originally the best in their own estimation, just as the nobility were the best known, though neither might possess any good moral qualities.

Aristotle says of the Odyssey that it is ethic because the character of the patient and resourceful hero is displayed in action guided by reason. Yet the most cursory reader of the poem will find little in it that is ethical in its modern sense. No teacher of ethics will put before his pupils as a model such a character as Ulysses. He was almost anything except a moral man. As I have just used the word moral, let us examine some of its etymological and psychic congeners. It is derived from *moralis*, which in form seems to have been coined by Cicero from *mores*. It has reference to outward conduct, conformity to the usages of the community. *Mores* and manners are, as often used, convertible terms. The Apostle says, "Evil communications corrupt good manners." We still say of a rude person, that he has no manners, that he is an unmannerly fellow, by which we evidently, though unconsciously, take for granted that there are certain ways of doing things that are right and proper. What society approves and sanctions "goes." Shakespeare had this trait in mind when he wrote:

"Fit for the mountains and barbarous caves,  
Where manners ne'er were preached."

In "politeness" and "civility" we have two more words that have a wholly social origin. In fact civilization is constantly used to designate a certain social status as compared with another, and has reference almost solely to conduct and not to underlying motive. As the word is commonly used, a people may be highly civilized, as for instance the ancient Athenians, but have a low moral standard, and vice versa. Yet civilization is inconceivable as existing among men living in isolation.

Our word ethics has a curious and almost inexplicable origin. Homer uses its plural form *ἠθεα* to designate the customary haunts of animals. Its shortened form *ἠθος* designates use and wont among men, and is etymologically connected with *ἠθίζω* "accustom." The journey from its original to its modern signification is a long one, and one that would scarcely be deemed possible but for the light that is thrown upon the concept by comparative linguistics. The German word *Pflicht*, duty, is derived from *pflügen*, the meaning of which corresponds almost exactly with the passive form of *ἠθίζω*. It may seem strange that one's duty should have any necessary or even close connection with use and wont, but the evidence is irrefragable. Contact with their fellows taught men the first rules of conduct, and from this lowly origin was gradually developed the concept of duty and obligation wholly apart from and often in direct opposition to the opinions of our

fellow men. Aristotle says justice consists in giving to every man his due. How shall we ascertain what is a man's due, except by taking a consensus of public opinion? If one man's due is greater than another's, it is because his merit is recognized by a judicious environment. In their own opinion few persons receive all that is due them, but as society is now and has always been constituted, there is no remedy. In orderly communities the individual submits, just as Socrates did when unjustly condemned to death. In the same category is the term rights. It is only the state that can decide this question, or its antecessors—the tribe, the clan, and the family. There is no unvarying standard.

However strongly we may condemn the so-called Jesuitical doctrine, that it is right to do evil that good may come, there is a sense in which most men endorse it. The danger is that the basis of measurement be made too short, that the circle of interests be too circumscribed. There is no more binding moral law than that which forbids the putting of a human being to death. But it only holds good as between man and man. Comparatively few men refuse to sanction the putting of a man to death when the good of the community seems to demand it. The Jesuits committed lesser crimes, as they thought, *in majorem gloriam Dei*, but they often overlooked the fact that the greater glory of God must take into account not only the church, but the entire community; yea, all the morally responsible creation of God. Regarded in itself the sacrifice of a hand or a foot is an evil, but it is often the only way to save the rest of the body. Not always, it is true, but often a relative evil may become a good. Sometimes, too, questions of mere expediency or in expediency are wrongly interpreted as questions of good and evil. These must be decided according to the conditions where they are to be applied. A multitude of acts are prohibited in a city, that are permitted in a town; others may be done with impunity in the rural districts, that are not allowed in the town. We can not travel about in our country without being frequently reminded how greatly laws written and unwritten vary, and if we pass into foreign countries the difference becomes still more noticeable. But the inhibitions are always more or less closely related to the body politic and social. The command generally takes the form "Thou shalt not," and it is only men in the mass that can enforce such commands. While it is true that the highest law is individual and subjective, comparatively few men are wholly influenced by it; the vast majority must be kept in some sort of subjection to it by the pressure brought to bear upon them by their social relations. They do not steal or kill or bear false witness, because of the danger resulting from detection, though sometimes under the influence of strong passion the danger is disregarded.

The ancients believed the Cyclops to have been a turbulent and lawless race, living in caves without laws or social institu-

tions of any kind. They had no more respect for human life than ferocious beasts. They did not till the land, but lived on the natural products of the soil, and put men to death with as little compunction as they slew wild animals. We have no record of men so low in the scale of civilization, though the Fuegians and some of the aborigines of Australia are but little elevated above it. The influence that a fixed habitation has upon the moral standard of a people may be inferred from what the Greeks have left as a record for us about the ancient Phœnicians. These sea-rovers of antiquity may have conducted themselves well enough when at home, but abroad they had no regard for what have generally been recognized as the natural rights of man. Like the pirates and man-stealers of more recent times, they carried off property and human beings without the slightest compunction. Unable to adjust themselves to the conditions of a progressive state they were in time swept from the earth, until only a few recognizable remains of them have come down to our time.

On this continent there seem to have been two countries where an original civilization was generated—Peru and Mexico; Yucatan being a possible third. Though high in some respects, it was narrow, and from the standpoint of practical politics, exclusive. When then, the Spaniards, though a mere handful, offered to make common cause with the subject races, these were deluded into supporting a cause that overwhelmed all in a common ruin. The Greeks had long before met a similar fate, and chiefly for the same reason. It was not till the Romans appeared upon the scene ready to put in practice the lessons learned after centuries of strife and experiment, that men's relations to each other must be based not on kinship, but on equality of political rights. I believe all the evidence goes to prove that the primacy has always rested, for the time being, with that government or those governments that most fully recognized the essential equality of man according to the standards of the age. It was by appealing to this consideration in the breast of every man, that Christianity made such rapid progress in earlier churches of our era.

It is very questionable whether any man before Socrates had seriously turned his mind inward and asked himself: Who am I? Whence came I, and whither am I going? How shall I regulate my conduct so that it may be a standard for all time to come? When he answered these questions we see how far he was in advance of his time and how widely his answer differed from that given by most men. His countrymen lived like children, always regulating their conduct by the most shortsighted rules of expediency. We all know the result. Though they had called into being marvels in literature, in the plastic arts, in architecture, and in science, they had never learned to control their passions. Their career is typified by their own Alexander the Great, who, though he knew how to conquer the world, could not rule his own spirit, and as the



story goes, died from the effects of a drunken debauch. They could not save their commonwealths and their commonwealths could not save them. This gifted people expiated their follies by more than two thousand years of suffering and, saddest of all, their recent quixotic enterprise has proved conclusively that they have even yet learned little from their past. They carried individualism to extreme.

If the foregoing deductions, drawn from the history of a number of words in the Aryan tongue are correct,—and they can hardly be doubted,—it must be evident that a careful analysis of the same kind applied to other languages would give us an insight into certain aspects of the human mind, such as we can get from no other source. Unfortunately, so far as the writer knows, not much has yet been done in this direction. Not only have the Slavic tongues received little attention, but almost nothing has been done for the languages of uncivilized races. Many of the tribes who once spoke them have entirely disappeared from the face of the earth, while of others comparatively little is known, except so far as a knowledge of them has served a practical purpose. While it may be comparatively easy to translate the New Testament into Mandingo Hottentot, it is highly improbable that an uninstructed native who reads it will understand it in the sense of the interpreter.

NOTE.—An interesting fact bearing on this general question is mentioned in the recent book of Spencer and Gillen on "The Native Races of Australia." They say that infractions of the regulations governing the relations of the sexes are punished with death, or in some other manner, and that the natives assign as a reason for their severity, that this is an offense against the tribe and has no relation to the feelings of the individual.

## COAST AND MARITIME STRUCTURES.

BY STEPHEN DENISON PEET, PH. D.

THE view which we have given of the prehistoric structures shows that the world had become quite thoroughly peopled before the discovery of this continent. The means by which this was accomplished and the lines which were followed are not by any means certain, but the supposition is that the people who first dwelt in caves amid the mountains, afterward went down into the valleys, and became agriculturalists; and still later reached the sea coast, and gradually made their way along the coasts, until all the continents were reached.

It will be interesting, then, to take such structures as are found upon the sea coast and the islands for special objects of study, and see if they throw any light upon the subject of migrations. These structures may, indeed, carry us back to those which were left many thousand years ago on the coast of Europe; but the comparison may, perhaps, enable us to trace the lines of progress which were followed and the means by which civilization was spread over the globe.

We shall, therefore, take these various works as our subject, and shall classify them under the general head of Coast and Maritime structures, embracing all kitchen middens, lake-dwellings, pile-dwellings, crannogs, shell keys, and all structures built over the water.

Some of the structures were, to be sure, placed near the fresh water lakes and are hardly to be included under the term "maritime," and yet they may be all classed together and treated as if they constituted one type. The people who have left these various tokens are better known under the name of Lake-Dwellers, than by the name we have given, but they represent only a small part of the population which has at different periods, both in historic and prehistoric times, occupied the lake shores and sea coasts, and drawn their subsistence from the water. The terms have come to us from the archæologists, and are used chiefly by them, but are generally applied to prehistoric structures, some of which are regarded as the earliest tokens of prehistoric man.

There are, to be sure, maritime structures and pile-dwellings which are quite modern in their origin and are still occupied. These, for the most part, are found in the islands of the sea; some of them in the Philippine Islands, the Caroline Islands, the Caribs, and in Java and New Guinea. Still, the three classes of structures—shell mounds, pile-dwellings, and maritime structures—may be said to fill up the whole gap between the cave period and the historic period, though there were many other structures contemporaneous with them.

By taking the maritime structures which are still in existence, and by studying them altogether, we are able to ascertain what the condition of society was in prehistoric times. We must remember that all three classes of works were once peopled by those who were exercising their skill in making for themselves comfortable habitations, and were laying the foundations of society for the future. A large proportion of the people who have left these various monuments have passed away and are unknown, except as we are able to study their works and relics; but those who built the maritime structures have their representatives still living, and from these we may learn their habits, ways, and customs of the Lake-Dwellers and other prehistoric peoples. There is not the same mystery about the living people as there is about those who existed several thousand years ago; yet so far as the growth of architecture is concerned or the spread of population through the earth, these rude structures, which, for the most part, were built by sea-faring people, are as instructive as any monuments which exist.

Of one thing we may be sure: namely, that these so-called lake-dwellings and various maritime structures were occupied by a sedentary people and were erected for domestic purposes; while of many of the stone monuments it is still a mystery as to what their object or use was. There may have been, indeed, other works, such as the so-called Pit-houses in Japan, which were occupied by the Ainus or their ancestors, but these are not of general distribution.

The three classes of works illustrate one point: namely, the effect of environment upon the habits of the people. It would seem that, as long as the people were dwelling in the forest, they continued in the low condition of savagery; but, as soon as they came into the open plain, they commenced their onward march toward civilization. Their progress was hastened as they approached the sea and made their homes on the sea coast. There was undoubtedly an expanding influence in the very sight of the sea and a development of the consciousness of power, when man began to be a navigator of the sea. The narrow character of forest tribes, or even of mountain people, is well known, for the limitations of their surroundings have an inevitable effect to shut them in and keep them back. It will be interesting, then, to enter into the study of these maritime constructions, and show their position among the prehistoric

NOTE.—The Plate represents two mounds at Papys Bayou on Old Tampa Bay. Figure 1 is an oval-shaped mound, about five feet high, into which a ditch about two feet deep and fifteen feet wide runs. At the opposite end is a roadway which may be followed several hundred yards into the hammock. Fig. 2 is a section across the mound, looking down into the ditch. Fig. 1c represents the roadway leading to the mound. Another mound, 200 feet long, twenty-nine feet high, and thirty feet wide on the top, with a beautiful incline roadway leading up its western side: it is situated at Bethel's Camp. Figs. 3 and 4 will give an idea of its ground plan, its elevation, and the incline plane or roadway to its summit. Another mound with a roadway to its summit is situated at Dumedin; there were around this mound, deep ditches filled with water, and at a distance ponds and a marsh. The mound is nine feet high, fifty-six feet in length, and eighty feet wide: and the roadway commences fifty feet from the mound, and makes a gentle rise to the top of the main structure. See, for description of other mounds and for maps, Smithsonian Report for 1879, page 394; article, by S. I. Walker.

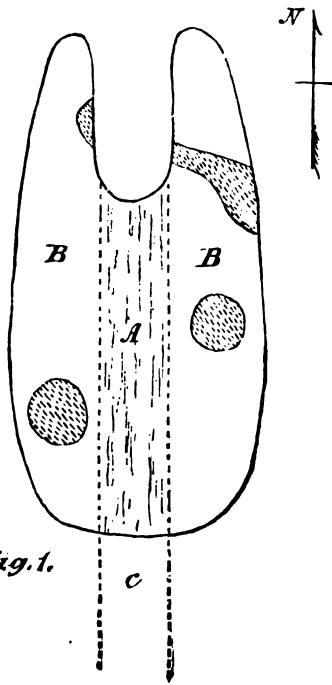


Fig. 1.



Fig. 2.

Mound  
— at —  
PAPYS BAYOU

*Note. The Shaded portions indicate explorations.*

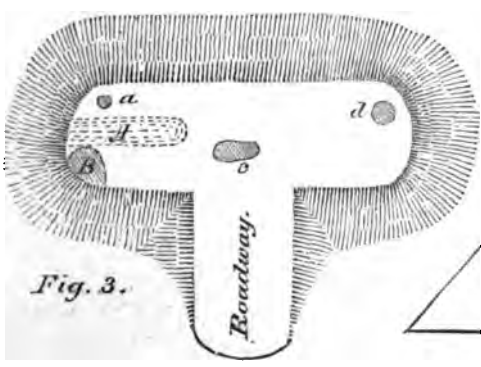


Fig. 3.

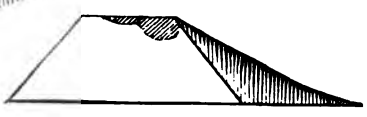
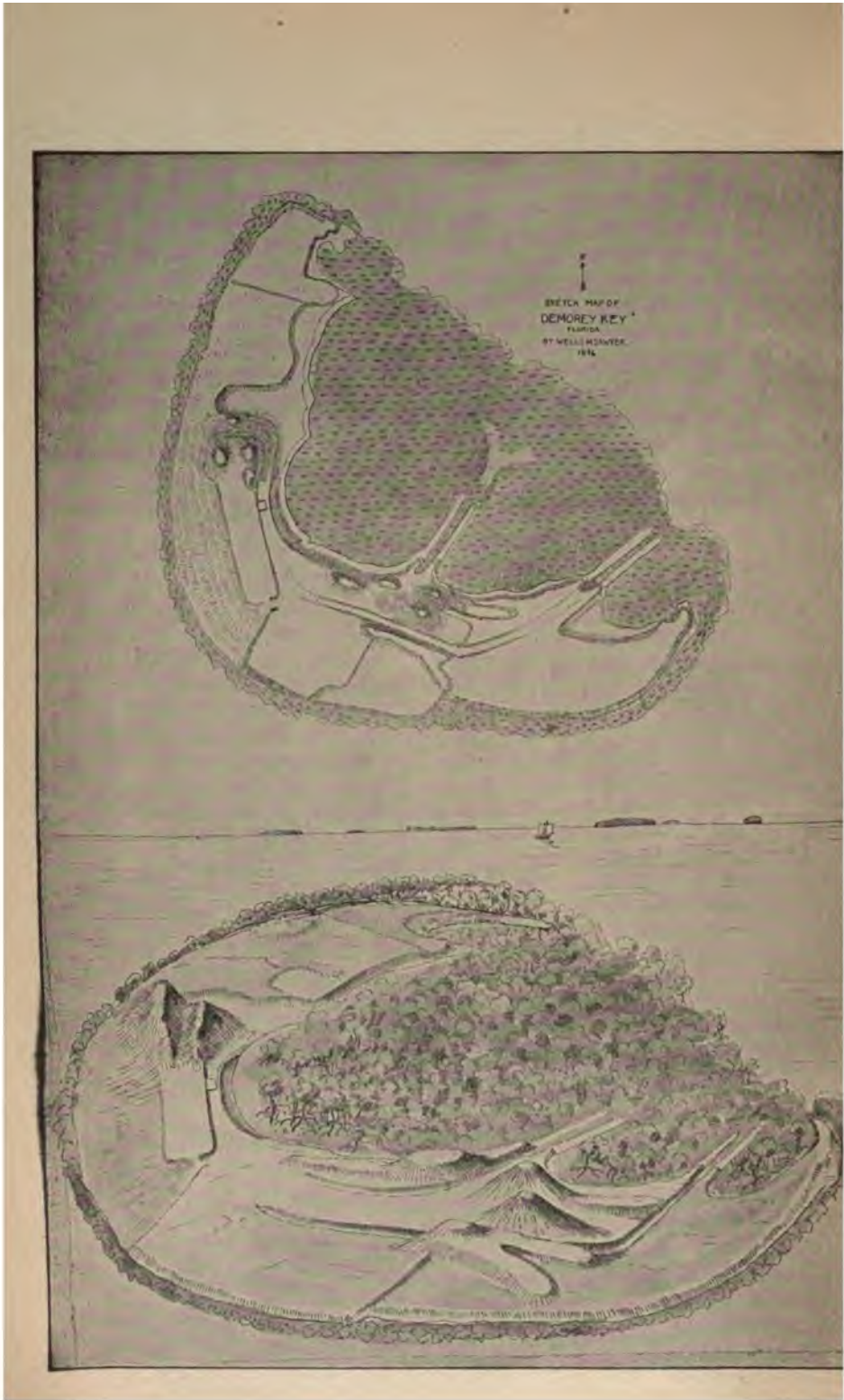


Fig. 4.



works and their bearing upon historic times. We do not claim for them any architectural character, for they are generally rude constructions destitute of all ornament and hardly presenting even the elements of art. Nor do we, on the other hand, class them with the earliest historic dwellings, for there were rude dwellings long after there were kitchen middens, and it is probable that the huts which were erected by hunter tribes upon the land, may have continued to be occupied long after the shell heaps by the sea. These huts, however, which were hidden in the forest, were built of unsubstantial material and soon perished. But those which were built by the sea were surrounded by the heaps of shell, which are very enduring, and the result is, the latter are preserved for our examination, while the former have passed away.

The distribution of the kitchen middens, lake-dwellings, and various maritime structures, has given us a good opportunity for examining them, especially as there are structures resembling them still occupied, and from them we may learn the stage of society which was then represented. Still, it would be well to remember that what is ancient in one country is modern in another, and that the same structures which have been discovered on the coast of America in recent times, existed in Europe and Asia several thousand years ago. It may be said of all these structures, especially of those upon the sea coast, that they help us to trace the line of migration which was taken by the early inhabitants of the world, and throw considerable light upon the distribution of mankind throughout the world.

Prof. O. T. Mason has spoken of the quest for food as being one cause for the distribution of the population throughout the globe. He has traced the migrating route which a sea-faring people may have taken, when passing from the islands of the Pacific, along the east coast of Asia and by way of the Aleutian Islands finally reaching the Northwest coast. The monuments which indicate their route, or the route taken by subsequent people, may be recognized in the dolmens which are found in India, Japan, and Peru. The kitchen middens evidently preceded these, though it is a question whether they were left by a migratory people, or by a people who came down from the interior and made their homes on the sea coast.

Prof. Worsaae has also spoken of the migrations which took place in Europe. He says:

In the first settlement of Europe the fringe of coasts and nearest river courses had everywhere played a leading part. So long as hunting and fishing formed the most important resources of the settlers and vast stretches of coast were still untrod by human foot, the primeval inhabitants, unaccompanied by any domestic animal save the dog, would have no great difficulty in spreading further, or flitting from place to place, when they began to be pinched for food. A very long time must have elapsed ere the more highly developed races, steadily advancing from south and west, were in a condition—as lake-dwellings, stone graves, and other memorials show—to spread from the Mediterranean coasts over Switzer-

land, part of South Germany, the whole of France, Belgium, Holland, the British Isles, and Northwestern Germany. The last period of the Stone Age in the high north on the Baltic North Sea and the Atlantic was, therefore, even in its earliest stage most probably contemporaneous with the victorious advance and first independent development of the Bronze Age in more southern lands, particularly on the Mediterranean.\*

The maritime structures of the earth give rise to the inquiry as to the races inhabiting the sea coast and the islands, whether they developed from savagery in these centers and invented their own improvements, or received these inventions from other tribes, who had migrated from other parts, having been driven out by more civilized people. There are arguments for both theories. The similarities of the pile-dwellings and the close analogies between the maritime constructions favor the idea of a borrowed civilization, or one that was introduced by migrations. Of this Prof. Worsaae also says:

In the South Sea Islands examples have recently been met with showing that the Stone Age people, under exceptionally favorable circumstances have raised themselves to a not inconsiderable height of culture in comparison to the wretched savages in their vicinity.

Rude stone objects identically similar in form and evidently from a corresponding stage of culture can also be shown in cave, field, and coast finds from south Europe, as well as in finds from the district of Thebes in Egypt, from Japan and from the shell heaps of America. Neither in the refuse heaps of Denmark, nor in the shell heaps of Japan or America is the least trace found of a fuller development and change in ornamental objects. Besides feathers and other trophies of the chase, usually affected by savage races, their ornaments appear to have been confined chiefly to animal's teeth.

The first inhabitants of Denmark, or of southwest Scandinavia, are, therefore, to be compared most closely with the long-vanished savage races, which formed corresponding refuse heaps on the coasts of Japan and America, especially along the river margins of the latter; or with the partly still existing inferior peoples in South America, off the coast of Japan, and in the South Seas, who support themselves in the same way on shell-fish fishing and hunting. Certainly nowhere else have such rude peoples, as a rule, been in the habit of rearing great permanent monuments to preserve for thousands of years, the earthly remains of their dead. \* \*

It is well known that the Caribs and Andaman Islanders and others, both at high festivals and daily meals, use certain portions of their provisions, together with implements, ornaments, etc., as offerings to their gods. There is, therefore, nought to hinder the belief that a northern people on nearly the same level may have remembered their gods in a similar manner. The oldest articles of stone and bone discovered in the extreme north of Asia may have an apparent likeness to Stone Age objects from Finland, north Russia and the north of Asia, but both in material and form they differ entirely from the early Stone Age antiquities of southern Scandinavia. They constitute a distinct Arctic group in the European Stone Age.†

It is with these thoughts in mind that we take up the study of the maritime structures of the world, especially those which are of the most primitive and rudest form, and passing on from these to others that are more advanced and elaborate in character.

#### I. We begin with the kitchen middens or shell heaps.

\* See "Pre-History of the North," page 20.

† See "Pre-History of the North," page 17.

The description of the kitchen middens of Denmark, when compared with those which have already been given of the shell heaps on the Northwest coast, will show to us how long-continued was this peculiar mode of life, even for several thousand years. It shows, also, that different classes of people—hunters and agriculturalists—were in prehistoric times, as in modern times, in the habit of going to the sea coast and for a time dwelling there, leaving the débris of the camps as signs of their presence. The fire-beds, fragments of pottery, and other relics, show that the people were accustomed to domestic life and were, perhaps, skillful in erecting habitations for themselves. The difference between the relics in the kitchen middens in Denmark and those on the Northwest coast, shows that a higher grade of progress had been reached. This is shown especially by the superior boats which were constructed out of logs, by using rude stone axes. No boats have been discovered in these kitchen middens, but so many have been found in the mounds on the coast of Denmark and Norway and Sweden, and in the bogs of Ireland, as to convey the idea that they were a sea-going people, and were skillful navigators. Deep inlets of the sea, and not a few river courses, opened a comparatively easy approach from the coasts and neighboring islands, leading through the woods to fresh-water lakes in the Interior, teeming with fish, and at the same time to new and by no means unimportant resources. On the other hand, the necessity of gaining a livelihood does not appear to have driven the new settlers far from the coasts to the islands lying out in the more open sea. These facts show that the inhabitants of the world were accustomed to resort to the sea for subsistence and became navigators at a very early date; taking this for granted we may learn how the population of the globe became distributed.

As to the race which constructed the kitchen middens on the coasts of Europe, Asia, and America, it is impossible to determine, but it is supposed that the ancient Turanian people who were the first inhabitants of Mesopotamia, antedating the Semitics, were of the same race as the Finns, and it is not impossible that they made their way across Behring Strait, or the Aleutian Islands to the Northwest coast; while another branch were perhaps the ancestors of the Basques, or the Britons, who made their way across the Atlantic to the north coasts of America, and so southward.

As to the distribution of the kitchen middens, the following quotation from Nadaillac will give us some information:

The kitchen middens, or heaps of kitchen refuse—such was the name given to these shell mounds—could not have been the natural deposits left by the waves after storms, for in that case they would have been mixed with quantities of sand and pebbles. The conclusion is inevitable, that man alone could have piled up these accumulations, which were the refuse flung away day by day after his meals. The kitchen middens confirmed



in a remarkable manner the opinion of Steenstrup, and everywhere a number of important objects were discovered. In several places the old hearths were brought to light. They consisted of flat stones, on which were piles of cinders, with fragments of wood and charcoal. It was now finally proved that these mounds occupied the site of ancient settlements, the inhabitants of which rarely left the coast, and fed chiefly on the mollusca which abounded in the waters of the North Sea. \* \* \*

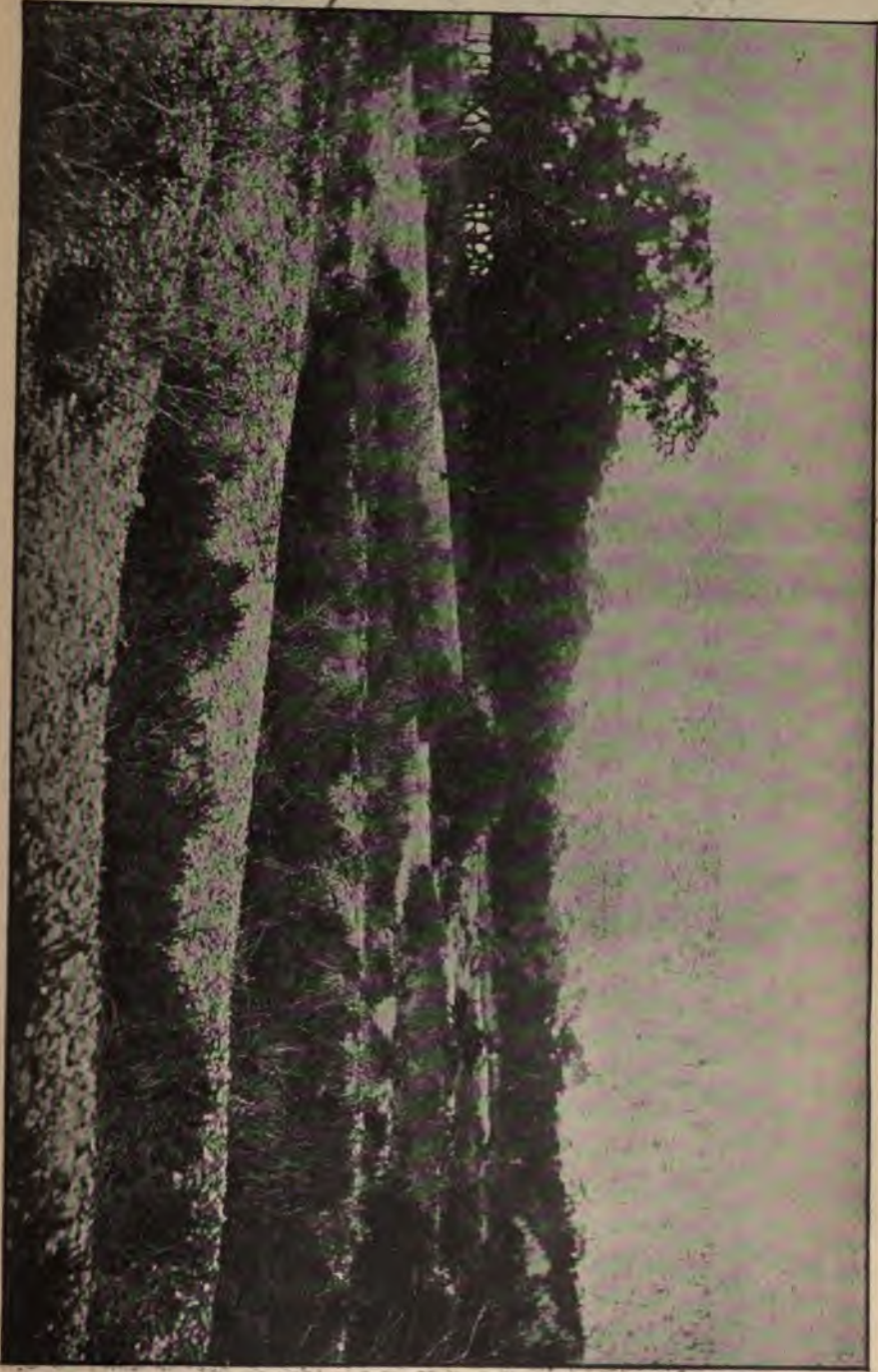
The earliest inhabitants of Russia placed their dwellings near rivers above the highest flood-levels known to or foreseen by them. Virchow has recognized on the shores of Lake Burtneck in Germany, a kitchen midden belonging to the earliest Neolithic times, perhaps even to the close of the Paleolithic period. He there picked up some stone and bone implements, and notices on the one hand the absence of the reindeer, and on the other, as in Scandinavia, that of domestic animals. But in this case, the home of the living became the tomb of the dead, as numerous skeletons lay beside the abandoned hearths. Similar discoveries have been made in Portugal: shell heaps having been found thirty-five to eighty feet above the sea-level. Here, also, excavations have brought to light several different hearths, and in many of the most ancient kitchen middens in the valley of the Tigris were found crouching skeletons, proving that here, too, the home had become the tomb. \* \* \*

It is, however, chiefly in America that these attract attention, for there huge shell mounds stretch along the coast of New Foundland, Nova Scotia, Massachusetts, Louisiana, California, and Nicaragua. We meet with them again near the Orinoco and the Mississippi, in the Aleutian Islands, and in the Guianas in Brazil, and in Patagonia; on the coasts of the Pacific, as on those of the Atlantic. \* \* \* The kitchen middens of Florida and Alabama are even more remarkable. There is one on Amelia Island which is a quarter of a mile long, with a medium depth of three feet and a breadth of nearly five. That of Bear's Point covers sixty acres of ground, that of Anecerty Point, one hundred, and that of Santa Rosa, five hundred. Others taper to a great height. Turtle Mound near Smyrna is formed of a mass of oyster shells, attaining a height of nearly thirty feet, and the height of several others is more than forty feet. In all of them bushels of shells have already been found, although a great part of the sites they occupy are still unexplored; huge trees, roots, and tropical creepers having in the course of many centuries, covered them with an almost impenetrable thicket. At Long-Neck Branch is a shell mound that extends for half a mile, and in California there is a yet larger kitchen midden; it measures a mile in length and half a mile in width, and, as in similar accumulations, excavations have yielded thousands of stone hammers and bone implements. The shell mounds of which we have so far been speaking are all near the sea, but there is yet another, consisting entirely of marine shells, fifty miles beyond Mobile.\*

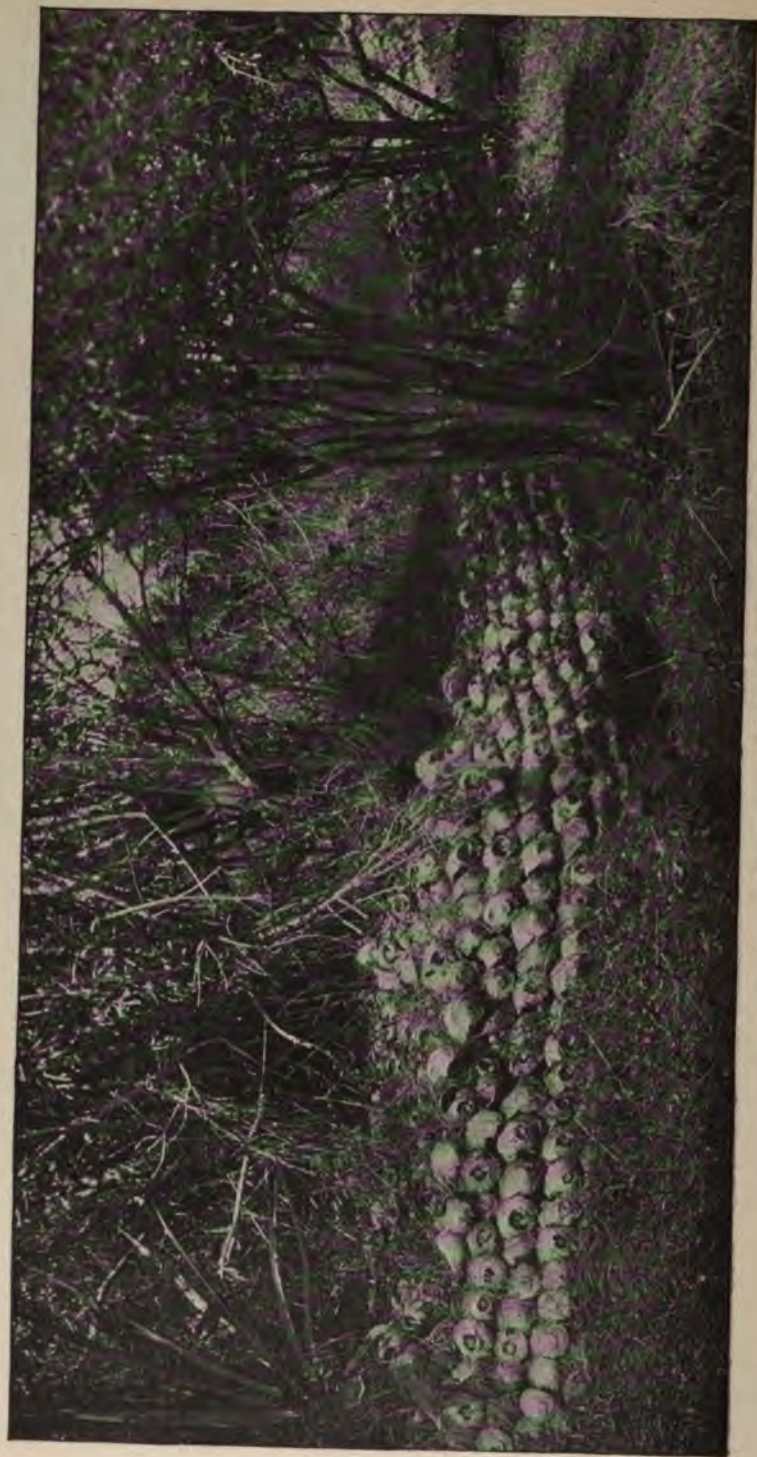
We conclude, then, that the coasts of America are as good a place for the study of the beginnings of architecture as Denmark, or even the regions of Mesopotamia. The people may have belonged to a different race, but it may help us to get a very different idea of the aborigines of our country, if we associate them with the fishermen of Europe, for those in America were even more advanced in the art of boat building and house building; than were the ancient people of Europe. We have elsewhere described the houses which were erected amid the shell heaps on the Northwest coast, and shall now turn to those on the coast of Florida. The explorations of Mr. W. H. Moore and Mr. A. E. Douglas have brought out many new facts.

---

\* See "Prehistoric Peoples."



GENERAL PLAN OF THE KEY AT MARCO.



SHELL WALLS AT MARCO,

Mr. A. E. Douglas also discovered several canals in the shell mounds—one of them five miles long; another canal connected a lagoon, through which the interior waters were expected to find an outlet to the sea. He speaks of the imposing appearance of the shell mounds and thinks that some of them were designed as lookouts or sites of houses. He refers, also, to elevated roadways leading from the mounds to a lake or water course or village, thus proving that the mounds may have been sites for houses.

Mr. William Bartram speaks of Mt. Royal as a magnificent mound, twenty feet high and 300 feet in diameter, as attended with a roadway. He says:

A noble Indian highway leads from the great mound in a straight line three-quarters of a mile, through an awful forest of live oaks. It was terminated by palms and laurel magnolias in the maze of an oblong artificial lake, which was on the edge of a greater savannah. This general highway was about fifty yards wide, sunk a little below the common level and the earth thrown up on each side, making a bank about two feet high.

There are sand mounds on the coast of Florida, which to all appearances were erected at the same time as the kitchen middens. There are on the Northwest coast kitchen middens in which are canals, harbors for canoes, and the remains of houses which resemble those which are still occupied by the Klamath Indians. These are evidently modern, but they show that the same mode of life and the same customs continued for thousands of years, even when there was no connection between the people. The same stage of society may have been reached by the people on the coast of America much later than those on the coast of Europe; the fact, however, that so much time elapsed between the kitchen middens of Norway and Denmark and those on the coasts of America, shows how prolonged this stage of semi-civilization has been upon the earth.

II. Another class of coast structures has been recently brought to light off the coast of Florida. We shall, therefore, take up the description of these as excellent specimens of the skill of the prehistoric people. They have been associated with the sand mounds and shell heaps of Florida, but they show a more advanced stage, and should probably be classed with the mounds and earthworks of the Gulf States, for it is the opinion of Dr. D. G. Brinton, Prof. F. W. Putnam and others that they were erected by the same people.

The object of these remarkable "shell keys" is unknown, but they appear to have been walls, which surrounded the sea-girt habitation of an ancient and unknown people. The "reef raised sea walls of shell" surrounded central, half natural lagoons, or lake courts, with the "many-channeled enclosures," which, when surrounded by the dwellings of the people who erected them, must have made the island resemble a modern Venice. The houses were probably constructed altogether of

wood, and perhaps covered with thatched roofs. The canals within the lagoon were dug out of low, swampy ground, and were lined with earth walls, which were covered with a tangled forest; making the ancient village resemble the villages on the coast of Benares or the Philippine Islands, more than the European Venice.

The islands lack the outside reefs which are found in the Caroline Islands, and there are no such artificial breakwaters, as are there; nor are there any such massive stone enclosures and shrines.

These were discovered and described by Mr. F. H. Cushing. The following is his account of his explorations and a description of their character and appearance:

I was not much delayed in securing two men and a little fishing sloop, such as it was, and in sailing forth one glorious evening late in May, with intent to explore as many as possible of the islands and capes of Charlotte Harbor, Pine Island Sound, Caloosa Bay, and the lower more open coast as far as Marco.

The astonishment I felt in penetrating into the interior of the very first encountered of these thicket-bound islets, may be better imagined than described, when, after wading ankle deep in the slimy and muddy shoals, and then alternately clambering and floundering for a long distance among the wide-reaching interlocked roots of the mangroves, I dimly beheld in the somber depths of this sunless jungle of the waters, a long, nearly straight, but enormous embankment of piled-up conch shells. Beyond it were to be seen (as in the illustration given) other banks, less high, not always regular, but forming a range of distinct enclosures of various sizes and outlines; nearly all of them open a little at either end, or at opposite sides, as if for outlet and inlet.

Threading this zone of boggy bins, and leading in toward a more central point, were here and there open ways like channels. They were formed by parallel ridges of shells, increasing in height toward the interior, until at last they merged into a steep, somewhat extended bench, also of shells, and flat on the top like a platform. Here, of course, at the foot of the platform, the channel ended in a slightly broadened cove, like a landing place; but a graded depression or pathway ascended from it and crossed this bench or platform, leading to and in turn climbing over, or rather through another and higher platform, a slight distance beyond. In places, off to the side on either bank, were still more of these platforms, rising terrace-like, but very irregularly, from the enclosures below to the foundations of great level-topped mounds, which, like worn-out, elongated and truncated pyramids, loftily and imposingly crowned the whole; some of them to a height of nearly thirty feet above the encircling sea. The bare patches along the ascents to the mounds were, like the ridges below, built up wholly of shells, great conch shells chiefly, blackened by exposure for ages; and ringing like their potsherds when disturbed even by the light feet of the raccoons and little brown rabbits, that now and then scudded across them from covert to covert, and that seemed to be, with the ever-present grosbeaks above, and with many lizards and some few rattlesnakes and other reptiles below, the principal dwellers in those lonely keys—if swarming insects may be left unnamed!

Wherever revealed, the surface below, like the bare spaces themselves, proved to be also of shells, smaller or much broken on the levels and gentler slopes, and mingled with scant black mold on the wider terraces, as though these had been tilled with a view to cultivation, and supplied with soil from the rich muck beds below. Here, also, occurred occasional potsherds and many worn valves of gigantic clams and pieces of huge shells that appeared to have been used as hoes and picks or other digging tools, and this again suggested the idea that at least the wider terraces—many of which proved to be not level but filled with basin-shaped depres-



SHELL-BORDERED KEYS OFF THE COAST OF FLORIDA.

sions or bordered by retaining walls—had been used as garden plats, supplied with soil from the rich muck beds below. But the margins of these, whether raised or not, and the edges of even the lesser terraces, the sides of the graded ways leading up to or through them, and especially the slopes of the greater mounds, were all of unmixed shell, in which, as in the barren patches, enormous, nearly square-sized conch shells prevailed.

Such various features, seen one by one, impressed me more and more forcibly, as indicating general design—a structural origin of at least the enormous accumulations of shell was so slowly and painfully traversing; if not, indeed, of the entire key or islet. Still, my mind was not, perhaps, wholly disabused of the prevalent opinion that these and like accumulations or capes of the neighboring mainland were primarily stupendous shell heaps, chiefly the undisturbed refuse remaining from ages of intermittent aboriginal occupation, until I had scaled the topmost of the platforms. Then I could see that the vast pile on which I stood, and of which the terraces I had climbed, were, in a sense, irregular stages, formed in reality a single, prodigious elbow-shaped foundation, crowned at its bend by a definite group of lofty, narrow, and elongated mounds, that stretched fan-like across its summit, like the thumb and four fingers of a mighty outspread hand. Beyond, moreover, were other great foundations, bearing aloft still other groups of mounds, their declivities thickly overgrown, but their summits betokened by the bare branches of gumbo limbos, whence had come, no doubt, the lone-sounding songs of the grosbeaks. They stood, these other foundations, like the

sundered ramparts of some vast and ruined fortress, along one side and

across the further end of a deep, open space or quadrangular court, more than an acre in extent, level and as closely covered with mangroves, and other tidal growths at the bottom, as were the entire swamps. It was apparent that this had actually been a central court of some kind, had probably been formed as an open lagoon by the gradual upbuilding on atoll-like reefs or shoals around deeper water, of those foundations or ramparts, as I have called them, from even below tide level to their present imposing height.

The elevation I had ascended, stood at the northern end and formed one course of this great inner court, the slope of which from the base of the mounds was unbroken by terraces and sheer; but, like the steepest ascents outside, it was composed of large weather-darkened conch shells, and was comparatively bare of vegetation. Directly down the middle of this wide incline led, between the two first mounds, a broad, sunken pathway, very deep here, near the summit, as was the opposite and similarly graded way I had in part followed up, but gradually diminishing in depth as it approached the bottom, in such manner as to render much gentler the descent to the edge of the swamp. Here numerous pierced busycon shells lay strewn about, and others could be seen protruding from the marginal muck. A glance sufficed to show that they had all been designed for tool heads, hafted similarly, but used for quite different purposes. The long columnellæ of some were battered as if they had once been employed as hammers or picks, while others were sharpened to chisel- or gauge-like points and edges. Here, too, shreds of pottery were much more abundant than even on the upper terraces. This struck me as especially significant, and I ventured forth a little way over the yielding quagmire and dug between the sprawling mangrove fingers, as deeply as I could with only a stick, into the water-soaked muck. Similarly worked shells and shreds of pottery, inter-mingled with charcoal and bones, were thus revealed. These were surprisingly fresh, not as though washed into the place from above, but as though they had fallen and lodged where I found them, and had been covered with water ever since. Here, at least, had been a water-court, around the margins of which, it would seem, places of abode whence these remains had been derived—houses rather than landings—had clustered, ere it became choked with debris and vegetal growth; or else it was a veritable haven of ancient waves and pile-dwellings, safe alike from tidal wave and hurricane within these gigantic ramparts of shell, where through the channel gateways to the sea, canoes might readily come and go. It occurred to me, as I made my way through one of these now filled-up channels, that the enclosures they passed through were probably other courts—margined by artificial bayous, some of them, no doubt, like the one at Key Marco—and that perhaps the longest of them, had not only been inhabited also, but that some were representative of incipient stages in the formation of platforms or terraces, and within these, as the key was thus extended, of other such inner courts as the one I have here described.

As to the boats which were used by the inhabitants of these island keys, we have little information; but, judging from those which were used in other lands, we must conclude, that they were as skillfully constructed as were the reefs themselves.

It will be remembered that large canoes were seen by De Soto and his followers, as they reached the "great father of waters," the Mississippi; Some of them capable of holding as many as fifty warriors at a time, and were propelled with great force. Large canoes, skillfully wrought and of beautiful proportions, are even now used by the natives off the coast of Washington; showing a great proficiency in the art of boat building. They may be taken as marking the beginnings of naval architecture. No such canoes have been discovered in these island keys, but, judging from the highly wrought



PLATE A—IMPLEMENTS FROM THE ISLAND KEY.



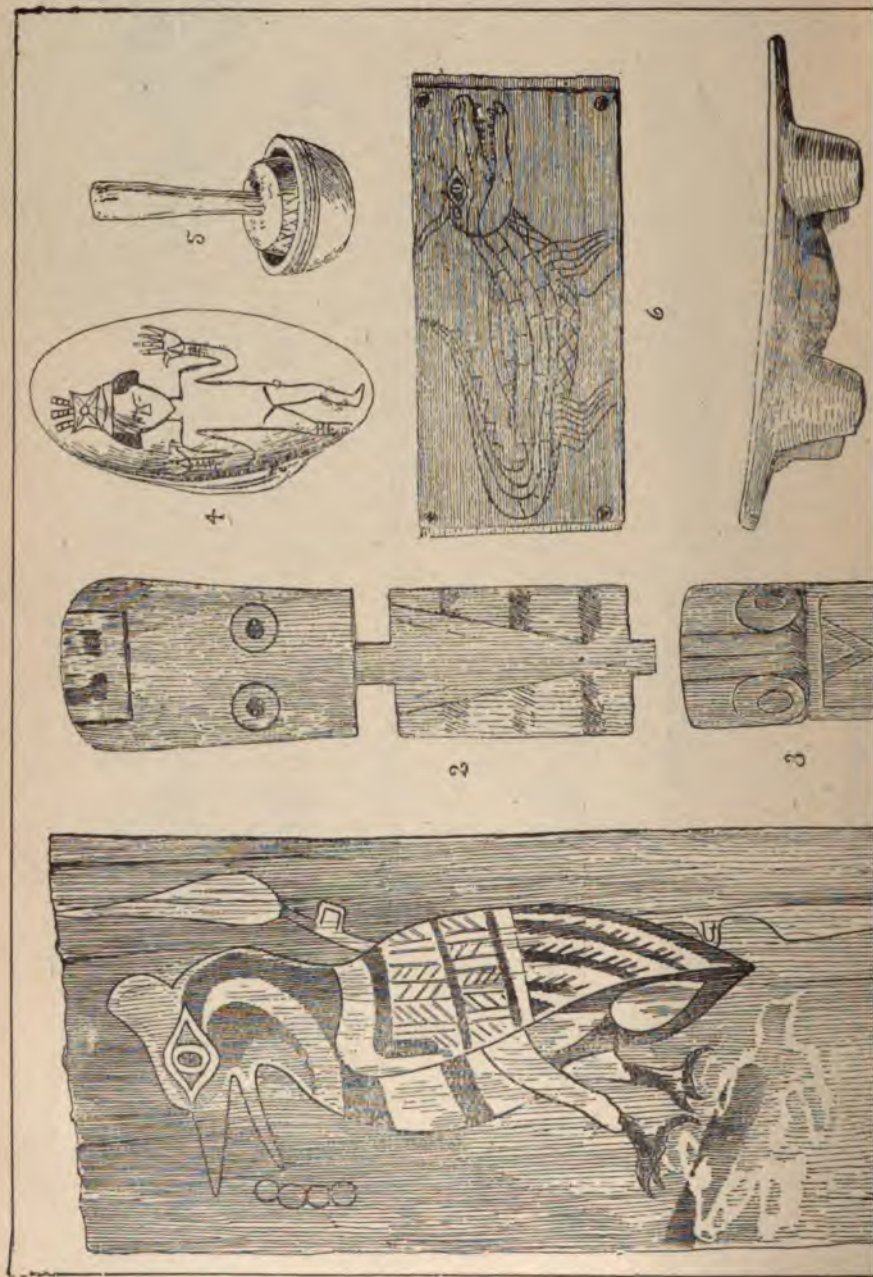


PLATE B—WOODEN TABLETS FROM THE ISLAND KEY.

wooden implements and curious masks which have been dug out from the depths of the lagoons, we may conclude that the people were not only capable of constructing such boats, but often used them in passing from one island to another, and from the islands to the shore.

Here, we would call attention to the animal figures on the tablets, which were discovered on the site of this ancient village. They remind us of the human figures carved upon the fronts of the houses in the villages of the Northwest coast. The tablets were found in the water, but they may have originally been attached to the house fronts.

Mr. Cushing has described these and has given an explanation of their significance. They show a mingling of animal and human resemblances, and give us an idea of the religious conceptions of the people who dwelt here: a religion which consisted mainly in the transforming of animals into human beings, and human beings into animals; the lines of separation between them being obliterated and all of them regarded as supernatural beings.

We do not claim for the ancient peoples, who erected these massive earthworks around their island homes and faced them with conch shells, any superiority over the white man; nor do we maintain that there was any such civilization in prehistoric times, as prevails at the present; yet the view which has been given of this ancient American Venice convinces us that the aboriginal civilization has been greatly underrated. Certainly there is no island city in modern times, which can compare with these in their peculiar adaptation to the forces of Nature and to the prevailing animal life. Here, in the midst of the waves were contrivances for the rising of the tide and catching such schools of fish as might come from out of the depths of the sea, and at the same time there was an abundance of forest trees to invite the birds of the air, especially those which gained their subsistence from the water. Beneath the trees and above the lagoons the people erected there houses, and apparently lived in peace with the creatures of the air and water; understood all their ways, and found their happiness in communing with Nature in its different moods. Whatever we may say about the architecture of the buildings, which have perished, we may conclude that there was here the perfection of art, which always consists in being artless. Various opinions

---

NOTE.—The following description refers to Plates A and B: Plate A—These wooden implements are worthy of notice, for they represent handles of conch-shell gouges or hoes or picks, Fig. 1; the handles of carving adzes, Figure 2; also single and double-holed atlatls or spear-throwers, one with a carved rabbit head, Figs. 3 and 4; hardwood sabre clubs, armed with sharp teeth, from twenty-four to thirty inches in length, probably like the war clubs of the Zuni Indians, corresponding to the length of the arm or of the thigh from hip to knee of those who used them, Fig. 5. Among these are two toy canoes; one of them probably an imitation of a sea-going canoe of the ancient Key-Dwellers, Fig. 6; another representing the flat-bottomed canoes used in canals, bayous, and shoal waters, Fig. 7; also a paddle of hardwood, the end of which was burned off.

Various animal figure heads were also discovered (See Plate B): one representing a wolf with large ears, Fig. 1; another, the human features, Fig. 2; another with the pelican's head and neck gracefully wrought and realistically painted, Fig. 3; still another with the human face painted on it, Fig. 4. These were masks and represented the animal and human divinities which were worshipped by the people.

have been expressed as to the people who erected these structures.

Mr. Cushing thinks that these keys, with their open channels and lesser enclosures, were the rookeries and fish-drives and fish-pools of a sea-faring people, who for some reason had forsaken the mainland and had made their homes on these isolated islands, but at the same time were agriculturalists, though they were compelled to gather the soil out from the depths of the water and make artificial gardens, in which they raised such vegetables and plants as they used. In this respect they probably resemble the famous Lake-Dwellers, who thousands of years before had placed their homes above the waters of the lakes of Switzerland, and subsisted upon fish, which there abounded; but resorted to the land for raising their cereals and the gathering of fruits. The wonder is, that they should have dared the storms and presumed to have built up their breakwaters out of such fragile material as the conch shells and earth combined, without any outside reef or sea wall to protect them from the furious waves. That they could, however, live here on these islands in security, is evident, from the fact that various white men have within a few years cleared and cultivated, as a fruit and vegetable garden, some of these very island keys. These white men (fishermen) have built platforms, constructed landings, and converted the ancient gardens into vegetable farms; but have not constructed any such massive earthworks or breakwaters as did the prehistoric people.

The prehistoric, people who settled upon these islands and built these lagoons, were not so lonely as we might at first think, as there are many other artificial keys in the same vicinity—large and small; some nearer the shore and others further away. Mr. Cushing says they are 150 in number which show signs of having been occupied in prehistoric times by the same people.

The reason for resorting to these isolated spots are unknown, but there may have been invasions from wild tribes, such as came down from the North and drove the Mound-Builders of the Ohio valley from their chosen seats and compelled them to mingle with the tribes further south. These movements of the ancient population are not recorded in history, nor are there any traditions concerning them; but judging from the relics which have been exhumed and the earthworks which have been examined, we may conclude that they were similar to those prehistoric people who built the pyramid mounds and chunky yards, which are now found in all the river valleys of the South.

We have shown elsewhere that some of these platform mounds were designed as refuges from high water, and that they were occupied by an ancient people, who were thoroughly organized into villages and were ruled by chiefs and priests. By way of comparison we shall call attention to Mr. Cushing's description of the platforms in the midst of the lagoons, to

the graded ways by which they were reached, as well as to the long, narrow earth walls which surrounded the lagoons and so made artificial enclosures; they are actually the same models in the midst of the sea, that are found upon the land, scattered through the Gulf States. Here the platforms were used as the foundations for the Great Houses of the ruling classes. The elevated mounds mark the sites of ancient temples and council houses. Walls, similar to the ridges, were constructed around the fish-ponds, and within them the houses of the common people were placed; an open court being left in the center of the village for public gatherings, and for the celebration of ceremonies.

III. These structures, situated off the coast of Florida, lead us to another and very different class of works, namely, the pile-dwellings and maritime villages which are so common in the islands of the Pacific. These, present specimens of architecture which are unique and various, but they remind us of those which anciently existed in Europe, though they are still occupied.

Such pile-villages and maritime structures have engaged the attention of many writers and have often been described. Of them Mr. Nadaillac says:

There is really nothing to surprise us, in the fact of buildings rising from the midst of waters, they were known in early historic times, Herodotus relates that the inhabitants of pile-dwellings on Lake Prasias successfully repelled the attacks of the Persians. Alonzo De Ojeda, the companion of Americo Vesputio, speaks of a village consisting of twenty large houses built on piles, in the midst of a lake, to which he gave the name of Venezuela, in honor of Venice his native town.

We meet with pile dwellings in our own day in the Celebes in New Guinea, in Java, in Benares, and in the Caroline Islands. Sir Richard Burton saw pile-dwellings at Dahomey; Capt. Cameron, on the lakes of Central Africa; and the Bishop of Lebuon tells us that the houses of the Dayaks are built on lofty platforms on the shores of rivers.\*

Dean Worcester has described some of those in the Philippine Islands and has given several cuts of them.† Some of them were constructed by the Moros, a tribe which played an important part in the history of the Philippines, but who entered the archipelago from Borneo near the Spanish Discovery. They, no doubt, introduced a style of architecture from their native islands. The houses are placed upon wooden platforms, which are in turn supported by piles, but which are connected with the land by a narrow bridge; they are rectangular in shape and covered with a peaked roof, which has a gable end and is thatched with straw; the sides seem to be made of bamboo. There are canoes floating in the water that resemble the dug-outs of the American aborigines.

Another cut represents a Moro village, placed upon piles so near the coast that, when the tide goes out, they are con-

\* See "Prehistoric Peoples," page 145.

† See "The Philippine Islands," by Dean Worcester; pages 37, 150 and 391.

ected with the land, but at high tide are reached by rude bridges or boats. They resemble the pile-villages of Switzerland in many respects.

The houses of the Tagbuanas resemble the pile-dwellings of the Moros in some respects, but are built above the land, instead of above the water. They are perched high up in the air and are supported by palm and bamboo piles. They also have a pitched roof, and bamboo sides. The Tagbuanas are wild, yet they have a simple syllabic alphabet and scratch their letters in vertical columns on bamboo poles.

The houses of the Magyars are very rude, for several families herd together on a platform of poles protected by a rude roof of rattan leaves. These people are said to be



PILE DWELLINGS IN MANILA.

head hunters. The Mindoros have more permanent houses, though they are very small and unsubstantial. Store houses for grain are placed upon rude frame-works above old stumps, and are mere thatched roofs which cover a platform.

Village life prevails in the Philippine Islands, but the villages are composed of separate houses; very many of them elevated above the ground and held in place by poles which resemble piles. A Tagalog village, which is represented in a plate, resembles very closely a Swiss lake-village. The houses are situated on platforms in a row, alongside of a canal, and are built in very much the same shape as the Swiss lake-dwellings are. Canals are very



NATIVE VILLAGES IN THE PHILIPPINE ISLANDS.



(2) View in the Interior, Yap Island.

(3) The Harbor of Ualan.

MARITIME STRUCTURES IN THE CAROLINE ISLANDS.

(1) The Island of Ponape, showing Volcano.

Common in the Philippines; they radiate from the rivers in various directions. Fishermen, canoemen, and laundrymen live in huts over the low ground near the canals.

In Tondo one finds the genuine native houses, with bamboo frames and floors, roofed and sided with palm. Destructive fires are frequent in this quarter. Earthquakes are common, as a result one rarely sees buildings more than two stories high. Living rooms are almost invariably on the second stories, the ground floor being used mainly for shops, servants' quarters, offices, or store-rooms.

IV. Our last point will be in reference to the pile-dwellings or pile-villages of Switzerland and the terramares of Italy. These very ancient structures represent a phase of architecture and a style of civilization which prevailed before the opening of history in Europe, but they resemble the structures which are now seen on the Pacific coast and in our New Possessions and are still occupied.

The discovery of these was a surprise to the European archæologists. It took place in 1853, at a time of long drought, when the extraordinary sinking of Lake Zurich revealed the piles, still standing, and between the piles the ancient hearths, pestles, hammers, pottery, hatchets, and implements of many kinds with innumerable objects of daily use.

Nadaillac says:



LAKE DWELLINGS.

dwelt on the lake as a refuge, to which they had probably retired to escape from the attacks of their fellow men or wild beasts. The discovery of these piles excited general interest, which was redoubled when similar discoveries revealed the fact that all the lakes of Switzerland were dotted with stations which had been built long centuries before. Twenty such stations were made out on Lake Bienna, twenty-four on Lake Geneva, thirty on Lake Constance, forty-nine on Lake Neuchatel, and others on Lakes Sempach, Morat, Moosedorf, and Pfeffikon. In fact, more than two hundred lake-stations are now known in Switzerland.

The lake-dwellings of Switzerland may be ascribed to three different periods: the first is distinguished by small axes and coarse pottery, which had no traces of ornamentation; that of the second period had large, well-made hatchets, some of them of nephrite and jade, the pottery is finer and is ornamented including chevrons and other designs, but without handles; a third, by copper weapons and tools, a few specimens of bronze, by stone hatchets skill-



fully pierced, by pottery vases provided with handles and covered with ornaments, bead necklaces, pendants, buttons, needles, horn combs, amulets made of the teeth of animals, tools fixed into handles of stag horns, by the remains of seeds, grains and cereals, and fruits of various kinds.

The distance from the shore of the most ancient lake-dwellings vary from 131 to 298 feet. Of the most recent stations, from 656 to 984 feet. The piles of the early age from eleven to twelve inches in diameter; those of the later epochs are smaller. Care was taken to consolidate them and keep them in position with block of stone and tiers of piles. Keller gives to these latter the name "packwerbauten"; others call them "steinbergen." Keller says:

Household utensils, beds of charcoal, ashes, hearth stones, pottery, remains of wild animals, and the piles show that there had once been a regular settlement (or village) The piles stand in close rows and when covered with horizontal timbers and boards formed a scaffolding foundation for the erection of the dwellings. We know very little of the shape of the huts, except that they were built of poles and hurdle (or wattlework), coated on the outside with clay. The clay was spread on the floor inside the huts, in some cases mixed with gravel, forming a kind of plaster floor. In the middle of the hut was a hearth, made of slabs and rough sandstone. The roof consisted of the bark of trees, straw, and rushes, the remains of which have been preserved in the sand. The occupations of the settlers were of many kinds, but may be divided into the operations of fishing, hunting, pasturage, and agriculture. In some of the earlier settlements fishing nets and fish hooks made of bears' tusks have been found. The bones, which are found in such great numbers, show that there were domestic animals among them. Beside the lake-dwellings were to be found stones for crushing and grinding grain, or mealing stones, and the grain itself has been found.

The tilling of the land must have been simple, and consisted in tearing it up by means of stag horns or crooked sticks, as is done in America. The tillage would have to be enclosed by hedges, as a protection against animals. The settlers cultivated flax of excellent quality, which was spun into threads by means of spindle whorls. Use of the loom was common. Large trunks of trees were hollowed out by fire and by stone celts, and used for canoes. Oak poles were used for spear shafts; mallets and clubs were made out of the knots of trees; boards were hewn out for the dwellings; earthen vessels were found in great abundance; urns with a large bulge and thin sides; a few flat plates and large pots, used for cooking, have been found. The vessels were ornamented with bosses, or with impressions made with the finger, or an occasional zig-zag ornament.

The oldest settlement began in that dark period when the use of metals was unknown, but no difference is to be discovered in the construction of the lake dwellings, between the earliest and latest age. The fact that the erections of the Transition and Bronze Ages were built more substantially, was owing to the use of better tools. It has been remarked that on comparing the implements of the Stone and Bronze Ages from the lake-dwellings with those which were found in mounds and in graves and those met by chance on the field, we are not able to discover the smallest difference, either in material, form, or ornamentation. The identity of the inhabitants of the mainland with those of the lake-dwellings appears still more striking, if we compare the settlements (villages). The endeavor of the settlers to live together in a sociable manner, is positive proof that they had and knew the advantages of a settled (village) mode of life, and we have to look upon them, not as a wandering, pastoral people, still less as a hunting and fishing race.

## ANTHROPOLOGICAL NOTES.

BY ALEXANDER F. CHAMBERLAIN.

MAYA ORIGINS. In a most interesting volume, "A Glimpse of Guatemala, and Some Notes on the Ancient Monuments of Central America" (London, 1899, pp. xvii-289), Mr. and Mrs. A. P. Maudslay give an account of their travels and researches in the Maya regions of Central America. Mr. Maudslay wisely concludes that hardly "more than a mere trace of phoneticism has as yet been established" in the Maya writing. The famous and rather doubtful "Toltecs," he inclines to think, were of Mayan stock and hesitates to decide whether or not the original Mayas came from Mexico or from Central America. As to the general question of the origin of American civilizations, Mr. Maudslay does not lay any stress upon the drift-across-the-Pacific theories, and believes that Old World influences in America, if at all present are "few and far between," while, if America was populated from the Old World, the migration antedates all culture. In "Nature" (Vol. LXI., pp. 292-293), Prof. A. H. Keane reviews this book and comes to the conclusion that the Mayas were already civilized when they came into Yucatan, and that the pyramid of Papantla and the archaic Huastec language (of Maya stock) in Tamaulipas and Vera Cruz, indicate the place of their origin. Thence they were driven by invasion of the Nahuas from the Northwest. Thus, the "Toltecs" would seem to have really been the early Mayan cultured tribes. To use Professor Keane's words: "Safely entrenched on the Chiapas-Guatemalan plateau, the early Mayas continued to develop their 'Toltec' culture, partly assimilating the Quiches and other rude aborigines, all of whom now speak languages of Maya stock, and at last passing at the apogee of their civilization into the hitherto unoccupied limestone peninsula of Yucatan."

++ ++ ++

RACIAL ASPECT OF VOLUNTARY ENLISTMENT. In "Nature" (London) for December 28, 1899 (p. 200), Mr. R. C. T. Evans laments the fact that "the average opinion is growing more and more unwarlike, less brave, and more inclined for peace at any price." A selection has now been long in process, by means of which, "in the long run, the non-fighters, such as commercial classes, luxurious people, and any cowards, have more descendants proportionally than the brave and warlike." He emphasizes the fact that "of those soldiers killed during the last few weeks few have left two descendants." There is reason here for rejoicing rather than for regret—evolution is putting thus an end to war.

ORIGIN OF THE AUSTRALIANS. Much literature of great value concerning the Australian aborigines, their languages, mythology, customs, etc., has been published during the last few years. One of the most interesting of recent contributions to the subject is Rev. John Mathew's "Eagle-hawk and Crow: a Study of the Australian Aborigines, including an Inquiry into their Origin and a Survey of Australian Languages" (London-Melbourne, 1899, pp. xvi-288). According to Mr. Mathew, Australia has been successfully invaded by Papuans, Dravidians and Malays, for which he seeks confirmation in linguistic and other data. He even goes so far as to suggest (hence the title of his book) that the clan-names, so wide-spread in Australia, "Eagle-Hawk" and "Crow," represent respectively: "the latter, more powerful," and "the weaker, more scantily equipped sable" races—in other words, the Dravidians and the Papuans. In "Nature" (Vol. LXI., pp. 193-195), Prof. A. C. Haddon reviews Mr. Mathew's book, pointing out the weakness of some of his arguments, taking exception especially to the statement made concerning certain rock-paintings in northwest Australia, that "it is obvious that there has been an attempt to present fragments of Hindu mythology in the form which had been developed by naturalization in Sumatra."

++ ++ ++

SONGS OF AUSTRALIAN ABORIGINES. In the "Science of Man" (Vol. II., pp. 24-25), Mr. J. W. Fawcett gives an account of sixteen songs and chants collected by him in various parts of Queensland. The author furnishes the native texts without English versions. It is interesting to learn that "when a chant or song has been known for a long time it is generally discarded, and gives place to a new composition, which is either original (being composed by one of the more intellectual members of the tribe), or else borrowed from some other tribe." In this way some songs travel very far, and are sung by natives ignorant of the meaning of the words of which they are made up. One "fishing song," from the coast tribes between the Barron and Herbert rivers, is "merely a string of names of the various fish, which are chiefly caught thereabouts,"—a very primitive lesson in economic geography. In another song we meet with evidences of European contact in *kalli-koo* (calico) and *gan-gitta* (handkerchief). Another song "refers to rocks and reefs and sand-banks." One song in "Aborigine-English," was sung by an educated aborigine employed on a ranch in north Queensland, but was not his own composition. The ending "white-pfella plenty rich, black pfella die" is suggestive.

++ ++ ++

MAORI GODS. In the "Internationales Archiv für Ethnographie" (Vol. XII., pp. 223-225), Mr. S. Percy Smith of Wellington, New Zealand, publishes a "Note on Some Maori Gods," accompanied by a plate figuring some of these interesting

objects, now become so rare. The "gods" in question are *tiki*, which were usually stuck in the ground at the *tu ahu* or altar, a sacred place near each village. The figures are wound round with cord, beautiful and hand-made (from the native flax,—*harakeke*, or *Phormium tenax*), and although they are between 50 and 200 (ca. 150) years old, the cord shows no signs of decay. The carving was done with obsidian knives, and the eyes of the god Tangaroa are of pearl-shell:

++ ++ ++

MATTY ORNAMENTATION. In his article on the "Ethnography of the Matty Islands," in the *Internationales Archiv für Ethnographie* (Vol. XII., pp. 218-223), Dr. Karutz of Lübeck discusses the weapons and implements of these people of the East Indies and their ornamentation, the expression of a rich and manifold artistic sense. Among other things Dr. Karutz points out that the Matty Islanders use plant *motifs* in their ornamentation, something rare among primitive peoples, to judge from the best authorities.

++ ++ ++

MALAY PENINSULA. From the *Correspondenzblatt der deutschen Gesellschaft für Anthropologie* (Vol. XXX., pp. 125-127), Dr. Rudolf Martin of Zürich reprints (München, 1899, p. 10) his paper on "The Primitive Inhabitants of the Malay Peninsula," and from the *Mitteilungen der Naturwissenschaftlichen Gesellschaft in Winterthur* for 1900, his popular address on a "Journey through the Malay Peninsula." In these papers the author gives an interesting account of his travels and investigations during the spring and summer of 1897 in various regions of Malacca. The so-called Malays are not the autochthones of the peninsula that bears their name, but only immigrants from Sumatra, etc. These Malay intruders have driven the original inhabitants further and further into the forests and mountains. Of pre-Malayan date are certain remains of an archæological sort. Among these are the skeletons, stone-implements, etc., of the rock-shelters (very common about Ipoh), the kitchen-middens and shell-heaps (very common in the north of Wellesley Province and in southern Kedah), which consist almost entirely of the edible *Cardium*, and are probably the refuse of lake-dwellings of former times. Stone hatchets (called by the Malays *batu luntar* or "thunder stones") of several types, besides chisels, have also been discovered. Dr. Martin gives some valuable anthropological data concerning the Sakei (or Senoi as they call themselves), who, with the *Semang* (their own name is Mendi) form the most aboriginal part of the population of the peninsula. The Semang, who chiefly inhabit the north, partly in the Siamese Provinces, are, according to Dr. Martin, related to the Negritos of the Philippines, while the Sakei or Sakai (in eastern Perak, Selangor and western Pahang) are of a different stock, being related to some

of the little known races of the interior regions of the great East Indian Islands. The author thinks they are not genetically related to the Malays, and ought not, therefore, to be styled "primitive Malays," or "præ-Malayan," which terms have been used by some authorities. Dr. Martin thinks that the Sakai contradict the theory of Peschel that, by reason of the feebleness of their thinking primitive peoples must believe more than civilized peoples, since, wherever such beliefs (*e. g.* in spirits, etc.) are present with the Sakai they are to be traced to Malay influence, and are not original with these tribes. The religious ideas of the Sakai are very few and very nebulous. Nevertheless the Sakai are monogamous, love their children, are generous and benevolent, honest and faithful to the end. If we believe the author, the fate of many other primitive peoples awaits them—disappearance to make room for the clamoring press of "higher races," and soon the forests that now know them will know them no more.

++ ++ ++

RICE CULTIVATION IN CAMBODIA. In the *Revue Scientifique* for January 27, 1900, M. Adhémard Leclère continues (pp. 109-114) from the issue of January 6, his account of "La culture du riz au Cambodge." The rice-threshing of the Cambodians has not a little in common with the old-fashioned American corn-husking. It is a "bee" and Cupid overhears many words of love during these threshing-nights. Besides these rural customs there is a more serious religious ceremony of Brahmanic origin connected with the threshing of the rice. Cambodia, no less than France or England, illustrates the close relationship between harvesting and primitive religion.

++ ++ ++

COREAN HEAD-DRESSES. In the *Internationales Archiv für Ethnographie* (Vol. XII., pp. 225-232), M. Henri Chevalier, of Paris, publishes a study of "Corean Head-Dresses," based upon the Steenackers-Varat collections in the *Musée Guimet*. The various classes of bonnets, caps, hats, religious head-dresses, etc., are described and their Corean names indicated, together with an account of the Chinese influence upon these articles of clothing, ornament, and symbolism, and a notice of the new influence of the Japanese. The illustrations accompanying the article are excellent.

++ ++ ++

BURYATS OF IRKUTSK. In the *Internationales Archiv für Ethnographie* (Vol. XII., pp. 193-218), Dr. Nikolaus Melnikow publishes an interesting account of the Buryats of the Irkutsk Government, the first historical knowledge of whom dates from 1190 A. D. These Buryats do not belong to the clans of disappearing peoples, the last census showing them to have increased 4.3 per cent., between 1857 and 1889, in spite of their unclean-

liness and lack of hygienic conditions. Besides physical ills they have to contend with the peculiar psychic affection which the Russians term *durjet* ("to become foolish") and the Buryats *naigur*. Another evil of Buryat life is alcoholism,—the effects of the national drink *tarassun* (derived from milk chiefly) is very notable. The author discusses the effect of the contact of Buryat and Russian culture. Among the benefits derived from this contact are the spread of agriculture, the baking of bread, and the general improvement of alimentary conditions, clothing, desire for knowledge, etc. Among the evils are sexual degeneration, lying and deceit, loss of eloquence to a marked extent, etc. Dr. Melnikoff takes on the whole an optimistic view of the situation, holding that all reforms operating to the benefit of the Russians have also their good effect upon the Buryats and the other primitive people of the Empire. Not the extinction of these peoples, but their assimilation with the Russian population of Siberia is the aim of the government, and to that end the Russians themselves need to be lifted to a higher stage of culture and enlightenment.

---

#### THE PROBLEM OF THE HITTITES.

BY J. N. FRADENBURGH.

The problem of the Hittites still remains unsolved, yet great progress has been made. Save from brief mention in the Bible, and a few uncertain references in the classics, this old race was not known till monumental pictures, hieroglyphic texts, and cuneiform records revealed it to our astonished gaze. We look with reverence and awe upon these venerable forms. Once among the mightiest of the mighty, they have been dead and buried more than thirty-five hundred years; but now, having risen from their forgotten graves, they stand before us, yet still covered with the dust of millenniums. Scripture texts, covering a period of more than a thousand years, represent them as a strong nation.

The age in which they asserted their power, and their geographical position on the map of the world, together with their influence on surrounding nations and their peculiar genius mark them as an important factor in the providence of God in the preparation of Canaan and the final establishment of the Israelites in this land, foretold by the prophets. Egypt was checked in her conquests, and the East delayed in their ambitious schemes. Their influence may be traced in the geographical names of Egyptian and Assyrian inscriptions, stone monuments, tumuli, and bas-reliefs of Hittite origin, and inscriptions in strange hieroglyphics.

Hittite monuments have been found from the Euphrates through northern Syria to the Ægean, and colonies at least seem to have been planted in southern Palestine. It would probably be too much to claim for them this wide dominion for any great length of time, or perhaps at any one time. They were able to obtain from the Egyptian King Rameses II., after the great battle of Kadesh, favorable terms of peace. The treaty was engraved on a plate of silver, and a copy in the Egyptian language is still extant. The original was drawn up by the Hittite commander. The two nations, forming an alliance under this treaty, were able to command the peace of the world. They were a commercial and warlike people, and showed remarkable knowledge of military strategy. They held, also, some advanced ideas upon international law.

In the Preface of Dr. Wright's "The Empire of the Hittites," the author says: "The object of this book is to restore the Empire of the Hittites to its rightful position in secular history, and thus to confirm the scattered references to the Hittites in sacred history."

This pioneer work has not been superceded by later publications. It first gave to the general student copies of the chief inscriptions known at the time, and its map of the Empire far exceeds the limits here suggested.

Mr. Sayce in his compact work "The Hittites," does some original work in an effort at decipherment, and sums up the condition of the problem at that time. The writer of this note, using material, much of which had been collected previous to the appearance of these works, published "Old Heroes; the Hittites of the Bible"; presenting, as Mr. Sayce says in a letter to the author, "an excellent account of the present condition of knowledge on the subject."

Lieut. Conder's "Altaic Hieroglyphs and Hittite Inscriptions" identifies the language of the texts "as belonging to the family of Ugro-Altaic dialects, of the which the Proto-Medic and the Akkadian are, perhaps, the oldest known examples." Lieut. Conder endeavors to show "that the symbols are the prototypes whence the cuneiform system has developed," and suggests connection with the Egyptian and Chinese writing and the Cypriote syllabary.

Prof. Campbell in his "The Hittites; their Inscriptions and their History" (two volumes), has discovered linguistic evidences of their influence over nearly the whole world. Scholars have not agreed with Lieut. Conder in his decipherments, much less with Prof. Campbell in his work of vast labor and learning.

Peiser has studied the subject thoroughly and connects the Hittites with the Turanian family. Jensen, in two articles of very great value in *The Sunday-School Times*, connects them with the Armenians. Cuneiform tablets discovered at Boghaz-Keui would appear to point to the Turanian.

We need not fear of a final solution of the problem. Progress has been made toward the goal, but much still remains to be done. Additions are constantly being made to the material available for their study. It is a fascinating problem to the archæologist, but we can not hasten the work of its solution.

### PROGRESS OF EGYPTOLOGY.

BY W. C. WINSLOW, D. D., LL. D.

That valued brochure of the Egypt Exploration Fund, its ARCHÆOLOGICAL REPORT, gives us a clear and full idea of the progress of Egyptology during the past Fund year. It is a handsome quarto, illustrated, of 94 pages, with four maps, and costs but 70 cents. As early as possible in each year the Society issues this very useful compendium of discovery and of the progress of Egyptology, including the entire literature upon the subject that has been published during the previous twelve months. The notes upon the books and articles that have appeared are invaluable. This brochure is edited by F. L. Griffith, M. A., with the assistance of Prof. Petrie, Somers Clark, F. S. A.; N. G. Davies, B. D.; B. P. Grenfell, M. A.; A. S. Hunt, M. A.; F. G. Kenyon, M. A.; W. E. Crum, M. A., and W. Max Muller, Ph. D. Such specialists make such a production of the first scientific value, as well as of popular usefulness.

The results from Prof. Petrie's prehistoric work were treated by me in THE AMERICAN ANTIQUARIAN of last November, and again in the March number. But I will add here of the invasion of Egypt by the Libyans at the close of the Twelfth Dynasty, which was discovered by Prof. Petrie, that the invaders inherited many of the ways of the prehistoric people, from whom they were collateral descendants. Their pottery and beads show what was then the level of skill in Libya; and their curious custom of hanging up and decorating the skulls of oxen, goats, gazelles, and sheep, seems connected with the bucrania of Greek architecture. Here, too, is a point, that the elegantly-formed pottery of the West (perhaps from Italy) was brought into Egypt as early as 2000 B. C.

The explorer must always be prepared for the unexpected. This was the case with Mr. Davies, who went to the necropolis of Sakkarah to study the sculptures in the tomb of Ptah-hotep. He excavated, also, to find that the mastaba contained a series of chambers, and that the chapel of Ptah-hotep was the only room dedicated to him. He then found a T-shaped chamber, which was entered from the central court on the west, and formed the mortuary chapel of one Akhet-hotep, who must have been either father or son to the other occupant of the tomb. This was indeed a discovery. Although much damaged by incrustation and wet, the paint is still bright in many



parts; the corridor has inscriptions in honor of Akhet-hotep; the choicest of the completed designs shows as good work as the best that the Ancient Kingdom affords. "In the liesurely and affluent days which are still to come for Egyptology," Mr. Davies *naively* remarks, "it is to be hoped that an *edition-de-luxe* worthy of the charming chapel of Ptah-hotep will reveal its full beauties to the world." He says that the Akhet-hotep hieroglyphs throw altogether new or convincing light on disputed points. For instance, an important geographical term in the inscription of Una has received a complete explanation. Some of the little signs are crowded with archæology and history, and carry us back in a most vivid way into the details of ancient life.

The last excavations by Messrs. Grenfell and Hunt in the Fayûm, if without dazzling disclosures, are, as a whole, of much interest. Some sites, too, must be examined to determine if something is there, or—*nothing*. In the northwest of the district a site known as a source of papyri, Kasr-el-Banât, was delved. It proved to be that of the ancient Euhemesia, or the division of Themistus. The Fayûm was anciently divided into three sections, called after the names of Heraclides, Themistus, and Polemo, who were probably the first three governors. As the explorers had previously discovered the division of Heraclides, this additional discovery showed that the remaining division, that of Polemo, must be placed in the southwest. The low mounds of Kasr-el-Banât cover an area of a quarter square mile. The ruined houses excavated proved very shallow; but an astonishing number of square and oblong tiny chambers turned up—book alcoves—in which papers lay thickly about. One of these little chambers yielded about twenty-five documents of the time of Tiberius and Claudius.

But I quote a "Pompeian bit":

Many of the houses, especially the more attractive ones, which had plastered walls, had been dug out before our arrival; but most of the others contained a layer of *afsh*,—the peculiar kind of moderately hard earth mixed with straw and twigs, which, for reasons we do not profess to understand, is associated with papyri. This layer was generally near the surface; below it the earth often became soft and fine (*trob naim* or *sebakh* in the limited sense), a kind which probably owing to some chemical action, is barren so far as papyri are concerned. In those houses which had been used as places for throwing rubbish, the papyri were usually in a very fragmentary condition, the best preserved documents being discovered in buildings which had simply fallen in when the town was abandoned. Two rooms in the richest of these yielded upwards of a hundred documents from the correspondence of its owner, Leucius Bellenus Gemellus, a wealthy Roman citizen who owned an estate at Euhemeria in the reigns of Domitian and Trajan, while the doorstep of the same house, on being turned over, proved to be an inscription with a petition to one of the later Ptolemies concerning the right of asylum in temples.

Another "score" for Kasr-el-Banât. Fayûm sites have yielded few ostraca; but this one daily revealed these inscribed bits, one even containing as many as seventy ostraca. Terracottas abounded; a great variety of pots were found; coins, domestic objects in iron and bronze, a curious inlaid wooden

box, and the like were among the *spolia* for museums. In a few chambers of the local temple some demotic and Greek papyri showed that the shrine was dedicated to Sebek and Isis. A large pot contained a bronze incense-burner and other temple utensils. The period was mostly late Ptolemaic.

Messrs. Grenfeld and Hunt excavated a cemetery called Harit, three kilometres to the southeast. Here were three classes of tombs: early Ptolemaic, late Ptolemaic and early Roman, and late Roman, or a range *in toto* from 280 B. C. to 300 A. D. The details by the excavators are interesting:

In the first class the bodies were generally mummified and placed in plain wooden coffins with rudely-carved heads, either in a bricked-up recess at the side of the tomb, or under an arched covering of bricks. Latterly coffins were also used in the poorer burials, and some of these had a rudely-shaped head. Most of the mummies had an ornamented cartonnage over the head, breast, and feet. This was sometimes composed of cloth, but more often of papyrus, of which in most cases several layers were stuck together in order to obtain a firm background for the plaster, while in others there was only a single thickness of papyrus. The writing belonged to the third or less commonly to the second century B. C. No beads were found, but a gilded plaster scarab and disks were often placed at the head. In one tomb there was a painted cinerary urn and a lamp, but otherwise the only objects found were pots of coarse earthenware.

The tombs of the second class had some points of resemblance to the early Ptolemaic. Pottery coffins and gilded scarabs were common; the bodies were placed under bricks, and the pottery was similiar, though in much greater variety. But instances of mummification were very rare, and there was no cartonnage. Where wooden coffins were used there was no longer any attempt to give them the shape of a mummy, but sometimes they were painted with rude designs. Occasionally plain limestone sarcophagi were used. Small red or black lamps were very common, and in some of the tombs beads and small calcite or alabaster vases were found. What was most remarkable, however, was the number of pots buried in the tombs, sometimes with the bodies, sometimes in the filling of the graves. Most of these were of ordinary dark red earthenware, but there were a few specimens of finer black ware, and some inscribed amphoræ. For studying the characteristics of Ptolemaic pottery, about which hitherto almost nothing has been known, a large amount of well-dated material is now available.

This site was proved to be that of the ancient Theadelphia. The papyri and coin were late Ptolemaic or early Roman. A rubbish heap yielded a surprisingly large number of papyri, all of the second century. Two other towns, Wadfa, proved to be the ancient Philoteris, and Kasr Kuran, were explored. The position of Dionysias (near Banât) affords the *locale* of Lake Moeris. The authors fully confirm the theory of Major Brown that the Birket-el-Karun represents the site of that historic reservoir-lake. Their careful conclusion is of special value. The papyri and ostraca have all been brought to England for examination. Of the 1,000 papyri 300 are complete; there are thirty literary papyri, and the predominance of Homer shows how that poet was the classic idol in Fayûmia.

But I must pause in the very middle of our Archæological Report; perhaps I will continue the story in the next number of THE AMERICAN ANTIQUARIAN. The "Report" is itself science. Organization at home of ways and means is not with-

out science—but the science *in situ!* Professor Petrie considers that Egyptian Exploration has created a new science, and he is right. He speaks out in the *Popular Science Monthly* for April anent the excavations by the Egypt Exploration Fund and the Research Account:

At present most of the above-named work is done by a corps of men who have been engaged at it for many years. They leave their homes and assemble as soon as the winter begins. Any dealing in antiquities or misconduct since the last season excludes them from rejoining. They each know their work, what to preserve, how to leave everything intact in the ground where found, and how best to manage different kinds of excavating. With such men it is always possible to screw more information out of a site, however much it may already have been wrecked in ancient or modern times. And it is far safer to leave such men unwatched, with the certainty that they will receive a fair value for all that they find, than it is to drive a gang under the lash, on bare wages, without rewards to keep them from pilfering. The English system means mutual confidence and good faith; the native and French system of force means the destruction of both information and antiquities.

And yet beside this there is the essential business of observing and recording. Every hole dug must have a meaning and be understood as to the date of the ground at different levels and the nature of the place. Everything must be spelled out as the work advances; any difficulties that cannot be explained must be tried with all possible hypotheses; each detail must either fall into place as agreeing with what is known, or be built in as a new piece of knowledge.

Twenty years ago nothing was known of the date of any Egyptian manufactures, not even of pottery or beads, which are the commonest. Now, at present, it is seldom that anything is found which cannot be dated tolerably near by, and in some classes of remains the century, or even the reign, can be stated at once without a single word to show it. The science of Egyptian archæology is now in being.

As a bit of additional and impartial science the principle is enforced that all the antiquities brought from Egypt shall not be sold, publicly or privately, but divided among the museums of England and America, where they can be scientifically studied, and where, it is hoped, they can create more popular interest in the progress of Egyptology. The silent "Rameses II." in Boston should here be eloquent. The oldest known statuary group in the world, placed in Chicago, pleads with those who took so just a pride in their "Court of Honor," presided over with such majesty by Miss Columbia. The beautiful palm-column in the halls of the University of Pennsylvania reminds all who rejoice in that expanding university that science can bring even beautiful things out of Egypt. The sarcophagus of Tabekenhonsut, in the Metropolitan Museum of New York intimates to a splendid city that Egyptian archæology is a *live* topic, especially when it tenders a fresh poem by the dainty and tender Sappho. The progress of Egyptology is as sure as the progress of knowledge.

## A PRE-HISTORIC MOUNTAIN VILLAGE.

BY W. P. BLAKE.

[Read before the Annual Meeting of Antiquarian Society at Phoenix, Arizona.]

Remnants of ancient dwellings of considerable extent occur on the eastern side of the Huachus mountains in Cochise County, Arizona. They are at the base of the ridges in the open country, at the upper portion of the long, gradual slope extending to the San Pedro river, fourteen miles away. The elevation is approximately 5,000 feet above the sea. The chief group of ruins recently examined by me is a few hundred yards east of York's ranch, on Ramsay's cañon or creek. They are on the left bank of this creek on the low terrace bordering it where it debouches on the plain, or slope, and at about the point where it seems probable that water could formerly have been carried by a ditch. At the present time water does not flow in the bed of the creek so far from the cañon in the mountains, except at times of great floods from rains or rapid melting of the snow.

While these remnants of habitations telling us of former occupations are described as "ruins," do not appear boldly above the general surface as walls and buildings, but are rather a succession of low, grass-covered mounds, which would not arrest the attention of an ordinary casual observer. The buildings were evidently built of adobe clay. Whether laid up as adobe bricks or by the cajon (box) method is not determinable, at least without excavating, but the general resemblance to the mounds of the Salt River valley leads us to the conclusion that the buildings were similarly constructed and occupied.

There are now, apparently, two lines of mounds, possibly three, with a broad, nearly level space between them suggesting a former street or avenue between a succession of buildings, in a general north and south direction, for a distance of about 200 yards and a breadth of 300 feet. There are no distinct lines of stone foundations for the main buildings, but such foundations may, perhaps, be revealed by excavating. There are, however, at one end of the village some lines of stone partially bedded in the ground in the manner shown at the Catalina ruins, which I have designated as the "Paleolithic Pueblo," but by no means so deeply and regularly set, and not in straight lines. Fragments of rude red pottery of the common kind, apparently fragments of ollas, are numerous in the soil, as, also, chips of flinty rocks. There are numerous old metate stones of granite and of compact quartzite; some of them very heavy and made from large boulders. Most of these metates are greatly worn and broken; some show a depth of

not less than eight inches at the sides, thus giving evidence of long use.

From the extent of the mounds and the number of the old metates it would appear that there were not less than forty or fifty families occupying this ancient village or pueblo, but this may be an under-estimate.

William York, who is familiar with that district of country, assures me that recent evidences of ancient occupation may be seen upon the plains at the mouths of all the water-bearing cañons along the eastern base of Huschucas. The region thus becomes specially interesting to archæologists as a center of former occupation by house-builders hitherto unnoticed and unknown.

---

### THE UNCONQUERABLE YAQUIS.

The Yaqui Indians, in the mountain districts of northwestern Mexico constitute, perhaps, the most remarkable tribe of aboriginals known to history. They differ materially from the numerous other tribes inhabiting this section of the globe. While thoroughly partaking of the ferocious nature of the Apaches of the American frontier, and entertaining quite as pronounced a hatred for all people of more civilized tastes, they are characterized by a very distinct predilection for intelligent forms of government. But that any restrictions or obligations should be placed upon them by an alien people, such as they have ever been disposed to regard all mankind not of their tribe, they are disposed to consider as unwarranted interference with their hereditary customs, and hence intolerable. The Yaquis have been a constant source of dread to the Mexicans ever since the first attempt at civilizing the northwestern section of the republic, to which movement the former have been most strenuously opposed. Like other North American tribes, they hold that the territory they hold is theirs by right of inheritance from their forefathers, and every foot of land that has from time to time been wrenched from them has ultimately been paid for by the life's blood of the invaders.

When the Spaniards first came to Mexico, in 1519, the Yaqui nation numbered a population of 350,000. The territory controlled by them was bounded on the south by Durango, and stretched away to what is now known as the northern boundary of Colorado. They were absolutely independent, owing allegiance to no government other than their own, and were looked upon as the most formidable of all the tribes of Mexico. Like all uncivilized natives at that period the Yaquis were given to strange customs and rites, many of which were appalling in the extreme. One of these was their practice of destroying, at birth, all puny or deformed infants, which cruel custom is claimed to account for the superior physical development characteristic of them even to this day. The first war with

the Yaquis was participated in by Colorado, who, during the period of Spanish occupation, led an armed expedition into their territory. The progress of the invaders was strenuously opposed by the Indians, but, owing to their superior arms and equipments, the Spaniards eventually succeeded in penetrating through their country. This war lasted a year, during which period the Yaquis lost 20,000 of their warriors and were forced to abandon a large amount of their territory to the invaders. Their intense hatred for the Spaniards, cherished even to the present time, was engendered in the Yaquis at that remote date. Throughout the succeeding centuries they have been almost incessantly at war with the Spaniards and their Mexican descendants, and by degrees their once powerful tribe has been reduced, until at the present day it numbers less than 15,000 members. Of their former broad domain all the possessions that now remain to the Yaquis are a few leagues of land, situated in the lower valleys of the Rio Yaqui, in the southern portion of the State of Sonora. Here, during the brief intervals of peace which they have occasionally experienced, they have made their homes, following their natural pursuits of farming, stock raising and mining. This is the land that has been officially assigned to them by the Mexican government. Back of it, however, in the fastness of the great Sierra Madres, lies a territory that is theirs by right of their exclusive ability to penetrate and, when necessary, to inhabit it. This is the war home of the Yaquis. Here, in the conflicts of later years, they have proved invincible, unconquerable. It is a country of rugged mountain steeps, of deep, furnace-like defiles and desolate, sweltering mesa lands—a country inaccessible, intolerable to anything human, save only the Yaquis. Such is the stronghold in which this race of fighters is intrenched to-day.

## EDITORIAL.

---

### THE AMERICAN ANTIQUARIAN AND ITS FRIENDS.

THE AMERICAN ANTIQUARIAN has for twenty-two years occupied an important field and one which is rapidly growing in interest. It represents the department of anthropology, which may be divided into three heads, namely, archæology, ethnology, and mythology or folk-lore. It treats of these subjects, not so much in a technical way, as in the comparative method, embracing in the field of vision and study: Oriental, Biblical, and Classic lands, as well as the two continents of America.

The double name is significant, for it shows that the two hemispheres are brought under the scope of the magazine, and gives an opportunity for taking into view the antiquities of all lands, and especially those which may be discovered in our New Possessions, and in the Islands of the Pacific.

During the time that this journal has been running several others have been established, each one taking a definite department.

The most of them designed to be the organ of some particular society. These, mentioned in their order of first appearance, are as follows: *The Journal of Semitic Language and Literature*, Chicago, 1883; *The American Journal of Archæology*, Baltimore and Boston, 1885; *The Biblical World*, Chicago, 1886; *The American Anthropologist*, begun has the organ of the Anthropological Society in Washington in 1887, taken under the auspices of A. A. A. S. in 1898, but edited and conducted by members of the Bureau of Ethnology at Washington; *The Journal of American Folk-Lore*, Boston; *Biblia*, edited and published by Charles W. Davis, M. D., Meriden, Conn., and a journal recently established in New York called *Monumental Records*.

Towards these as they appeared, the editor of THE AMERICAN ANTIQUARIAN has made no opposition whatever, but, on the other hand, has spoken words of commendation. There was a sense of personal loss when *The Anthropologist* was started at Washington, for the gentlemen who were connected with the various institutions and departments there, the most of them with the Bureau of Ethnology, had been valuable contributors; but they gradually withdrew, and gave their contri-

butions and patronage to that journal. Scarcely one of them is now either a contributor or a subscriber to THE AMERICAN ANTIQUARIAN. It has been a matter of principle to make no accusations, and we believe that no words of reproach or complaint have been published about the contributors, correspondents or subscribers, who have turned toward this or other journals; and we are happy to know that this policy has resulted in retaining old friends and securing new friends and associates.\*

Under these circumstances, it has been a matter of surprise to the editor to read a paragraph which appeared in the last number of *The Anthropologist*, making charges of a serious character. The following is the language:

Peet (S. D.)—"The Cliff-Dwellers and the 'Wild Tribes.'" (*American Antiquarian*, Chicago, 1899; Vol. XXI., pp. 349-368.) The author attempts to show the main points of difference between the wild tribes of the Southwest and the Pueblos and their Cliff-Dwelling ancestors. The paper is based solely on the work of others, without regard to its good, bad, or indifferent character; it contains nothing new, but much that is erroneous. Those who scan the illustrations (all of which have been used before) will recognize Dr. Fewkes' portrait of the "Chief of the Antelope Priests" at Moki, now doing service as a "Navajo priest."—F. W. H.

Now, it will be understood that this is not a criticism of a book which was sent for review, nor of an article written by an ordinary contributor, but it is an attack from the editor of *The Anthropologist* upon the editor of THE AMERICAN ANTIQUARIAN, with the name made specially conspicuous, and is aimed not at the subject discussed in the article, but at the manner in which the magazine is conducted, and even at the material which is published and the cuts which are used as illustrations. It is not pleasant to be obliged to answer such a condensed paragraph of personal abuse and harsh criticism. But the readers of the two journals ought to understand the circumstances.

*First:* In reference to the subject of the article, "The Cliff-Dwellers and the Wild Tribes," there seems to be no difference of opinion; for, while Mr. Hodge a few years ago held that the Navajos were the survivors of the Cliff-Dwellers, he now holds exactly the same position as the editor of THE AMERICAN ANTIQUARIAN holds. There is no difference of opinion on this point.

*Second:* The main criticism is that "the paper is based solely upon the work of others, without regard to its good, bad, or

\* Fortunately the positions occupied by the gentlemen connected with the Bureau have been filled by learned gentlemen and scholars, who are following specialties in Great Britain, Assyria, Babylonia, Egypt, Palestine, Australia, and various parts of the world. This has given a broader scope to this journal, and enables us to secure new and valuable material which can be used by way of comparison. Our associate editors, instead of being confined to one place on the Atlantic seaboard, are now situated at different points: at Boston, New York, Chicago, Tacoma, Washington; Alberta, Canada; Sydney, Australia, and Jerusalem. Our correspondents, also, are situated in the fields, and furnish us new material before even the Ethnological Bureau secures it.



indifferent character." Now Mr. Hodge is the editor of *The Anthropologist* and at the same time custodian of the Bureau of Ethnology, and he knows who are the assistants of the Bureau. If he will take the pains to read the article again, and notice the names of the individuals whose work is drawn upon in making up this particular article, he will find that five of them are members of the Bureau, and only three are not connected with it. The following are the names: Mr. F. H. Cushing, Major J. W. Powell, Mr. A. S. Gatschet, Mr. J. Walter Fewkes, and Mr. Cosmos Mindeleff. The three gentlemen, not connected with the Bureau, are Mr. Nordenskjold, who has written a valuable book on the Cliff-Dwellers; Mr. Carl Lumholtz, the well-known author and explorer, and Mr. Warren K. Moorehead. Now, we do not undertake to draw the lines between these different writers and explorers, but shall leave that for Mr. Hodge to do. If he chooses to distribute his adjectives among his associates in the Bureau, we cannot prevent it. If, on the other hand, he means to class his assistants of the Bureau among the "good," and place the other gentlemen among the "bad and indifferent," they may object, and so would we; for we do not believe in the practice of setting up the men who are working at public expense as authority, and and pulling down the private explorers, who are working at their own expense, even if Mr. Hodge does.

*Third:* The next point is that the article "contains nothing new, but much that is erroneous." On this point we have something to say. We will ask Mr. Hodge to inform us what the object of the Ethnological Bureau is, if it is not to furnish "new" material and publish it in the Reports, for just such uses as we have made of it in this article. We would also ask what law or custom it is that bestows upon *The Anthropologist* new material which has been secured at public expense to be used before it has been published in the Ethnological Reports; access to it being denied to all other journals. This may give the advantage to *The Anthropologist* over THE AMERICAN ANTIQUARIAN. But it does not come with very good grace from one who is dividing his time between the public service as a custodian of the Bureau and the work of conducting a private journal like *The Anthropologist* to criticise THE AMERICAN ANTIQUARIAN as above.

*Fourth:* In reference to the use of cuts: it has been the custom heretofore for the Surveys and the Bureau and the Smithsonian Institution to furnish electrotypes to various journals for illustrating articles, and such have been used by the *American Naturalist* and others, without being criticized. If the editor of *The Anthropologist* can secure photographs from parties who have been sent into the field at public expense and have them reproduced for that journal, it is treading on the borders of a disputed privilege and puts him and the journal he represents in a very equivocal position.

## SCENERY AND ARCHITECTURE IN MEXICO.

**MARVELOUS PROFICIENCY OF THE EARLY INHABITANTS IN THE ARTS AND ARCHITECTURE.**

[See Frontispiece for Illustrations.]

Much has been written about the Province of Mexico and its history. Descriptions have also been given of its antiquities and scenery by various authors, but very few engravings have been furnished which would illustrate this or give any idea of the topography. It is fortunate that the means for securing good pictures of natural features have been increased so much, and that the expense has been so much lessened, for the result is that many of the magazines are publishing these pictures and making the scenery of our sister republic familiar to the common people. It is a remarkable fact that the railroads have become educators; they not only carry tourists and intelligent travellers to the distant places, but they bring near to their own patrons and to all classes the scenes which are reproduced and published.

All the writers who have ever visited Mexico speak of the wonderful beauty and variety of the scenery, and describe the country as presenting "many charming views which unfold before the traveller's gaze; dazzling light and colors mingled with rich tints, and rich fertile valleys interwoven between high mountains." The country has been divided into three parts: first, the region near the coast, which is very low and hot and called "Terra Caliente"; it has a tropical climate and the vegetation is such as grows in the tropics. Malaria prevails and it is unhealthy for any, except the natives. Next to this is the region which is called the "Terra Templada," a temperate belt adjacent to the region before mentioned. Still further into the interior is the "Terra Fria," a cool tableland. This is best known in history and was at an early date the seat of a high grade of civilization. It is a plateau raised some 5,000 to 8,000 feet above the sea, and has several mountain peaks rising to a great height above it; the mountains being very conspicuous at great distances. Prominent among these mountains are Orizaba, "the star mountain"; Popocatepetl, "the mountain of smoke," and Izzacelhuatl, "the white woman."

For variety and striking contrasts the climate and scenery of Mexico are surpassed by no region of equal extent in the world. One rises as he passes from the sea to the interior from the hot borderland to a temperate belt, and then reaches the Terra Fria, or cool, elevated plateau, and may finally reach the region of perpetual snow. The plateau is variegated with many lakes. The soil, almost everywhere fertile, is over spread with a variety of nopal, maguey, and forests of evergreen, among which the graceful fir and umbrageous oak stand

conspicuous. Seasons come and go and leave no mark behind; or it may be said that spring, satisfied with its abode there, takes up its perpetual rest; the temperature is ever mellow, with resplendant sunshine by day, while at night the stars shine with a brilliancy nowhere excelled.

As to the native inhabitants, at the time of the conquest a large portion of this region, as well as a part of Central America, was occupied by those natives we call civilized, but even then there was a great difference between the people. The natives of the valley of Mexico are represented as tall, well-made, and robust. Throughout the tableland the men are muscular and well-proportioned. In Vera Cruz they are somewhat shorter—from four feet six inches to five feet in height—and clumsily made, having their knees farther apart than Europeans, and walk with their toes turned in; they are of a darker complexion than those on the tablelands.

The natives as a whole, have been classed by Humboldt "with the aborigines of Canada, Peru, Florida, and Brazil, having elongated eyes, prominent cheeks, large lips, and a sweet expression about the mouth, forming a strong contrast with their otherwise gloomy and severe aspect."

According to Prescott they bear a strong resemblance to the Egyptians, but Violet le Duc asserts that the Malay type predominates. Rossi says that their physiognomy resembles that of the Asiatics. The question of race and origin has not yet been decided. Dr. Brinton, who held to the unity of the American race, would, of course, class them with the tribes of the North. Prof. Mason claims that the linguistic families may be divided into Shoshone tongues for the United States, the Piman for the Sonoran area, and the Nahuan for the great southern groups. The Apaches, who belong to the Athapascan stock, are stragglers into northern Mexico. The Maya-Quiche stock were situated farther south in Mexico and Central America. Here, then, we have the race question simplified by names which are familiar and easily understood. The other tribes, such as the Miztecs, Otiemis, Seri, Yuman, Tlascala, and Totonaca, are smaller and scattered tribes, whose languages have not yet been traced to their origin.

There has been, according to Mr. Walter Hough, a mixture of Oriental influences since the time of the Spanish conquest, and the Philippines have contributed to the products and the plants of Mexico, as trade and commerce was carried on by the Spaniards, between Mexico and Manila, and between Manila and China. This commerce and contact beginning as early as 1545, in the reign of Philip II., naturally complicates the archæology of the region, for there naturally would be certain articles and relics mingled with the ancient in such a way as to be taken for prehistoric relics.

It is probable, also, that the architecture of Mexico was very much affected by this contact with the Spanish on the one side, and with the natives of the Philippines on the other,

for a great variety appeared at a very early date. Mr. Hough says that all the circular houses in Mexico are of African origin, the style having been introduced by negroes; the native houses having been originally rectangular. This may be so, though there are many circular huts with thatched roofs represented in the façades of the Maya palaces.

Charnay, to be sure, held that the Toltec house was a square building, and that the hieroglyph Calli became the type of a particular form of architecture, which everywhere prevails; the walls, cornice, and roof, always being constructed after the same pattern. He compares the temple at Palenque to the Japanese temple, giving two cuts to illustrate his point.\*

Shall we say, then, that the Toltec type of architecture was introduced from Japan, and the ordinary style of huts in use were introduced from Africa? In that case we must give up the idea of a native growth, of both art and architecture, and make everything foreign, or extra limital in its origin.

The point which we make in this connection is, that in Mexico there is, even at the present time, a great variety of architecture; some of it having been introduced from Spain; some, perhaps, from Manila; some from the United States; some from the ancient Maya races of Yucatan; some styles surviving from the ancient Nahua civilization, and some introduced, as Mr. Hough says, from Africa by negroes who were imported.

The question is, what was the original type and by what tribe was the ancient style introduced. We must remember that there was a great difference between the wild tribes and the civilized in the days of the conquest, and that the cities were very different from the rural districts. Take, for illustration, the landing of Cortez and his troops and their march toward the City of Mexico. It will be remembered that he landed on the coast at Vera Cruz, but as he advanced toward the capital he found a tribe called the Tlascalans, who had for a long time contended with the Aztecs of Mexico. Surrounded as they were by natural barriers of mountains, with a mountain pass, where they had established a fort as a gate between them and their enemies, they were as isolated almost as if in another land. Here Cortez rallied this people to his banner, and with their help was able to overcome the city.

The following is Mr. Prescott's description of Cortez's march from the sea: "It was the 16th of August, 1519. During the first day their road lay through the Terra Caliente, the beautiful land where they had been so long lingering; the land of the vanilla, cochineal, cacao (not till later days of the orange and the sugar-cane); products, which indigenous to Mexico, have now become the luxuries of Europe; the land where the fruits and the flowers chase one another in an unbroken circle through the year; where the gales are loaded

---

\* See "Ancient Cities of the New World," page 250.

with perfumes until the sense aches at their sweetnees, and the groves are filled with many colored birds, and insects whose enamelled wings glisten like diamonds in the bright sun of the tropics. Such are the splendors of this paradise of the senses.

"At the close of the second day they reached Xalapa, a place still retaining the same Aztec name. This town stands midway up the long ascent, at an elevation where the vapors from the ocean, touching in their westerly progress, maintain a rich verdure throughout the year. From this delicious spot, the Spaniards enjoyed one of the grandest prospects in nature. Before them was the steep ascent, much steeper after this point, which they were to climb. On the right rose the Sierra Madre, girt with its dark belt of pines, and its long lines of shadowy hills stretching away in the distance. To the south, in brilliant contrast, stood the mighty Orizaba, with its white robes of snow descending far down its sides; towering in solitary grandeur, the giant spectre of the Andes. Behind them, they beheld, unrolled at their feet, the magnificent terra caliente, with its gay confusion of meadows, streams, and flowering forests, sprinkled over with shining Indian villages; while a faint line of light on the edge of the horizon told them that there was the ocean, beyond which were the kindred and country—they were many of them never more to see. They had reached the level of more than 7,000 feet above the ocean, where the great sheet of tableland spreads out for hundreds of miles along the crests of the Cordilleras. The country showed signs of careful cultivation, but the products were for the most part not familiar to the eyes of the Spaniards. Fields and hedges of the various kinds of the cactus, the towering organum, and plantations of aloes with rich yellow clusters of flowers on their tall stems, affording drink and clothing to the Aztecs, were everywhere seen.

"Suddenly the troops came upon what seemed the environs of a populous city, which, as they entered it, appeared to surpass even that of Cempoalla in the size and solidity of its structures. They were of stone and lime, many of them spacious and tolerably high. There were Teocallis in the place, and in the suburbs they had seen a receptacle in which, according to Bernal Diaz, were stored 100,000 skulls of victims, all piled and ranged in order. The lord of the town ruled over 20,000 vassals. The Spanish commander remained in the city four or five days. Their route afterward opened on a broad and verdant valley watered by a noble stream. All along this river, on both sides of it, an unbroken line of Indian dwellings, so near as almost to touch one another, extended for three or four leagues; arguing a population much denser than at present. On a rough and rising ground stood a town, that might contain five or six thousand inhabitants, commanded by a fortress, which with its walls and trenches seemed to the Spaniards quite on a level with similar works in Europe. As they advanced into a country of rougher and bolder features, their progress was sud-

denly arrested by a remarkable fortification. It was a stone wall, nine feet in height and twenty in thickness, with a parapet, a foot and a half broad, raised on the summit for the protection of those who defended it. It had only one opening in the centre, made by two semicircular lines of wall overlapping each other for the space of forty paces, and affording a passageway between the parts, so contrived, therefore, as to be perfectly commanded by the inner wall. This fortification, which extended more than two leagues, rested at either end on the bold, natural buttresses formed by the Sierra Madre. The work was built of immense blocks of stone, nicely laid together without cement; and the remains still existing, among which are rocks of the whole breadth of the rampart, fully attest its solidity and size. This singular structure marked the limits of Tlascala, and was intended, as the natives told the Spaniards, as a barrier against the Mexican invasions. The army paused, filled with amazement at the contemplation of this cyclopean monument, which naturally suggested reflections on the strength and resources of the people who had raised it.

"The fruitfulness of the soil was indicated by the name of the country—Tlascala, signifying the land of bread. The mountain barriers by which Tlascala is encompassed, afforded many strong natural positions of defence.\*"

The march of the army afterward brought the Spaniards to a point where they could get a view of the whole region, with its lofty mountain peaks, which lifted their snow-covered heads toward the sky; also the great plateau stretched out toward the sea. To the west of them stood the mysterious pair of volcanoes, like sentinels watching over the scene. Below was the rich valley of Mexico, with its beautiful lakes and many cities.

Prescott says: "The sides of the sierra were clothed with dark forests of pine, cypress, and cedar, through which glimpses now and then opened into fathomless dells and valleys, whose depths, far down in the sultry climate of the tropics, were lost in a glowing wilderness of vegetation. From the crest of the mountain range the eye travelled over the broad expanse of country which they had lately crossed, far away to the green plains of Cholula. Towards the west they looked down on the Mexican valley, from a point of view wholly different from that which they had before occupied, but still offering the same beautiful spectacle, with its lakes trembling in the light; its gay cities and villas floating on their bosom; its teocallis touched with fire; its cultivated slopes and dark hills of porphyry stretching away in dim perspective to the verge of the horizon. At their feet lay the city of Tezcuco, which, modestly retiring behind her deep groves of cypress, formed a contrast to her more ambitious rival on the other side of the lake, who seemed to glory in the unveiled splendors of her charms as Mistress of the Valley." †

\* See Prescott's "Conquest of Mexico," Vol. I., page 378.

† See Prescott's "Conquest of Mexico," Vol. II., pages 35-36.

Now, this picture, which our much admired and learned historian has drawn, is very suggestive, for it convinces us that the very scenery and topography which so impressed the Spaniards on their arrival, had also affected that remarkable people which had grown up in the midst of these environments and had developed so strange a civilization in these different regions. It was undoubtedly owing to the fertility of the soil and the resources of the country that the Aztec tribe, who had settled beside the beautiful lake, had grown into a powerful people, and were able to usurp power over all other tribes. This situation had already developed in them an aggressive spirit, so that the native chiefs were in a fair way to become, like the Incas of Peru, the despots who held all the region under their control.

As to the architecture which existed in this region at the time of the conquest, we cannot say that this originated with the Aztecs or Miztecs, or any of the known tribes of the Nahuas, or that they were at all influenced by the scenery or the surroundings, for according to all accounts they were inherited by that mysterious people called the Toltecs, who in turn had received them from the people of the Maya stock, their beginning dating as far back as the Christian era.

It appears that architecture in Mexico reached during the prehistoric age, a stage of advancement quite equal to that which prevailed in other parts of the world during the early days of history, and yet it was an architecture which arose during the Stone Age—the structures which were erected, having been brought into their shape by the aid of stone tools alone, and without any of the appliances which other nations seem to have adopted, though a few copper implements, perhaps, were used for the more delicate touchings of prehistoric sculpture.

It may be that the architecture and the art should be assigned to what is coming to be called, "the Copper Age," rather than the Stone Age; yet even with this distinction,—it is a matter of wonder that a rude uncivilized people could have accomplished so much in this direction. Some maintain that there was a period in Greece and Asia Minor when art and architecture reached a very high stage, and that there was afterwards a decline; the age immediately preceding the opening of history being in reality in advance of that which followed; but here—in Mexico—there was no decline until the advent of the Spaniards, and the subjugation of the people to their oppressive dominion. It is not strange that the barbaric magnificence of the so-called cities of Mexico surprised the conquerors, and that they compared the palaces and temples which they saw, to the Alhambra and other wonders of architecture in Europe. Nor is it surprising that their descriptions of what they saw should seem like exaggerations, for they were undoubtedly colored and made vivid by an imagination which had been excited by this strange scene into which they had

entered. It is not easy, even at the present day, to look through the mountain scenery upon the modern cities, without being deeply impressed. But to the discoverers, as they looked down upon those marvelous ancient cities which were scattered through the beautiful valleys and spread along the shores of the silvery lakes, they seemed like the visions of another world. Those cities were laid in ruins, and nearly everything that had been erected by the native races has vanished from the sight. All is modern and new, yet every traveler who visits Mexico, and who examines the remains of the glory which has departed, is impressed with the superiority of the architecture of the prehistoric races.

It will be, then, instructive to take the testimony of a few of those travelers, who have visited Mexico, and give a picture of the scenery and the architecture as they described it. The archaeologists may be divided into two classes: the one class is disposed to magnify the excellence of the art and architecture of Mexico and Central America, and to make the civilization of a superior character. Such take the descriptions of the early historians and writers as literally true, and do not discriminate between that which was imaginative and that which was real. The other class take a theory for their guidance, and enter these provinces with the purpose to prick the bubble of exaggeration, and bring everything to familiar standards, and are inclined to reduce everything down to the level of a rude aboriginal culture, which had not reached even the level of the barbaric races in other countries. Among the first class we will place M. D. Charnay, the famous archaeologist, and Mr. H. H. Bancroft, the historian. In the other class, Mr. L. H. Morgan, the famous ethnologist, and Mr. Ad. F. Bandelier. Between the two we may strike a medium, which shall be near the truth, and may be taken as correct.

We begin with Mr. Charnay's description of the ancient ruins which he saw and the summary which he has drawn. He says: "We are filled with admiration for the marvelous building capacity of the people; for unlike most nations, they used every material at once; they coated their inner walls with mud and mortar, faced their outer walls with brick and stone, built wooden roofs, and brick and stone stair-cases. They were acquainted with pilasters, with caryatides, with square and round columns. Indeed, they seem to have been familiar with every architectural device. That they were painters and decorators we have ample indications in the houses of Tula, where the walls are decorated with rosettes, palms, and red and white and grey geometrical figures on a black background.

It is difficult to explain how, with the tools they had, they could cut, not only the hardest substances, but also, build the numerous structures which are still seen in Mexico and Central America, together with the sculptures, bas-reliefs, statues, and inscriptions, like those which have been discovered.

Clavigero says that stone was worked with tools of hard



stone; that copper hatchets were used by carpenters, also to cultivate the soil and to fell trees.

Mendieta writes that both carpenters and joiners used copper tools, but their work was not so beautiful as that of the sculptors, who had silex implements.

Charnay further says: "It is known that there are copper mines in Mexico, and discoveries have been made which show that these mines were worked in prehistoric times. In one old mine there was found amid the rubbish, 142 stones of different dimensions, shaped like hammers and wedges, the edges of which were blunt or broken. Copper has been found in Chili, Colombia, Chihuahua, and in New Mexico. Before the conquest, the Indians procured lead and tin from the mines, but copper was the metal used in mechanical arts."

Bernal Diaz says: "In my second expedition the inhabitants brought upwards of 600 copper hatchets, having wooden handles, exquisitely painted, and so polished that at first we thought they were gold. Copper tablets, varying in thickness and shaped like the Egyptian tau or crescent shaped, were used as currency in various regions. The American tribes had reached the transition point between the polished stone and the bronze period, which was marked by considerable progress in architecture and some branches of science. With them this period lasted longer than in the Old World, owing to their never having come in contact with nations of higher civilization, or with those who possessed better tools."

Now, it is to the development of art and architecture in Mexico, during the Stone and Copper Ages, that we would call attention. We have already intimated that this process began far back in the prehistoric period, and in the region far south of Anahuac, among the famous Maya stock, but was transmitted by the Toltecs. As to their origin and early history, we are not at all certain, for there are many things which show that they like the Incas of Peru, had brought in with them a civilization which had been derived, or at least affected by that which prevailed thousands of years before on the Asiatic continent.

The Toltecs were well instructed in agriculture and many of the most useful mechanical arts; were nice workers of metals. They invented the complex arrangements adopted by the Aztecs. They established their capital at Tula, north of the Mexican valley, and the remains of extensive buildings have been discovered by Charnay and others. The noble ruins of religious and other edifices still to be seen, are referred to the people whose name, Toltec, has passed into a synonym for architect. They entered the territory of Anahuac, about 600 A.D.; some years later they disappeared as silently and mysteriously as they had entered it. After the lapse of another hundred years, a people called the Chichimecs, came down from the north. Still later, the Aztecs and Tezcucans entered the land from the north as wild tribes, but rapidly grew into a civilized

## EDITORIAL NOTES.

---

The Ethnological Bureau has lost within a few weeks two of its best and brightest assistants, Mr. F. H. Cushing and Dr. W. H. Hoffman. The gentlemen were at the time that *THE AMERICAN ANTIQUARIAN* was started young men just commencing their career as archæologists. They have both, made a world-wide reputation for themselves, and have won the confidence and friendship of all their associates and fellow-workers in the department which they represented. Mr. Cushing was always a very courteous gentleman; self-sacrificing and self forgetful. He may be said to have sacrificed his life in zeal for the science of archæology. Dr. Hoffman was an indefatigable worker and spent much time among the aborigines in collecting their myths, studying their ceremonies, and interpreting their picture-writing. It is with a sense of personal loss that the Editor writes this short notice of their departure.

\* \* \*

**THE EARLIEST INSCRIPTIONS FROM CHALDEA.**—These were pictorial ideographs, suggested by the object represented, but with a secondary meaning. A star represented not only a star, but the sky, and finally the idea of God. A circle represented the sun, the day, and light. Rain is represented by two characters; one of which represents water, and the other sky, which equals sky-water. A tear is represented by the character for water added to that for eye, which equals eye-water. A mountain is represented by three triangles; a range of mountains by six triangles. The ideograms of Chaldea are precisely similar to those of China made up of lines or wedges, read in columns from top to bottom and from right to left. The Babylonian characters are equivalent to Chaldean ideographs, though the Babylonian characters had a phonetic value. The early ideographs are composed of straight lines and are rectilinear. Through such characters many profound truths were made known. One ideogram signifies "Lord is the King of Heaven"; another character means "Evil of heart"; another means "Great Lord, King of mountains and cultivated lands."—*Proceedings of the Society of Biblical Archæology*, December 5, 1899; article by Sir H. H. Howorth.

\* \* \*

**SAND BURIED CITIES.**—A paper on Central Asian antiquities was read by Mr. Rudolf Hoernle, Ph. D., before the International Congress of Orientalists in Rome, October, 1899, describing the sand buried cities in eastern Turkestan and the antiquities and manuscripts found in them. One city, five miles west of the Chinese city Khotan, occupies the site of the Buddhist city of Khotan in the early centuries of our era. It is buried, not in loose, moving sand, but in a compact stratum of loose clay about twenty-five feet thick. Embedded in the stratum were found pottery, coins, seals, figures, and other antiquities. Dr. Sven Hedin has given a description of the place.

Another city, called Aq Safil, or "White Battlements," is one of the proper sand buried cities. Here are the basement platforms of two ancient stupas. At this place manuscripts were found, as well as coins and seals; the manuscripts are of two kinds, those resembling the European book or Indian "Pothi", written in Indian sanskrit characters, and those written in an unknown language and strange characters. The manuscript of the first kind belonged to the period dating about 600 A. D., and those of the second group were dug out from a mound circular in shape, five feet wide, two feet high, situated in "a sand buried graveyard" in the desert of Takla Makan, probably the remains of an ancient stupa or tumulus. In the mound were found two small bronze figures of horsemen, a pillow bag, and in the bag a manuscript, with a copper rivet through it.

NEBUCHADNEZZAR.—A very interesting article, prepared by Prof. R. F. Harper of The University of Chicago, upon Nebuchadnezzar, King of Babylon, appears in the July ('99) number of the *Biblical World*. It is



BARREL-SHAPED CLAY CYLINDER OF NEBUCHADNEZZAR.

illustrated by three cuts which represent the cuneiform inscriptions of the times, and contains translations of several inscriptions, which were made by order of Nebuchadnezzar, giving an account of his reign. Mr. Harper says:

"It will be seen that while Nebuchadnezzar is best known to us from his inscriptions, as a man of peace, devoted to the building of temples, walls, canals, and to the adornment of his capital city Babylon, he was a great warrior, and at the close of his reign was master of all western Asia, having overthrown Judah and her allies and humiliated Egypt. The chief sources of information about the wars are the Old Testament, Herodotus, Josephus and his inscriptions. The translation of one of the inscriptions is interesting.

"He introduces himself, as follows: 'Nabû-kudurri-ucur (Nebuchadnezzar) King of Babylon, the exalted prince, the favorite of Marduk (Merodach), the lofty Patesi; the beloved of Nabu, the judge; the possessor of wisdom, who searches out the way(s) of their divinity, who fears their lordship; the untiring officer, who thinks daily of the adornment (restoration) of Esagila and Ezida, and who concerns himself continually with pious works for Bâbilu (Babylon) and Barzipa (Borsippa), the wise, the pious, the restorer of Esagila and Ezida, the first-born son of Nabû-abla-uzur (Nabopolassar) King of Babylon, am I.'"

Nebuchadnezzar was the greatest of the Kings of Babylonia. He was the son of Nabopolassar, and ruled from 604 to 561 B. C. His father, Nabopolassar (625-604 B. C.), had made Babylonia independent of Assyria in

625 B. C., and had founded the new Babylonian kingdom. It was left for the son to make Babylonia a world power; he was a worshipper of Marduk, and made a boulevard to accommodate his procession at the beginning of the year, and built canals. The following is his canal inscription:

"I sought out the site of Libil-hegalla, the east canal of Babylon, which had been in a state of ruin for a long time, and which was filled with drifts of sand and debris, and from the bank of the Euphrates as far as the Ai-ibur-sabû street, with



BABYLONIAN BRICK

bitumen and burnt brick, I rebuilt its bed. In Ai-ibur-sabû, the street of Babylon, for the procession of the great lord Marduk, I build a covered bridge, and made its roadway broad."

There are other works by Nebuchadnezzar which deserve notice, but these are sufficient to show the enterprise and energy of the great king, who busied himself with the cities of Babylon and Borsippa, the building of temples and shrines, the construction of walls, moats, and other fortifications, the digging of canals, the raising of streets, etc. Nebuchadnezzar's piety is shown in all his works, and his prayers are the best that have come down to us. Whether erecting a sanctuary, or building a canal, or improving the walls of Babylon, he does not fail to add a prayer to some deity. One prayer begins as follows:

"Oh, Eternal Ruler! Lord of everything that exists! To the king whom thou lovest, and whose name thou hast mentioned, Grant that his name (*i. e.* he) may flourish as seems good to thee. Guide him on the right path."

These translations are taken from the cylinders and tablets which have been discovered at various times and in various places, cuts of which have been made and published until they are very familiar. They generally are meaningless, for very few are able to translate even a single sentence. It is a matter of congratulation to us that we now have scholars who are familiar enough with the cuneiform language of these tablets to give us the

translation. These little wedge-shaped, arrow-head figures have become very significant indeed. They furnish a new setting for an old and familiar character, even the well-known Nebuchadnezzar of the Bible. We think the better of the old book because of the new literary treasures which furnish "side-lights" to it. There is no contradiction, but rather new confirmations. A good work is certainly being accomplished.

\* \* \*

**BIBLICAL CHRONOLOGY.**—The term year, as used in the Scriptures, must evidently have been different from that which we use, or at least its significance was different. In the Book of Kings the eleventh year did not extend beyond four months and nine days. The question arises whether there was a sacred year which differed from the solar year, as there was among the ancient Mayas in Central America. This might furnish an explanation of the great age of the antediluvians. There was evidently a change of method in calculating the years after the deluge and during the Patriarchal Age, for it does not seem reasonable that the antediluvians should have lived 900 years and the patriarchs only about 120 years. This subject is discussed in an article by Major-General F. E. Hastings in the Proceedings of the Society of Biblical Archæology.

\* \* \*

**DISCOVERIES IN THE FORUM.**—During the month of December, 1898 the interior of the hemi-cycle platform of the Rostra Julia was cleared and some interesting finds were made. Among these may be mentioned certain remains, which seem to have marked the place where Julius Cæsar was cremated, also the altar which was erected by Augustus, the emperor, and where Cæsar was worshipped, as well as a certain pit which was called Mundus. The history of the cremation is as follows: "After his assassination they carried the body from the Capitol back to the Forum, and in that place gathered together all the wood from the seats of the Forum and the neighborhood and raised a magnificent pyre, upon which, placing the body, they set it on fire.

"In that place at first an altar was erected, and the temple of Cæsar, himself, was built by Octavius (Appian B. C., II. 42). Afterward a solid column of numidian marble, nearly twenty feet high, was erected in the Forum and inscribed (Parenti Patriæ) to 'the Father of His Country,' at which for a long time they sacrificed and made vows. When Augustus erected the temple tomb he built it up close to the rear of the rostra. The expiration of '98 disclosed the pavement of black marble, which signified a mournful place, and was supposed to mark the place of cremation. Beside this there was an enclosure called 'The Mundus,' or sacred foundation pit. The history of this pit is remarkable. At the first enlargement of the city, a circular pit was dug, which was to receive the first fruits of everything that was reckoned good; also a quantity of earth gathered from the country which was visited by the citizens of Rome was thrown into it.

The most remarkable thing about this pit was the religious tradition connected with it. Varro says of it: "Yet the dismal lower gods may in a manner open the door when the Mundus may be opened." Festus says: "The Manalis Lapis was thought to be the mouth of Orcus by which souls pass from the inferior to the superior, who are called ghosts."

\* \* \*

**BRONZE FISHES FROM ANCIENT EGYPT.**—Small stereotyped dishes and bronze fish-shaped bottles, mummied specimens of fishes, and a bronze model of a fish containing a mummied fish, have been found in Egypt, and are now in the Natural History Museum in Cairo.

\* \* \*

**STONE AXES** as ideograms and objects of worship in Egypt and Chaldea furnish the subject of an article by Mr. F. Legge in the Proceedings of the Society of Biblical Archæology. A Chaldean priest offers a sacrifice to an axe standing upright on an altar. Stone axes were used as symbols of the divinity and inscribed on the megaliths of Brittany and on the funeral caves of Scandinavia. Bronze axes were symbols of divinity in Mexico, but it is a question whether stone axes ever were in America.

## LITERARY NOTES.

*The Biblical World* during the past year has had some very valuable articles on "Hebrew Social Life—from Josiah to Ezra"; also some interesting plates and cuts representing writing in the time of Nebuchadnezzar; also articles on "Scientific Bible Study, Hostile to Devotion," and "Agricultural Life in Palestine," with interesting cuts. It is one of the most valued of our exchanges.

*Biblia* for March contains an article on "The Discovery of Ophir," in which Dr. Carl Peters claims to have identified a place about fifteen miles south of the Zambesi, as the location of the ancient Ophir of the Old Testament. He says the natives are quite unlike the ordinary African and have distinct Jewish faces. He claims to have found ancient ruins of undoubtedly Semitic type, also Phallic emblems which were connected with ancient Semitic sun worship. The best authorities on these Zambesi and Mashonaland ruins are Mr. J. D. Bent and Mr. Boyce, author of a volume on South Africa. The descriptions in these volumes are very interesting and valuable. Another article is on "The Site of Pi-hahiroth Between Migdol," by Orlander P. Schmidt. Mr. Schmidt thinks it was at Pelusium on the great highway to Palestine, where were frontier fortifications. The surroundings of Pelusium at that time were exactly those required by the Bible narrative: we have the sea before Pi-hahiroth, the pits, water-holes, swamps, and marshes, and no doubt the narrow tongue of sand separating the sea on one side from the treacherous, unfathomable gulf on the other. Above all, a strong east wind blowing all night would certainly cause the sea to recede so that the Israelites could pass through upon dry land, the waters on each side being as "walls," that is fortifications.

*The Open Court* has an article on "The Seal of Christ," by the editor Mr. Paul Carus, which treats mainly of the cross and its distribution. There are illustrations in it drawn from Egypt, from the prehistoric works of Ireland, from the Etruscans, the Assyrians, the Greeks, and North American Indians.

The leading article in *Appleton's Popular Science Monthly* is entitled "Recent Years of Egyptian Exploration," by W. M. Flinders Petrie. The author says: "The great stride that has been made in the last six years, is the opening up of prehistoric Egypt, leading us back 2,000 years before the time of the pyramid-builders. The present position of the prehistory of Egypt is that we can now distinguish two separate cultures before the beginning of the Egyptian dynasties, and we can clearly trace a sequence of manufactures and art throughout long ages before the pyramid-builders, or from, say 6,000 B. C., giving a continuous history of 8,000 years for man in Egypt. Continuous, I say advisedly, for some of the prehistoric ways are those kept up to the present time."

The March number of *The International Monthly* contains a very valuable article on "Degeneration; A Study in Anthropology," by William W. Ireland. The author speaks of the large stature of the Cro-Magnon Race and the Mentone, also of the Gauls and the early Greeks. He seems to think that the race has degenerated in physical qualities. He refers to the English archers and the early Arabs and draws a contrast between them and some of the modern races. The article is very suggestive, although many things may be said upon the other side.

*Brush and Pencil* is one of the very best art magazines in the United States, and is a credit to Chicago. The April number contains a beautiful frontispiece representing a group of hunters with their horses and hounds out on a sage brush plain, just taking their departure from the lonely grave

of one of their companions. It is touching to study the attitudes of the hunters, as they mount their horses, especially the attitude of the riderless horse, as with drooping head he looks around at the grave, and especially the attitude of the hunter's dog, as he with the most lonely and forsaken air he stands over the grave and looks up with a mute language of farewell to the hunters as they depart.

In the past two years *The Overland Monthly* has been steadily improving, until it is now one of the best edited and the best illustrated magazines in the United States. It contains a great variety of articles, but has always something in reference to the early historic races of this country. The groups of Indians, pictures representing Spanish missions, big trees, early settlers, landscapes, natural scenery in California; also pictures of the Philippines, sketches of the Orient, scenes in China, occasional sketches of Egypt, mountain scenes, and scenes in Alaska, have formed interesting features during the last year or two. Our readers can do no better than to order this magazine along with the ANTIQUARIAN.

The last number of *Indian Antiquary* contains an article on "The Beginnings of Currency," by our old-time contributor, Col. R. C. Temple; also an article on "The Folklore and Legends of the Punjab." The first of them is illustrated, and both are very interesting. We shall be glad to forward subscriptions to any who may desire this publication.

*The American Historical Review* is a very scholarly and substantial quarterly, and is at the same time very interesting in its general style and make up. It is not confined to local history, but takes such subjects as the "Chinese Immigrants in Further Asia," "A Study in English Border History," as well as the United States and Mexico. The book reviews are especially interesting and valuable. There is no magazine in the United States that gives more information for the amount of money expended than this magazine.

*Education* is a magazine that covers the whole field of education and has contributors who are scattered throughout the United States. It recognizes the work which is being done in the cities of the Interior, as well as those on the Pacific and Atlantic coasts. It is catholic and broad in its spirit, even in its contents, and cultivated and chaste in its style and worthy of the patronage of all teachers and educators.

*The Journal of American Folk-Lore* is exceedingly interesting and instructive. It is devoted mainly to the mythology of the aborigines, the folk-lore of the various races, and the waifs of literature which are worthy of being preserved. The Society has flourished from the date of its organization, and has gathered into its membership a large number of scholars and literary workmen of this country. The editor is always courteous and there is not a particle of bitterness or a word of harsh criticism in the journal, but the fairest and kindest treatment of contemporaries. We are happy to recommend the journal to our readers.

The April number of *Bibliotheca Sacra* contains for its frontispiece an excellent portrait of William Frederick Poole, Librarian; also an article by Z. Swift Holbrook showing Mr. Poole's reverence and high regard for the clergy, and especially the old-time New England clergy, and his defense against the attacks on the ground of witchcraft and other charges. An article, also, on "Our Debt to Missionaries," by Rev. C. Ewing, and one on "Influence of the Bible Upon the Human Conscience," by J. E. Rankin, D. D., and one on "The Bible and Modern Scholarship."

*The American Journal of Philology* is devoted to classic languages. It does not treat of any of the languages which are called aboriginal, for the Aryan language with which it is occupied has passed beyond the stage in which it would be called aboriginal. Still there are many things which may come up for comparison, especially in the matter of poetry, the early stages of which are found among the aborigines, but the transition stages among the classic works.

## BOOK REVIEWS.

DIARY OF DAVID MCCLURE, DOCTOR OF DIVINITY, 1748-1820. With Notes by Franklin B. Dexter, M. A. Privately printed. The Knickerbocker Press, New York, 1899.

This is a book which shows the influence of that good man and able educator, who founded Dartmouth College, Pres. Wheelock. Up to his time, the prejudice which was raised against the Indians by King Philip's War had prevailed throughout New England, and had paralyzed all efforts for their improvement and evangelization. The establishment of the school at Hanover, New Hampshire, raised up a number of young men who devoted themselves to the Indians. Among them was Mr. David Oecom, the noted Indian minister and orator; also David McClure, the famous missionary and scholar, who was educated at Lebanon, Connecticut, to become a missionary to the Indians, and graduated at Yale College in the same class with the elder President Dwight. After graduation he took charge of a school at Lebanon, then moved to Hanover, New Hampshire, and became tutor in Dartmouth College. In May, 1772, he was ordained as a missionary to the Delaware Indians on the Muskingum River; but owing to the outbreak of the Revolution the mission proved a failure.

The diary embraces an account of his education; also of a visit to "Old Oneida Castle," which contained about twenty log houses; also to the Upper Castle of the Oneidas, which contained about forty dwellings; also to Fort Stenwix, which was in a decayed condition. On his journey he passed through Ligonier, the site of Fort Ligonier, built in 1758, and saw Captain, afterward General St. Clair; also saw the famous Simon Girty and Sir William Johnson. He visited the field where Colonel Bouquet fought the Indians in 1764. He arrived at Pittsburg, where he saw a number of poor drunken Indians staggering and yelling through the village, members of distant tribes, who came to change their pottery and furs for rum. "The fort is a handsome and strong fortification. The village consists of about forty dwelling houses made of hewed logs." He preached to the soldiers, who had lately arrived from Fort Chartres on the Mississippi, and had not heard a sermon for four years.

He visited Braddock's field and says: "It was a melancholy spectacle to see the bones of men strewn over the ground, left to this day, without the solemn rite of sepulture. This fact is a disgrace to the British commander at Fort Pitt. The bones had been gnawed by wolves, the vestiges of their teeth appearing on them. Many hundreds of skulls lay on the ground. I examined several and found the mark of the scalping knife on all." He received information that a war belt had been sent to the Indians inviting them to join the British, and that the British troops were dismantling Fort Pitt. He speaks of the earthworks of Ohio, and says: "Ditches were deep and wide and the walls high, with openings or gateways and the appearance of bastions. The works that I saw were near the banks of a stream or river, and had a passageway to the water. Another, about twelve feet high in the form of a pyramid, I saw at Logstown, which was once the seat of the Indians." This, perhaps, is the first account of the mounds of Ohio. There are many other things in the diary which are worthy of notice. The book is of great value to the archaeologist and should be in all the public libraries.

EXCAVATIONS AT JERUSALEM, 1894-1897. By Frederick Jones Bliss, Ph. D.; Explorer to the Fund; Author of "A Mound of Many Cities." Plans and Illustrations by Archibald Campbell Dickie, A. R. I. B. A. London. Published by the Committee of the Palestine Exploration Fund.

The author of the book, F. J. Bliss, commences with a description of the magnificent work of masonry, some forty to fifty feet high, which stood



above the rock and which formed a splendid impregnable fortification, which might well defy an attempt to take Jerusalem from the south. He next proceeds to the tower (on a rock platform) adjoining the Protestant Cemetery. After an allusion to the discovery of a wall near the Pool of Siloam, he gives a description of a gate, which proved to represent four distinct periods, by the different super-imposed gate-sills with their sockets, which he unearthed. These discoveries are important enough to justify the expense of both the exploration and the cost of the book, but other discoveries, still more important, are made known; discoveries which seem to give a record of the history of the city from the earliest times up to the Byzantine Period and later. The history of architecture is, also, incidentally given by the book. The style is, to be sure, somewhat complicated, as it is cumbered by the details of measurements and the digging and disclosing certain objects; but the pages reveal to the close student and the archaeologist many things of great value.

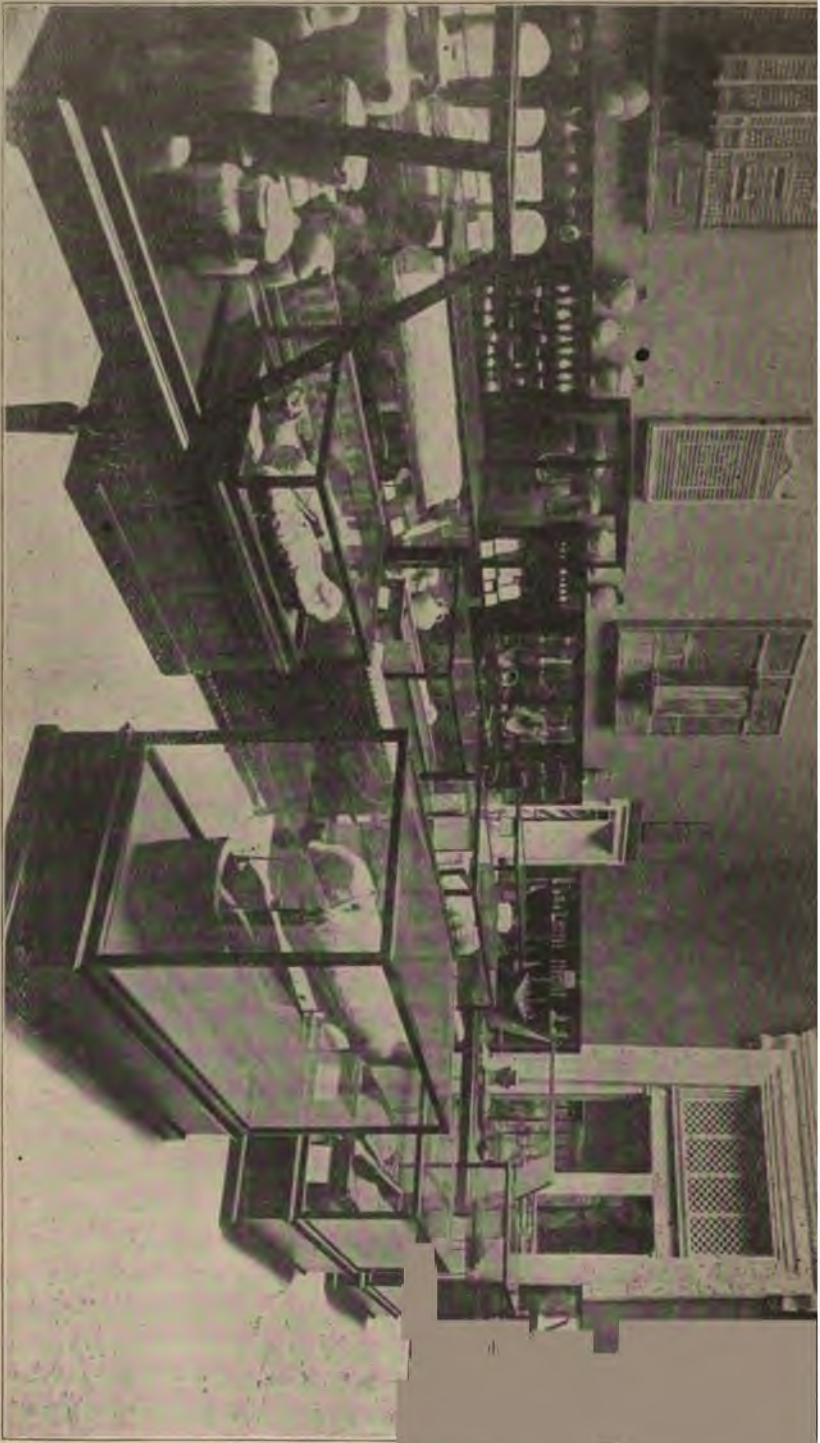
A paved street and an ancient aqueduct and a chamber above the aqueduct give hints as to the variety of objects discovered.

A clue to the chronology is given by a mosaic, which is represented in a colored plate; also by a "Byzantine zig-zag moulding" upon a wall built over a Roman pavement; also by the dressing of the stones in two towers, which show the parallel furrowed tooling of crusading times. These are comparatively modern, although it must have required considerable archaeological skill to have identified them with the different periods. Amongst the subjects of general interest are: first, the drainage system, which is briefly described, also the wall across the Tyropoean valley; next, the Roman colonnade, in or near the Damascus Gate; also the gate south of the Pool of Siloam, and the tower near the gate, the jams and sockets for this gate give the key to three different periods; the buttress system disclosed by the wall is described. This wall was subject to various alterations, and thus represented several periods; the drafted masonry represented an earlier period, the rough work being later than the double bossed stone; the seven lower courses are part of the base wall. The wall is in general eight feet thick, but rests on a base wall which is in line with the buttress faces, which project twelve feet, giving twenty feet as the thickness of the base wall. This shows the solid and substantial character of the old masonry at Jerusalem.

The length of the wall across the Tyropoean valley was about 2375 feet, or a little under half a mile; but the base of the wall drops 440 feet. The discovery in the valley included a paved street, with a fork above the Pool of Siloam; one branch probably leading to the gate, and another connected by a stairway to the original pool, in regard to which several points were cleared up. The rock-hewn steps, dressed with chisel and pick, descending to the court yard in front of the original Pool of Siloam, indicate the ancient approach to the pool, and seem to occupy the place where it is reasonable to expect the "stairs that go down from the City of David." The church of the Pool of Siloam has been often referred to, also a church on the Mount of Olives with the Greek mosaic.

We may say that the work of exploration here is very difficult and in reality has hardly begun to carry the dates as far back as is desired. Tradition must be relied upon wholly until the work of exploration has been carried on further.





EGYPTIAN RELICS IN FIELD COLUMBIAN MUSEUM.

THE  
*American Antiquarian*

---

VOL. XXII.

JULY AND AUGUST, 1900.

No. 4.

---

THE ETHNIC VARIATION OF MYTHS.

BY JOHN FRASER, LL. D., SYDNEY.

The Polynesians have a literature hundreds of years old, but, like the Homeric poems in their earliest stage, it is oral and unwritten, and has been handed down from generation to generation by public and private recitations. That literature consists of genealogies of their gods and noblemen, songs in praise of their chiefs and ancestral heroes, mythical stories and folk-songs. In India, and specially in the province of Rajpaland, there is a class of professional bards, whose duty it is to treasure in their memories the genealogy of each noble family and the folk-lore of the race. At certain times of the year, such a bard sets out on his journey of visits, travelling from the court of one prince to another; and is everywhere received with kindness and welcomed. If, since his last visit, some joyful incident has happened in the family of the host, as the birth of a boy or the marriage of a princess, he sings a poetical and much embellished account of the ancestors and their brave deeds, and adds something new to suit the occasion. At banquets he gives songs and recitations of any kind that his patron or guests may ask for.

Among the Polynesians something similar has long existed, and I shall now speak of that branch of them which occupies the Samoan group of islands. A very large body of native tradition about things human and divine is preserved as folk-lore in the memories of certain official men, who may be called "legend-keepers." These are honorable men, both by morals and by rank, for by birth-right they are mostly *alib*, that is, "chiefs," and as an idea of sacredness attaches to their rank and their office, they are above the suspicion of falsifying the records which they keep, or of allowing them to be corrupted, for that would be sacrilege. Of course, I am now speaking of Samoa as it was half a century ago. I chanced to have in my possession a considerable bundle of myths from Samoa, written down, there, about that time by an English missionary, who labored long in that field, and who, having gained the con-

fidence of one of these "legend-keepers," was allowed to preserve in writing to his dictation many of these interesting records. One of these myths has been chosen as my present theme.

It has for title "*Le malaga na alu i le laga*," that is, "The travelling-party that went [up] to the heavens." It so much resembles the classical story of "The war of the gods and the giants," that it may interest you to trace the local coloring which these Polynesians have given to that story. And for that purpose I will first write an outline of the myth, as translated from the text, and will then offer some remarks.

#### THE MYTH.

In the pantheon of the Samoans, the supreme god is Tangaloo, who dwells in the highest heavens; a region of unclouded brightness and unruffled calm. He has many sons, who are called the Sa Tangaloo, for Sa in Samoan means "race, family." Some of these sons he permits to dwell in the lower heavens and rule there; others, the sons of these, but born of human mothers, remaining on the earth below, and many of them are giants with such names as Losi, Pava, Le-Fanonga, Moso, Tié-tié-a-Talanga. These giants are not reckoned among the Sa-Tangaloo, but are treated as inferiors. The chief of them is Losi, who was the fisherman of the gods and had charge of the sea. He is the son of Malae-La,\* who is the husband of the daughter of the first human pair of Samoans.

One day the Sa-Tangaloo, the young demi-gods in the lower heavens, wanted some fish to eat; so they sent down a message to Losi. Losi obeyed orders, went and caught some very large fish, tied them by the tail to a long rope, and then told the messengers to come and take the fish. They came, but the fish were lively and dragged them hither and thither, so that they had to call to Losi for help. He said, "You go on first and I will take up the fish." So he went up with one hundred large fish; he took so many because the large house in the heavens, where the single young men lived, had a hundred doors. When he arrived there, Losi placed a fish over night on the threshold of each door; and in the early dawn, when the young men were coming out, each stepped upon the slippery thing and fell down. One got a broken arm, another a wounded head, and so on; this took away all the enjoyment of their fish, and left them a grudge against Losi for his practical joke.

Hospitality, however, required that the young men should prepare an oven of food as a compliment to their guest, and Losi went and stood beside them, looking at its preparation. In those days there was no *taro* food, or bread food or yams on

\* Malae is the open space in a village where the people assemble on public occasions; La is the "sun."

the earth below. Losi, therefore, slyly picked up and secreted one of the scraps of *taro* about his person under his girdle. The young men observed his movements, and, suspecting what he had done, they laid hold of him, and searching him they most indecently exposed his person; but they did not find his treasure. He went off in great indignation at the disgrace. On the earth below, he planted the *taro*; it became very productive, and he got from it a fine crop. After a while some of the Sa-Tangaloo came down to earth, and, seeing his plantation of *taro*, they said: "After all, he did bring down the things of heaven." And so they carried off all his fruit. This incensed him still more, and he resolved to have revenge.

And Losi took council with his brethren, the earth-born giants, who were men of prodigious strength and bigness. So they all met and went up to the heavens as a friendly travelling party of visitors. But the Sa-Tangaloo suspected their design, and, although offering the usual civility of food, they meant to attack the giants when engaged in eating. Losi's men were on their guard, and while the rest of them looked on, two of the brethren came forward and ate up all the offering, along with the yoke-sticks on which it had been brought and the baskets; not a thing was left. So the Sa-Tangaloo were foiled.

Next day, the visitors were invited to share in the sports and trials of strength. The young men had one champion, Tangaloo of the-eight-livers, who they thought would conquer and kill all their adversaries. This was a chief, about whose body hung his livers—eight in number. But the earth-born Moso encountered him; the two joined in a hand-to-hand combat with clubs; they lifted up their blows and the eight-livered hero got a gash; one of his livers was cut off; again another blow caught him and another liver was cut off; the eight-livered became weak. Then his friends the Lava-sii came forward to pay his ransom. So again the Sa-Tangaloo were foiled, and earth-born Mosa got all the honor.

Again the next day, came on the sport of floating on the bosom of the river, which, with its impetuous current, was likely to sweep away the visitors not accustomed to it. But Lautolo, one of them, stood in the midst of the water, and when any one of his friends was swamped, he took hold of him and lifted him out. The Sa-Tangaloo looked for drowned men; but, lo! the giants were there on the bank of the river, shaking the water out of their hair, and all safe.

Last of all, the next day, the rain-maker in the heavens brought down a deluge of rain. The visitors were prepared for that, for Moso had caught many birds, and taking off their wings and feathers he had decked himself with them and, sitting down like a gigantic brood hen, he sheltered all his comrades from the rain under his wings. When the rain ceased, the warriors came out and attacked the Sa-Tangaloo, beat them cruelly and made them acknowledge themselves vanquished.

So the travelling party returned to earth again, carrying with them the spoils of heaven—*taro* and cocoa-nut, and bread-fruit and *kava*, and *kava* bowls in which to make that drink.

#### VARIATIONS.

There can be little doubt, I think, that this myth is of the same origin as the Grecian story about the war of the gods and the giants—the same but different. It now remains for me to show the analogies and the contrast between the two, and, if possible, to account for their variations.

1. In the early days of mythology there was a coming and going between gods and men,—between heaven and earth. In that, both Greek and Polynesians conspicuously agree.

2. There were giants on earth in these days, strong enough and daring enough to be at variance with the inferior gods and to make war on them, and to conquer them. The Titans of Hesiod's *Theogony* correspond with the Sa-Tangaloa of the Samoans, for they are all gods, but of an inferior kind. In Greece the giants and the cyclops who assisted Zeus in the war against these Titan-gods were sprung from the union of heaven (Ouranos) and earth (Gaia). In Samoa, the father of Losi is a celestial (La, the sun), but his mother is one of the ancients of the human race. His comrades, too, are tremendous fellows; one of them, Le-Fanonga, that is, "Destruction," sweeps everything before him in battle, as he well may, if he was worthy of his name; another of them, Tié-tié, went down to Tartarus, fought with Mafusé, the fire-king there, broke his arm and his leg, conquered him, and brought fire to men on earth above.

3. The Sa-Tangaloa occupy one hundred rooms. In the Grecian story the sons of Uranus and Gaia have each a hundred arms.

4. In the Samoan myth the war ends on the fourth night. The Grecian account makes the war last for ten years.

5. In Greece the legends about the Giants and the Titans and their doings are very confused; in Samoa, the whole is a plain, intelligible narrative, arising out of a practical joke of one of the giants—a pastime to which giants are considered rather partial.

6. As spoils of war, *taro* and all other things good for food were brought down from heaven. Losi had at first *stolen* a bit of *taro* from the Sa-Tangaloa. Tié-tié, as a victor, carried fire up to earth, where-with to cook food. In contrast, the Greek Prometheus *stole* fire from heaven and brought it down to earth.

7. In the Samoan language, the noun Losi means "envy, jealousy, emulation." This name may have some reference to the causes that led to the war. In Greece, the wily Titan, Kronos, had dethroned the aged Ouranos and set up a new

monarchy. Perhaps "envy and ambition" led him on to this. Zeus, with the help of his half-brothers, the cyclops, and the giants, warred on the Titans and recovered his father's throne.

8. The Tangaloan demi-gods are *sensual* in this respect, that they must have fish to eat and *kava* to drink, and thus the Samoans regard them as anthropomorphic; but the myths bring no charges of *sensuousness* against them, such as we find in the Greek tales about Poseidon, Hephaistos and Aphrodite. Like the Samoans themselves, the Tangaloans are swift to observe the laws of hospitality, for they at once prepare food for their visitors, although those have come on a hostile errand.

9. The Grecian war is founded on brute force: Pelion is piled upon Ossa, and attempts are made to take Olympus by storm; at last Zeus launches all his stores of thunder and lightning and thus quells the Titans. In Samoa, it is "diamond cuts diamond" in pretended trials of skill and strength, and at last an open fight.

10. In the Tangaloan sports, observe in how many points the myths correspond with legends current in the Old World:

(a) The giants are prodigious gluttons. Le-sa ate up the whole supply of food and the baskets and the neck-yoke.

(b) There is single combat to settle the strife—a club-match.

(c) The conquered man is admitted to ransom, and the conqueror is highly honored.

(d) Some of the giants are very tall, as well as strong. Lau-tolo could stand in the middle of a swollen river, and rescue his friends.

(e) In the Samoan language, *Moso-moso* is the name of a bird; and in the myth, the giant Moso covers himself with feathers. In our legends there are tales about giant birds, such as the Roc.

11. But in three other parts of the sports, the analogies are not European:

(a) In Australia, Polynesia and America there are professional rain-makers, and there are rain-medicines. The Samoans strongly dislike heavy rain; falling on their warm, naked bodies, it chills them through and through.

(b) Surf-swimming and floating is universal in Polynesia as a sport and trial of skill.

(c) There is a river in the heavens; the Milky Way is that river; it is called Aniva in Samoan.

12. The champion of the Tangaloan party had "eight livers." In classic language the liver is "courage." To be "white-livered" is to be a "coward."

13. The number eight is remarkable here, for it is evidently used as a "complete" number. I have found it similarly used in several other of the Samoan records. The word in Polynesian is *valu*, "twice four." Now, I do not know



any other part of the world, except India, in which the number eight is so used. I intend some day to write more fully on this point, for I think it proves that the ancestors of the Polynesians had some connection with India.

15. In the Samoan pantheon the supreme god is Tanga-loa, which name I take to mean 'the lofty (*loa*) encompassing' (verb *taa-i*) heavens. The name thus corresponds with the Sanskrit "Varuna," the Greek "Ouranos." He dwells in the Ninth Heavens and is a calm, quiescent being. In this he corresponds with the Indian Brahma. His palace there is called *ʻale-ula*, the "bright house"; there is no noise or disorder there; all is calm, bright and pure. The councils of the great gods are held there. The upper gods have the right to assemble there, but the inferior gods come only on invitation. For analogy we have the Roman *Dii consentes*, the *Dii majorum gentium*, and *Dii minorum gentium*.

The distinguishing name of the Supreme Tangaloa is T.-i-le-langi, "Tangaloa-in-the-heavens," but there are many high Tangaloes, all of them, however, being functions or attributes of that god. As "creator of lands," he is called T.-faa-tutu-punuse; as the "immoveable, unchangeable one," he is called T.le-fuli; as "going to and fro to visit his creation and his creatures," he is called T. Savale or T. Asiasi-nuse, and so on. With all this compare the Indian Brahma and his emanations. Just as in the beginning the sole, self-causing spirit Brahma by his *will* created the waters, so Tangaloa-i-le-langi created the lands and men by his *will* alone. And Brahma in one of his aspects is Brahma Prajapati, the personal creator; as the preserver, he is Vishnu; as the destroyer, he is Siva, and so on.

The whole of the Samoan conception of Tangaloa and his heavens is somewhat like Buddhist ideas. To show this I quote the following from Childers:

Brahmaloko is the world or heaven of Brahma angels, the Brahma-world. It is divided into two parts: (1) Rupabrahmaloko, the world of corporeal Brahmās, and (2) Arupabrahmalokā, the world of formless Brahmās. The first consists of sixteen heavens, placed one above the other and inhabited by Brahma devas or angels of different sorts; the other consists of four heavens and is placed immediately above the Rupabrahmaloko. The Brahmās are a higher order of angels than the *devas* of the Devaloko, being free from *kama*, or sensual desire or passions, and insensible to heat and cold. In some of the worlds they are self-resplendent and have purely intellectual pleasures; those of Rupabrahmaloko have a form or body, but those of Arupabrahmaloko are mere effulgences or spirits without form. The *devas* of Devaloko are super-human beings or angels, living a life of happiness and exempt from the ills of humanity.

---

NOTE.—In another Samoan myth which I have cited—the Story of Creation—many parallels to these Samoan beliefs about Tangaloa and his heavens, come out more clearly than in this one. In fact it would be easy for me to enlarge every one of the fifteen parallels I have given, but the space I have at my disposal forbids. And so, at present, I give only an outline of what might be said of this myth about the Samoan *malaga na alu i le lagi*.

## SHRINES NEAR COCHITI, NEW MEXICO.

BY FREDERICK STARR.

In a recent visit to Cochiti, I desired to visit all the shrines or sacred places in the immediate vicinity of the pueblo. Some of these I already knew, but most of them were new to me. Apparently there are ten of these places. We visited eight of them: secret sacred dances were in progress near the others, and our guide dared not go with us thither at that time.

Cochiti is one of the seven Queres pueblos. It lies upon a gravel terrace, west of the Rio Grande at a short distance from that river. Back from it stretches a little plain, behind which, to the north and west, rises a series of gravel hills and ridges. These occupy a broad strip of country, and behind them rise the great rock *mesas* and *potreros* of the Rio Grande Cañon. The Rio Grande flows past the pueblo in a flat alluvial valley, nearly a mile wide, at a level of some fifteen or twenty feet below the town. Eastward from the river the gravel hills give way to a high plain, which stretches east and north to the rock mass forming the eastern side of the great cañon. The cultivated fields of the pueblo begin at the village and lie in the river valley, extending some distance up the river.

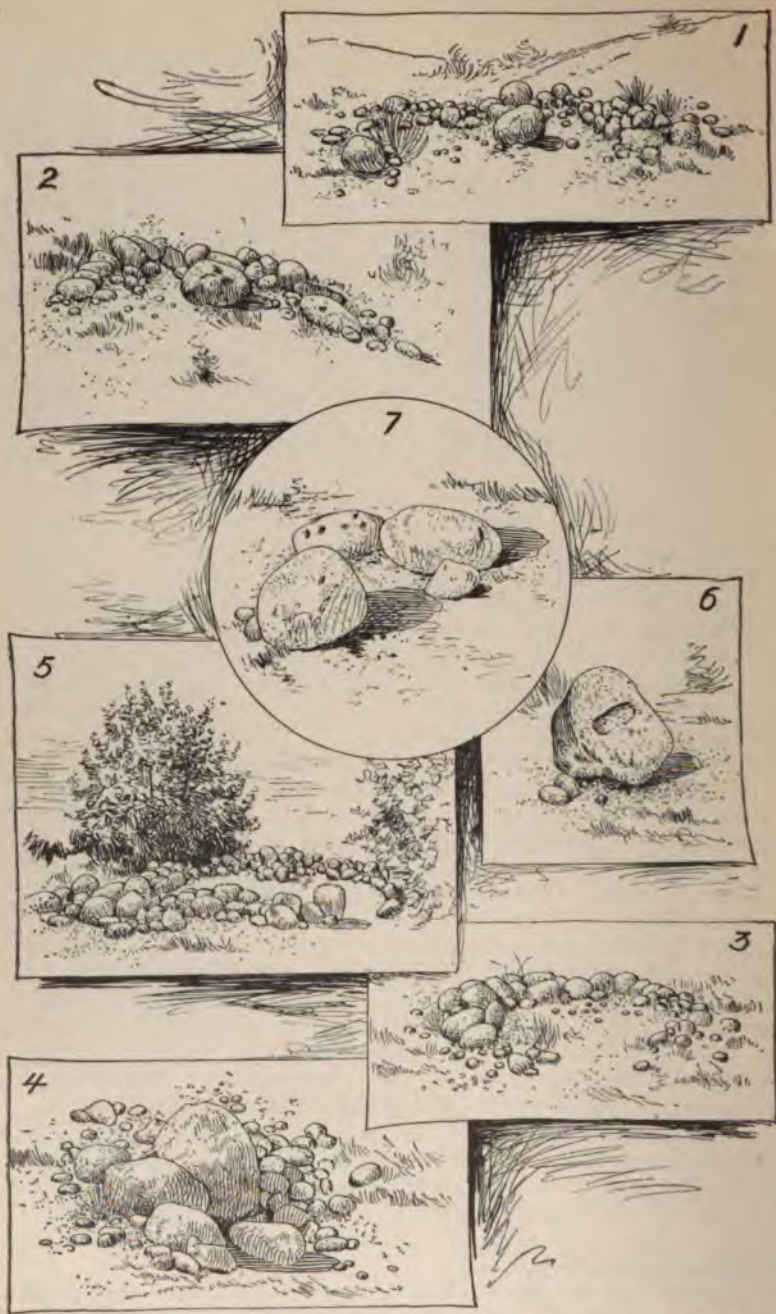
All pueblo Indians reverence the points of the compass. From the cardinal points come helpful or harmful influences. Toward them propitiatory offerings and prayers are made. To the Cochiti there are six cardinal points—North, West, South, East, Up, Down. The usual offering to the cardinal points is corn-meal, and in every household a little dish of sacred meal stands ready for use. A pinch sprinkled toward the points in the order named secures favor. Pounded sea-shells may be mixed with corn meal to be used in this way. On some occasions a special meal—the pollen of corn—is used.

To a sacred place, to the influences of the place, or to the beings who are supposed to show their power there, objects are given. Commonest of these offerings are "prayer-sticks" or "prayer-feathers." To a little stick, of a size and character precisely regulated, feathers are tied. Single feathers are tied to bits of string. Two or more feathers are tied together. Any of these, properly placed at a sacred place, is at once a prayer and a sacrifice. All of them are prepared with attention to ceremonial details.

The nearest shrine to Cochiti lies a short half mile north\* of the village, to the east of the road to Bland. It is at the base of the gravel terrace and at the edge of the alluvial flat

---

\*The directions here given may not be accurate, as no compass was used in determining them.



1. The Nambito Shrine. 2. The Nambito Shrine. 3. "The House." 4. The Moccasin Stone. 5. "Stones in a Ring." 6. Deerfoot Stone. 7. Coyote Stones. No effort is made to show relative sizes in these pictures. For dimensions see the text.

SHRINES NEAR CHOCHITI, NEW MEXICO.

on which are the village fields. It is at the lower end of a rain furrow upon the fan-shaped deposit of sand and gravel. Here there is a circle or ring of stones, which measures about ten feet and a half in diameter. The enclosed space is cleared of stones, but at the centre is a boulder a foot or so across. The circle is open at the east, the opening being toward the cultivated fields which are near. This is a favorite shrine, much frequented, and buried in the sand under the stones of the circle were many feathered strings. Under the central boulder were feathered strings, a feathered stick, and a flat bit of schist, which had been rudely chipped to resemble some ancient stone tool. From the fact that this is the only stone ring hereabouts which does *not* open toward the pueblo, and from the fact that it *does* open toward the planted fields, it is inferred that the favorable influences of the place were to be directed to the fields. (Fig. 1.)

A little to the west, upon one of the nearest gravel hills, is the second shrine. It is a pretty line of stones, arranged in the form of a horse-shoe, opening toward the village. It measures about five feet and a half across in either direction. At the center is an irregular, sub-angular boulder, perhaps fifteen inches in diameter, and of a curious reddish-brown color. It must contain a considerable amount of iron. This stone ring (Fig. 2) is situated on the sloping southern end of the gravel hill, and is in sight from the pueblo. It is especially visited by hunters who wish for luck, and feathered strings were wedged in between the stones, buried beneath the larger stones of the circle, or (and especially) below the large, central boulder.

The third shrine is near the last, on a similar ridge or hill and in almost identically the same position. It is a small horseshoe-shaped line of stones, with an unusually wide-opening, which is toward the town. It is neatly constructed, but has no central boulder. It measures but two feet and nine inches in either direction. No feather offerings are left here, but sprinklings of meal are made. After the pinches have been sprinkled to the cardinal points, a trail of meal is laid, leading out through the opening toward the pueblo. (Fig. 3.)

Near here, in a run hollow between hills, is the moccasin stone. At the base of the hill a few stones are arranged to partly surround a little space, upon which is laid the flat-topped stone in question. It is, perhaps, a piece of sandstone. Upon its upper surface iron has segregated into a regular outline, curiously resembling in form the sole of an Indian's moccasin: by the weathering away of the surrounding sandstone this is left slightly in relief. To this place those come, who are about to make moccasins, and pray with sacred meal that the moccasins here cut out may be durable. (Fig. 4.)

The fifth and finest of all these shrines lies at a little distance, following along the base of the gravel hills, near a much-used trail. The shrine is now little visited, as Mexicans passing by

delight to disturb the offerings. The well-constructed circle of stones must measure nearly fifteen feet across. (Fig. 5.) The stones of which it is built are of quite uniform size and apparently were carefully selected. The opening is toward the pueblo; the sandy space within the enclosure is kept well cleared. There is no boulder at the centre, but at the rear, opposite the opening, is a carefully placed group of five stones, all of unusual and striking character. One is brown in color, with curious streaks of blood-red jasper; another, nearly round, is composed of concentric shells, alternately white and yellow; the third is a mass of black, bladed crystals of hornblende, with a speckling of white here and there; the fourth is a badly-weathered, coarse-grained, light-colored, crystalline mass, from which project dozens of brownish nodules perhaps garnets; the fifth is coated with beautifully clouded white and flesh-red chalcedony. In the construction of the ring itself, near this group, several striking and curious stones were used. No offerings were found deposited here, but we were told that they were of the usual sort.

To the west and south, and beyond a gravel ridge, at the mouth of the cañada, is a shrine once famous, but now in disrepute on account of Mexican disturbance. It is at the side of the dry stream bed, at the base of a slope covered with a heavy down-wash of gravel and boulders. There is no ring of stones, or any clear evidence of construction. A roundish boulder lies upon a little surface of sand; several stones form an irregular line near by: all are partly inbedded in the sand. Among them is a triangular gray stone, which is said to be the important object. A small cypress (?) tree stands near these stones. No offerings were found, but formerly pairs of plume-sticks and little rattles of gourds were placed here. The latter were hidden among the stones, hung upon the tree, or laid upon the ground below it.

Between here and the village, near a little wash on the level terrace, is the deerfoot stone. (Fig. 6.) It resembles purple jasper; it is a water-worn, though not round, boulder; it contains a deep depression, which looks strikingly like the print of a deer's hoof. It is considered to be such an impression, and hunters who are going in search of deer, sprinkle sacred meal at this stone.

Still nearer to the town are the coyote stones. One of them lies near a trail; three others are together at a place some little distance out upon the plain: that near the trail is a foot or more across; it is light in color, and in texture like a sandstone or a tufa; the upper surface is quite flat and bears a number of pits or depressions, like the hollows in Kentucky "nut-stones." Of the other three, the larger much resembles that just described: a second, differs in material, and bears one deep and one shallow cavity; the third is smaller, of different material, and bears several pittings. In the great communal hunts the procession of participants goes in a body from the pueblo to

these stones; they then spread out and seek their game. They make this visit to these stones "because coyotes are swift runners" and they wish to be the same in their expedition. Probably they sprinkle meal at these stones, but of this I am not certain. (Fig. 7.)

The other two shrines were not visited. The ninth is a place on the east bank of the river, probably where there are rocky banks. It is called "where the shíwana speak." The shíwana are the chief divine beings of the Queres. Offerings are here made to the water, although it is said that no construction has been built there and no objects are buried. The spot is near the grove where the masked or "kacina" dances take place.

Beyond the river, at some rock faces or cliffs, is the last of the shrines near Cochiti. The usual offerings are made. Special offerings also are there placed, particularly by hunters. Miniature bows and shields are hidden among the rocks. The latter are made of thread wound around and around upon little supports made of splints or twigs. After killing a mountain lion, bear, wolf, or eagle, the hunter cuts off the head, decorates it, and then buries it together with a pair of plume-sticks and a little rattle.

The native names for these ten shrines with their meanings are:

1. Ki-é-ti-né: north.
2. Ai-wit-ya-mē-yū: where the people about to hunt gather.
3. Dsā pá-cí-ó-mú: a house.
4. Hē-ro-tā kā-có mē ni-cú: fix (?) your moccasin.
5. Yó-ni-ckū-n tsā míc: stones in a circle placed.
6. U-yā-tsi-sate tsir-cti-míc: rattle placed.
7. Ki-āñ-i-kār-ete tiñ-ú: deer its foot here has.
8. Cí-ó-tzú-nū kó-wi-tsi-ā-pe-yu: coyote here made water.
9. Kó-āc-kū-lé hu tcān yit-sé: where the shíwana are.
10. Gite cū-kó: to the north.

[NOTE.—The system of transcription is mainly that of Major Powell; ñ is as in Spanish. The author gives these names and translations as he understood them; he cannot vouch for their accuracy, as he does not know Queres.]

Of course the Cochiti have many other sacred places among the mountains, remote from the pueblo. Only those near the pueblo are here considered.

## DIARY OF ARNOLD'S MARCH TO QUEBEC.

BY A SOLDIER OF THE AMERICAN REVOLUTION.

[The following article has been furnished by Mr. James Wickersham, of Tacoma. It is an extract taken from a little old, brown-covered book which has been deposited with the State Historical Society of Washington by Chaplain R. S. Stubbs, Superintendent of the Seamen's Bethel, and was presented to him by Mrs. Collins, of Collins Landing. It purports to be a diary of a soldier of the American Revolutionary Army, written in 1775 and 1776. It contains some thirty finely-written pages. The narrative begins abruptly with the opening of the war. It describes the fight at Bunker Hill and the fights about Boston. Eleven pages of the diary are in very small script with the details of the memorable journey from Boston to Quebec of 1,300 men of the Boston army contingent, and of the terrible march through the wilderness of the Kennebec river, Maine. The narrative shows that the author was a man of more than ordinary intelligence, who fully appreciated the importance and magnitude of the contest in which the American colonies were engaged, and he graphically describes the perils and privations endured by the small force sent by General Washington under Colonel Benedict Arnold to assist General Schuyler and Montgomery's forces, who held Montreal, in the attack upon Quebec, the strong fortifications of which were held by the British. In the annals of modern warfare there are few journeys comparable with this for dangers and difficulties.]

In the year of our Lord 1775, April —, the king's troops came to Concord to take the province stores at that place, assaulting Americans. When they met them upon the road, fired upon them and killed eight of them. Then the battle began. I was one of them; drove them and killed about four hundred of them and lost thirty of our men.

An alarm being made immediately, when our army was gathered and stationed around Boston and there remained, preparing for the work. Then on the night of 16th of June our men did intrench upon Bunker Hill in Charlestown. The next morning they saw us and came out against us and burnt Charlestown. Another party landed under cover of the smoke. Then a battle, and a fierce battle it was, for the bullets flew as thick as hail from heaven. They drove us from what little intrenchments we had made the night before and they drove us from the hill, and they kept in possession until now, and they killed about 135 of our men. However, they met with much sorrow and trouble, for we killed of their men more than 1,000 by numbers.

Before this fight at Charlestown we had a scurmig (skirmish) with regulars at Chelsey (Chelsea) and beat them, and burnt one schooner and took some plunder.

Then a little after the fight at Charlestown our men burnt the lighthouse. Some time after we took the lighthouse guard and killed some of them, and took about forty regulars and Torys and destroyed two or three small ships.

FROM BOSTON TO QUEBEC.

Cambrig, Sept. 13, 1775. — Sixth instant orders came from his excellency General Washington for 1,300 men of the army (stationed around Boston) to march to Quebec. We formed our fellows into companies, myself and divers others from Captain Smith's company formed ourselves under the

command of Captain James Hubbard of Wooster. Tenth instant we marched from Dorchester to Cambrig and lay there till the Thursday following, 13th instant. We marched through Mistie and (reached) Malden, 7 miles. Fourteenth instant marched through Lyn and lay at Danvers, 10 miles. Friday, 15th instant, we marched through Salem, Beverly, Wenham, Ipswich and lay at Rowley, 18 miles. Saturday, 16th, we marched through Newbury and lay at Newburyport, 8 miles. The Tuesday following we got sale (sail) at Newburyport for Canabeck (Kennebec) river and landed there the next morning, which is Wednesday, the 20th inst., and lay there until towards night, and then hoist sale and come up the river as the tide and wind favored us. We come up within three miles of Fort Weston, but could not get any farther with our scooner for want of water.

Then we quit our scooner and come by land, which was three miles, and arrived here on the 23d instant on Saturday in the afternoon, which fort (Weston) is fifty miles from the mouth of the river.

The night following one of Captain Goodrich's men most foully murdered one of Captain Williams' men by firing a ball through his body, by which wound he dyed the next day. On Monday the murtherer was sentenced to be hanged.

On Monday the 25th instant we got up the river about one mile and camped down that night. On Wednesday the 27th instant we arrived at Fort Halifax, 17 miles from Fort Weston. Thursday morning, 28th instant, we carried our battoes by the falls, about one-quarter of a mile; then we had five miles to go to get to the head of the falls. The same day with much difficulty we got two miles and a half. Fryday morning the 29th we got off again and got up the head of the falls and about three miles farther. On Saturday morning the 30th instant we put forward and got within a half mile of the falls, which is the second crossing place upon this river, about seven miles farther.

On Sabbath day, the 1st of October, we come up to the falls and crossed by our battoes, and landing mended our battoes. The crossing place is about 30 rods and very wearysome we found it to be to get this far up the river by falls and swift water.

Munday, 2d October instant, we got off from the ——— and falls and come to the upper part of the great falls of Norridgewalk, 32 miles from Fort Halifax. Wednesday the 4th instant we carried our battoes by the falls, which is one mile. The last house upon the river is one-half mile below the falls, and we have the woods to go through without any settlements. We got off that night and come ahead about two miles.

Thursday the 5th instant we come up the river about 11 miles; on Fryday, 6th instant, five miles and met with falls, where we had to carry our battoes and loading about twelve



miles, but without much difficulty, and passed in above the falls and come three miles. Saturday, 7th instant, we came six miles.

Sabbath day, 8th inst., we lay still and kept ourselves as sly as we could in the woods. On Munday, the 9th inst., we arrived at the ———, five miles, which is twenty-two miles from the upper fall at Norridgewalk.

Thursday, the 10th inst., we quit this (Kennebec) river and began to carry towards Ded river. This day compleat's just one solar month from the day that we come from Dorchester. It is twenty days sense we left the mouth of the river, and fourteen days sense we left our scooner. Those seventeen days we had hard times, for we found it to be a hard piece of work to get up this river, which we found very rocky, uneven, swift water and falls also. We are now 132 miles from the mouth of the river. The general run of the river is from northeast to southwest, and we have twelve miles to carry to get to Ded river, except three ponds, which is four miles of the distance to go by water.

Wednesday, the 11th inst, we got over to the first pond, which is three and a quarter miles.

Thursday, 12th inst., we got over the second pond, where we had one and three-quarter miles.

Friday, 13th inst., we come to the third pond. Then we had to carry our loading two miles and a quarter and forty rods.

Saturday, 14th inst., we carried from the third pond to Ded river, two miles and three-quarters and forty rods. We put into Ded river by the Blue hills, so called—an extremely high mountain it is.

Sabbath day, 15th inst., we put in and come up Ded river about four miles.

Munday we come three miles and met with falls. Then we had to carry our battoes about six rods. We come about sixteen miles that day. The point we steered in coming from the Canabeck river to the Ded river is about west.

Tuesday, 17th, we had orders for thirty-two of our company to go back to the carrying place to help the hindermost of the company. The men were taken from Captain Shaver's and Captain Joppin's companies.

Saturday, 21st inst., we got back again.

Sabbath day, 22d inst., we got off up the river once more after so much hindrance for naught, which was the means of such times as I never saw before, for we were obliged to live upon a very short allowance.

Fryday, 27th inst., we arrived at the head of Ded river, about fifty miles from the grater carrying place.

Saterday, 28th inst., we left Ded river and put into Chaudere, which is four and a half miles.

Sabbath day, 29th inst., we swung our packs with what little food we had and marched to the head of Chaudere river, and we arrived there on Tuesday, 31st inst. Then we marched

down the river as fast as we could to the inhabitants as quick as possible, for we are like to suffer very much with hunger, some of us being out of provisions already, and others not having enough for one meal. Some had nothing to eat for three days and eat dog at last. We marched on with hungry bellies until Thursday Nov. 2d, and there met some cattle. Colonel Arnold (Benedict) having gone forward and sent them out by some Frenchmen, which was a very pleasant sight to us.

Fryday, 3d inst., we came to the inhabitants, 90 miles from Ded river, 200 miles between inhabitants. Then we had 90 miles to march to Quebec.

AT THE ST. LAWRENCE RIVER.

On Thursday, 9th inst., we come to the river St. Laurence, over against the city. We was two months upon the march from Boston to Quebec.

On the night of Munday, the 13th inst., we come over the St. Laurence and landed at the place called Wolf's cave, and marched across Abram's planes and found some houses about one and a half miles from the city and there quartered for a few days.

Saterdag, 18th inst., about 4 o'clock in the morning, we left our quarters and fled away towards Montreal, 25 miles, because we found it not safe to stay there for want of ammunition, for we had lost the greater part of it on our journey, our numbers being small to their's withall. For about one-half of our way we were turned back upon the march, because our provisions was forgot. So we thought best to flee, seeing our men so few and ammunition so short, for we had certain news from a prisoner that they were coming out upon us, and we stayed at a place called Point of Tremble, waiting for General Montgomery to come down from Montreal to assist with men and ammunition.

Fryday, Dec. 1st, he (General Montgomery) came with artillery, arms, ammunition and a part of his army—more to come afterwards—and clothing for our army, who came almost naked in this cold country. Some of us lost our clothes in the rivers, some wore them out, and some were so weak by reason of hunger that they could not carry them and so left them in the woods, and several dyed in the woods by reason of the cold and hunger, and some actually starved to death.

Monday, 4th December, the army marched back to Quebec again from the Point of Tremble, all but the tenders (nurses) of our company. My brother was sick and I stayed to tend him.

Twenty-eighth December, about 2 o'clock, my brother dyed after 39 days' illness with fever and flux. He seemed to be getting better and went out doors, and I think he took cold. Sabbath day, 17th December, he was taken worse

until he dyed at Point of Tremble, 24 miles to the south of Quebec Fryday, after the funeral, I came down to the army.

#### THE ATTACK ON QUEBEC.

On Sabbath day morning, 31st inst., about 3 o'clock our army made an attempt to take Quebec. Arnold's men went to the lower town and got over the walls, and Montgomery's men went to the upper town and some of them got over the walls.

Then the general was killed and the men retreated immediately. Then the enemy came upon our men in the lower town about 9 o'clock in the morning. They made no attempt to escape until it was too late, for they thought the other party was in the upper town. Captain Hendrake was killed, Captain Goodrich is wounded, Colonel Arnold was wounded, but made his escape. About four hundred in all was killed and taken, chiefly taken, not very many killed.

Jan. 3d, on Wednesday, we left the army and got off for Montreal. Saturday, 6th inst., we got to the Three rivers, 90 miles from Quebec. On Monday morning, 9th of January, we arrived at Montreal.

#### BURGOYNE SURROUNDED.

An entry dated October 19, 1777, says: "About 9 o'clock at night Burgoyne began his retreat. Oct. 18, General Gates come upon their rere and a part of the malitia arrived at Fort Edward before their front."

## THE PEOPLING OF AMERICA.

BY STEPHEN DENISON PEET, PH. D.

One of the most interesting subjects which can engage the attention of scientific men, is the one which relates to the manner in which the American continent was peopled. Various opinions have been advanced, but none of them are entirely satisfactory, owing to the fact, perhaps, that so little is known, and to the difficulty in reaching a safe conclusion.

I. In treating of the subject we shall endeavor to take a comprehensive view, and shall go back of the human period and first speak of the manner in which the continent was filled with animal life, and from this draw the analogy between the distribution of animals and that of man.

Mr. Alfred R. Wallace has given to this subject several chapters of his book entitled "Tropical Nature," and may be regarded as the best authority. He says:

The continents in their totality may be likened to a huge creeping plant whose roots are all around the North Pole, whose matted stems and branches cover a large part of the Northern Hemisphere, while it sends out in three directions, great off-shoots towards the South Pole. This singular arrangement of the surface into what is practically one huge mass with diverging arms, offers great facilities for the transmission of varied forms of animal life over the whole earth, and is no doubt one of the chief causes of the essential unity of type which everywhere characterizes the existing animal and vegetable productions of the globe. There is good reason for believing that the general features of the arrangement of continents are of vast antiquity, and throughout much of the Tertiary period the relative positions of our continents have remained the same. For our purpose it is not necessary to go back further than this, but there is much evidence to show that through the secondary and perhaps the paleozoic periods the land areas coincided to some extent with our existing continents.

Prof. Ramsey has shown that considerable portions of the upper and lower Oolitic, much of the Trias, the larger part of the Devonian, Carboniferous and Old Red Stone formations were deposited in lakes or inland seas or extensive estuaries. This would prove that throughout the whole of the vast epochs extending back to the time of the Devonian formation, our present continents have been substantially in existence, subject no doubt to vast fluctuations by extension and contraction, but never so completely submerged as to be replaced by oceans of any such depth as our Atlantic or Pacific.

The Palæarctic or north temperate region of the Old World is not only by far the most extensive of the zoological regions, but is one which agrees least with our ordinary geographical divisions. It includes the whole of Europe, by far the largest part of Asia, and a considerable tract of North Africa; yet over the whole of this vast area, there prevails a variety of forms of animal life, which renders any primary subdivision of it impossible, and even a secondary division of it difficult. Besides being the largest of the great zoological regions there are good reasons for believing this to represent the most ancient, and, therefore, the most important center of the development of the higher forms of animal life. Among the characteristic mammalia of this region, are the camels, now confined to the deserts of Africa and south Asia; also sheep and goats, which are found

beyond the Alleghanies and the Rocky Mountains; also antelopes and many peculiar forms of deer, wolves, foxes, and bears.

The Ethiopian region consists of Africa, south of the Tropic of Cancer, and Madagascar, and is a very small area compared with the Palæarctic; yet, owing to the absence of extreme climatic changes and the tropical luxuriance of a considerable portion of its surface, it supports a greater number of large animals than any other part of the globe.\*

Considering, then, first the zoological features of tropical and southern Africa alone, we find a number of forms of mammalia, the hippopotamus, the giraffe, the baboon, and several genera of monkeys and apes, several peculiar lamurs, and a great variety of antelopes. It is also characterized by the absence of a number of common and widely diffused groups of mammalia. The bears are totally wanting in tropical South Africa. The deer, which are common in the north, are totally absent from the Ethiopian region. Goats, sheep, and true oxen (*bos*) and true pigs (*sus*) are also absent.

The Oriental region comprises all tropical Asia east of the Indus, with the Malay Islands, as far as Java, Borneo, and the Philippines. Its actual land area is the smallest region, except Australia, but if we take into account the wide extent of the shallow sea, connecting China with the Malay Islands and which formed the extension of the Asiatic continent, it will not be much smaller than the Ethiopian region. We find here, as might be expected, that the variety of birds and insects is greater than in the Ethiopian region, but the families of mammalia are few in number. They are the flying lemurs, various apes, monkeys, and a large number of civets and weasels.

Now, having thus briefly sketched the main features of the existing faunas of Europe, Asia, and Africa, it would be well, while these differences and resemblances are fresh in our minds to consider what evidence we have of the changes which may have resulted in their present condition. All these countries are so intimately connected that their past history is greatly elucidated by the knowledge we possess of their tertiary fauna. Let us, therefore, go back to the Miocene or middle Tertiary epoch, and see what was then the distribution of the higher animals in those countries. Over the whole of this immense area we find a general agreement, indicating that this great continent was continuous. In France, Switzerland, Germany, Hungary, Greece, Northwestern India, Burmah and North China there is a general agreement in the fossil of the mammalia, indicating that this great region was at that time one continuous continent. We find, also, that the animals now confined to the Oriental and Ethiopic regions were then abundant over much of the Arctic region. Elephants, rhinoceros, giraffes, antelopes, hyenas, lions, as well as apes and monkeys, ranged over all Central Europe.

Let us next inquire as to the changes of land and sea. From the presence of Tertiary deposits over the Sierra, parts of Arabia, Persia, and northern India, geologists think that a continuous sea extended from the Bay of Bengal to the Atlantic, thus cutting off southern India, and Ceylon, as well as all tropical Africa, into a separate region; but northern Africa was united to Italy, while Asia Minor was united to Greece. We also know that the Himalayas and some of the highlands of Central Asia were at such a moderate height as to enjoy a climate as mild as that which prevailed in Central Europe, during the same Miocene epoch.

We have, therefore, good evidence that the great Euro-Asia continent of Miocene times exhibited in its fauna a combination of all the main features which now characterized the Palæarctic, Oriental, and Ethiopian regions combined; while tropical Africa and such tropical regions were isolated and de-

tached from the northern continent by the great dividing sea or strait, and possessed a much more limited fauna. If this view is correct all the great mammalia which now seem so especially characteristic of Africa, such as the lions, leopards, and hyenas; the zebras, giraffes, buffaloes, and antelopes; the elephants, rhinoceros, and hyppopotamus, and, perhaps, even the numerous monkeys, baboons, and anthropoid apes are all of them comparatively recent immigrants which took possession of the country as soon as the elevation of the old eocene and miocene sea beds, afforded a passage from the southern borders of the palæarctic region. This event probably took place about the middle of the Miocene period, and must have effected a great change in the fauna of Europe.

We will now proceed to examine what is known of the past history of the two American continents, and endeavor to determine what have been their former relations to each other and to the Old World, and how the existing geographical features have been brought about. The facts compel us to believe that at a distant epoch during the Tertiary period, the interchange of large mammalia between North America and the Old World was far more easy than it is now. In the post-Pleiocene period, for example, the horses and elephants and camels of North America and Europe were so closely allied that their common ancestors must have passed from one continent to the other, just as we feel assured that the common ancestors of the American and European bison, elk, and beaver, must have so migrated,

We have further evidence that certain groups came into existence much later than the other, thus the cats, deer, mastodons, true horses, porcupines, and beavers existed in Europe long before they appeared in America. There are two probable routes for such migrations. From Norway to Greenland by way of Iceland and Baffins Bay; it is not improbable that during the Miocene period, or subsequently, a land communication may have existed. On the other side of the continent, the probability is greater. Here we have a considerable extent of far shallower sea, which a very slight elevation could convert into a broad isthmus connecting America with northeastern Asia. It is true that elephants, horses, and deer would, under existing climatal conditions, hardly range as far north as Greenland and Alaska, but we must remember that most mysterious and indisputable fact of the luxuriant vegetation, including even magnolias, which flourished in these latitudes during the Miocene period; so that we have all the conditions of favorable climate and abundant food, which renders such an interchange of animals of the two continents, not only possible, but inevitable, whenever a land communication was effected; and there is reason to believe that this favorable condition of things continued in a diminished degree during a portion of the Pleiocene period. Abundant remains of the post-Pleiocene epoch from Brazilian caves show us that the fauna of South America, which immediately preceded that now existing, had the same general characteristics, but were much richer in large mammalia.

The same causes which led the megalonyx and the megatherium to migrate to North America, led the horse, the deer, the mastodon, and many felidæ to South America. The animals of the southern and northern continents, are quite different. Each continent developed its own peculiar faunal life, yet inter-migrations have taken place at remote intervals, the same as between Europe and Africa.

There was a time when the two oceans—the Atlantic and the Pacific—mingled their waters; not through an artificial Nicaraguan canal, but through a natural depression; the highlands of Mexico and Guatamala being united to North America, and all of South America forming a separate continent. There later on was an isthmus which connected North and South America, over which migrations took place, at great intervals and for limited periods. One migration taking place in the late Pleiocene or early Post-Pleiocene epochs. Owing to some specially favorable conditions there was a remarkable development of certain forms of animal life in South America. There were armadilloes as large as the rhinoceros, and a stork of elephantine bulk.

Another point is to be noticed: North America has a zoological history which is allied with that of Europe, but South America has one which is allied with Africa and Australia. To illustrate: South America has preserved examples of low and early types of mammalian life similar to those of Australia and Africa, while the Philippines have mammalian life which is connected with Asia rather than South America.

We see, then, that as far as animal life is concerned, there was a transmission from one continent to another, and it was by means of contact of the different continents that the various species of animals were spread throughout the earth.

Now this position as to the ancient migration of animals from the palæarctic regions to the different parts of the Old and New World, naturally carries our thoughts to the human period, and raises the inquiry as to the connection of man with the lower animals.

The majority of the naturalists have decided that even if there was a descent of man from the lower animals, this descent occurred in some part of the Old World, rather than in the New, for there is nearer approach to man in the lower animals there, than here. Darwin, Wallace, Lubbock, and Haeckel connect man closely with the anthropoid apes, though Haeckel has thought it necessary to admit the existence of an intermediate stage between ourselves and the most highly-developed apes; but Vogt disagrees with his scientific colleagues, and holds that different Simian stocks may have given rise to different human groups. The populations of the Old and New World would thus be descendants of the different forms which are peculiar to the two continents. On this hypothesis Australia and Polynesia, where there never have been apes, must necessarily have been peopled by means of migration. Topinard, however, shows that there was a wide difference between man and the anthropoids. He says:

Two primary classifications are before us, in which the distance which separates man from his nearest zoological connection is estimated differ-

ently. One system is as follows: First order Primates—1st. Family—man. 2d. Family—anthropoids. 3rd. The monkeys of the Old Continent—pithecoïds and baboons. 4th. The monkeys of the New Continent. 5th. The lemurs.

The facial angle furnishes a primary characteristic of man in the relation to animals. Between the narrowest facial angle of the adult man and the widest angle of an adult anthropoid there exists a great interval, and by this characteristic man is separated in the most remarkable manner from the rest of the mammalia, including the anthropoids. The cranial capacity of man differs widely from the anthropoid apes, that of man being 1,500 centimetres; gorillas, 531; lions, 321; New Foundland dogs, 105.

The attitude of the body and the position as to the vertebral column constitute another difference. In man, the head is naturally in equilibrium upon the vertebral column. The occipital foramen occupies the middle or base of the skull. In the negro, it is a little more backward. In the anthropoid ape, it is still more so, and in the various quadrupeds it agains recedes, until in the horse it no longer forms a part of the base of the skull. Of all the mammalia man has the least development of the muscles of the jaw, and the smallest extent of surface for the insertion of the muscles. The division of the trunk of the mammalia is into two parts, the one anterior, the other posterior, is another characteristic; and the absence of this in man, shows the difference.

Quatrefages says we must place the origin of man beyond the last ape, if we wish to adhere to one of the laws most emphatically necessary to the Darwinian theory, and hints at the existence of four unknown intermediate groups; while Haeckel presupposes the existence of an absolutely theoretical pithecoïd man, in order to complete his genealogical table. This position has rendered the discovery of certain remains in the Islands of Java by Dr. DuBois so important, and yet this does not decide the case.

II. The point that is of greater importance than the descent of man from animals, is that which relates to the origin of races. The general opinion favors the unity of the human family, and the gradual development of stocks and races through natural causes. Among these causes, environment seems to be at present regarded as the chief, though other causes are recognized, such as transmitted traits, the influence of progress and of social life and culture. The uniformitarian view is very common, and all leaps and gaps in the history of the human race are disputed, though the impinging of one race upon the other, and a consequent modification, is always recognized. Still, the scientists are at sea in reference to the division of the human race, for there is a great variety of opinions as to what constitutes a race. Quatrefages says:

Primitive mankind can have no history in the scientific sense of the word. The inter-crossing of character between human groups is so great that it is impossible to identify different human species and trace any one of them back through a separate line, and say that this originated from any particular species of animals. We have already observed how closely the Aryan, Dravidian, Hindoos, the African or Melanesian negroes and manifestly Semitic populations may resemble each other in color; the same may be said of the language.

Dr. Brinton says:



The efforts which have been made heretofore to erect a geographical classification, with reference to certain areas, political or physical; or a craniological one, with reference to skull forms; or a cultural one, with reference to stages of savagery and civilization, have all proved worthless. The linguistic is the only basis on which the subdivision of the races should proceed.\*

Ripley, on the other hand, maintains that the shape of the skull is the only criterion by which we may determine the line of descent. Language, color, geographical location, even the character of the hair, are uncertain, compared with the skull. He says:

A factor which is of great assistance in the rapid identification of certain racial types is the correlation between the proportions of the head and the form of the face. Our six living types, arranged in an ascending series of cephalic indices from 64 to 96, make this relation between the head and face more clearly manifest. Our proof of the transmissibility of the many physical peculiarities with which we have to deal must necessarily have been indirect. The sources of prehistoric archaeology afford testimony of this kind plentifully. Ever since the earliest period of history made known to us in Egypt, there has been no appreciable change in the physical character of the population.†

The European racial types are divided into Teutonic, Alpine, and Mediterranean; the first being characterized by a long head and face, light hair, blue eyes, and tall stature; the second, by a round, broad head and face, chestnut hair, hazel eyes, and stocky build; third, with large head and face, brown or black hair, dark eyes, and slender stature. Ripley‡ gives a plate§ which shows the descent of the Cromagnon types through the Berbers of Tunis and the peasants of Dordogne,|| and says that the original Cromagnon race was extremely dolico cephalic, as long headed, in fact, as the modern African negroes, or the Australians. The prehistoric antiquity of the cromagnon type is attested in two distinct ways. In the first place, the original people possessed no knowledge of the metals; they were in the same stage of culture, perhaps even lower than the American aborigines at the coming of Columbus.

This view of the transmissibility of physical features leads us to consider the subject of the migration from a standpoint, which is somewhat different from that of language. The general opinion is that the peopling of America took place in a Geological period which antedated history, but was caused by migrations from some part of the Old World, probably that part which has always been regarded as the original home of man, although a few visionary persons are still inclined to hold to some other theory. A mere mention of these may be in place here.

We shall first mention the theory about Atlantis. This has been advanced by the same author who has undertaken to prove that Bacon was the author of Shakespeare's plays and

\* See "American Races," page 57.

† See "Races of Europe," page 176.

‡ The people of Dordogne are supposed to be the survivors of the troglodytes.

† See "Races of Europe," page 120.

§ See Cuts.

that the glacial deposits were caused by the bursting of a comet on the surface of the earth. Another theory which may be set opposite to this, is the one which is advocated so persistently by certain devout readers of Scripture, that America was peopled by the lost tribes of Israel, and that the American aborigines retained the same customs that the Israelites had. This would place the migration at a very late date, and so would be in contrast with those of the Atlantis theory. There is, however, no foundation in fact for either theory. A third theory is the one advanced by Professor Winchell, who maintained that Adam was not absolutely the first man, but was only a representative of the white race. He says:

Reputable authorities have contended that Adam was not a white man. Eusebius de Salle represented him as red; Prichard believed him black. There is, indeed, a legend in existence which has obtained wide-spread currency, according to which the first man was of dark or black complexion.

If, as I am about to argue, some black race first represented humanity



CRO-MAGNON TYPES.

upon the earth, there is a reason for saying the first man was black. Adam, then, in the sense of "the first man," was a black Adam.\*

This opinion cost Professor Winchell his position in Vanderbilt University, but it does not fully satisfy the scientific mind. For the color of the skin is a very small part of the difference between the races of the earth, and does not serve as the distinguishing marks of the primitive man.

Another explanation is that which was given by Mr. Prestwich, which is to the effect that there was a pre-glacial man and that his nature and constitution and history were entirely distinct and separate from the post-glacial—a new creation coming in by a sort of cataclism. Stuart Glennie holds that there was a ground race which had its origin and center of population in the Desert of Gobi, which is the bed of an old sea, and is a continent by itself called Eur-Asia, the name

\* See "Pre-Adamite Man," pages 1-26.

being formed by the combination of the names Europe and Asia. This explanation is more in accord with that given by geology, for it places the starting point in the neighborhood of that great plateau which was raised above the waters when the great sea intervened between northern and southern India and northern and southern Africa, and between North and South America, and when the Pacific and Atlantic were united by a wide channel, which covered what is now the Isthmus of Darien.

Another theory is the one advanced by Dr. Dawson, who divides the story of the Creation into two parts, separating the creation of animals and that of man, to make the cosmical work differ from the historical.

The theory advanced by Professors Haeckel and Peschel and others, was, that the first appearance of man could have taken place neither in Southern America or Africa, but in a continent now covered by the Indian Ocean. Peschel says:

Such a continent is required by anthropology, for we can then conceive that the inferior populations of Australia and India, the Papuans of the East Indian Islands, and lastly, the negroes, would thus be enabled to reach their present abode by dry land. Such a region would be also climatically suitable, for it lies in the zone in which we now find the anthromorphous apes. The selection of this locality is, moreover, far more orthodox, than it might at the first glance appear, for we here find ourselves in the neighborhood of the four enigmatic rivers of the Scriptural Eden—in the vicinity of the Nile, the Euphrates and the Indus; by the gradual submersion of Lemuria, the expulsion from Paradise would be almost inevitably accomplished.\*

There is a point here on which geologists and ethnologists have differed, for some have taken the ground that Palæolithic man in Europe and in Asia, was very different from the Neolithic, a long period having elapsed between the two; while others hold to the continuity of the two ages.

Still another theory is that man originated somewhere in the Asiatic continent, but the place of separation was in the region of the Plateau of Iran. The different stocks of languages received their names from this region; the Aryan, Turanian, and Semitic languages all having their origin in this locality. We may say of this theory, that it is more in accord with the Scripture account than any of the preceding, but it does not carry the date back far enough to satisfy the demands of science. It is based upon a single quality, namely, the language which was spoken; whereas there are other qualities fully as important as this and far more deeply-seated in the constitution of man. These are, as follows: the shape of the skull, the color of the skin, the character of the hair, and the proportions of the human body. The language, to be sure, is the most noticeable feature, and distinguishes the tribes and races from one another, and yet it is impossible to go back far enough to decide what the first original language was, or when it was spoken; so this test fails us in the time of need.

Some are inclined to think that the Scripture gives to us the

---

\*See "The Races of Man," page 30.

only true account, and that the ordinary interpretation is the correct one. There is, however, this difficulty, if we should grant that man came into existence by a special act of creation and had no relation to the lower animals, the question would then arise, where did the Creation take place and at what date? On these points there have been a variety of opinions.

We may say here, that there is not much difficulty in reconciling the Scripture account of the Creation of Man with any theory as to the distribution of the races; for the Scripture, combined with tradition, carries back the date to a marvelous antiquity, and gives abundance of time for the peopling of America from the Old Continent. The greatest obstacle comes from the interpretation of scientific facts, rather than from the interpretation of the Scripture, as each class of scientists seems to be inclined to interpret the facts by his own special study.



MODERN DORDOGNE.

One class is disposed to erect a geographical classification, and to describe certain areas in which all changes occurred; the differences among the races being altogether the result of geographical and physical surroundings. Another class, studying the craniology, makes the skull form the test, and these require a vast amount of time to account for the changes to have taken place in the skull. A third class makes the difference in the races to consist in acculturation—the stages of savagery, barbarism, and civilization having followed one another in the same order in the different continents. A fourth class makes language the only basis on which the subdivisions of the race should proceed, and whenever they find agreement in language they adopt a theory of the unity of the race.

The students of Scripture hold that the Garden of Eden was somewhere in the valley of the Tigris and Euphrates; while such archæologists as Dr. John Evans favor the Tropical regions of India.

Whether we undertake to erect a geographical classification, with reference to certain areas—political or physical; or a

craniological one, with reference to skull forms; or a cultural one, with reference to stages of savagery or civilization; or a linguistic one, making language the only basis on which the subdivisions of race should proceed, we shall not find the Scripture record really in our way. In fact the greatest obstacle comes from the dogmatism of the specialists, who have adopted some one of these systems of classification and have based their theories as to the origin of man on that alone. We do not undertake to reconcile Scripture with science, but are content to wait until more facts shall come in. Still, we may say that, in reference to the starting point, there is a general agreement between the traditions which are evidently embodied in the Scripture and the discoveries which have been made by scientific men.

There have been various theories as to the starting point, for one class holds that the Garden of Eden was near the mouth of the Euphrates, and others that it was upon the mountains of Armenia, or in the regions of Thibet; still others that it was somewhere in the Indian Ocean, or upon that unknown continent called Lemuria. Dr. Warren, in his "Paradise Found," holds that it was at the North Pole, and quotes a great many traditions to support his theory. Dr. Dawson holds that man was produced on some recent alluvial plain, and quotes Haeckel's "History of Creation" and Henry Rawlinson, Dr. Sayce, Pinches, and Delitzsch, to prove that the human species must have originated near the Persian Gulf. Lenormant says:

The cosmogonic account, peculiar to Babylon, put into Greek by Berosus, bears a close resemblance to that which we read in the second chapter of Genesis.

Now, to these theories, as to the starting point of man, we have to add others, as to the antiquity of man in the Old and in the New World. It is certainly in accord with science and Scripture to suppose that the starting point was in the older continent, but there is great uncertainty as to the date of the migration of man to this continent. The supposition of some is, that in that geological period when there was a more extensive land connection between the different continents, man migrated from Asia to America, by going to the east; or from Europe to America, by going to the northwest. Mr. A. H. Keane says:

The American aborigines are not indigenous in the absolute sense, but reached the Western from the Eastern Hemisphere in the primitive state, prior to all strictly cultured developments. A study of their physical constitution, substantially, but not wholly, uniform—with, indeed, two marked sub-varieties, respectively represented in the North by the Eskimo long-heads and the Mexican round-heads; in the South by the Batocudo long-heads and the Andean round-heads—points at two streams of immigrants from the Old World.

The Eskimo-Batocudo section has been traced to the long-headed palæolithic man of Europe, which continent geology has shown to have been connected with North America through the Faroe Islands, Iceland,

and Greenland down to post-glacial times. The other section, which probably greatly out-numbered the first, came apparently later (during the New Stone Age) from eastern Asia, by the way of the Behring waters; and are now represented, allowing for great inter-mixture, by the still prevalent round-headed element.

This author holds that the evidence of the Palæolithic Age in America is conclusive, and gives no apparent heed to the discussions which have been carried on during the past few years. He takes Major J. W. Powell and the members of the Ethnological Bureau as his authority on all the points which relate to American ethnology. He denies that there were any further arrivals from Europe or from Asia, subsequent to the geological period, and argues the point from the absence of dogs, sheep, horses, oxen, poultry, and wheat; also from the absence of Egyptian, Phœnician, or Babylonian hieroglyphs.

The discoveries, however, which have been made in Europe, in the north of Africa, in Algeria, in Egypt, in Babylonia, and in Eur-Asia prove that there was a wide-spread race at a very early date, which had many points of resemblance, and which was in about the same cultural stage of advancement before the reindeer period appeared in Europe. We judge from these discoveries that there was a Palæolithic man, which grew by degrees into the Neolithic stage, long before the time when the change of climate drove the tropical animals from the regions of northern Europe into Africa. But the same Palæolithic man continued in the Eastern Hemisphere, and gradually grew into the neolithic stage of culture. The fact that the palæolithic age has been carried back into a very remote antiquity in Egypt, in Babylonia, in India, and in China shows that the intervening neolithic age must have prevailed in Europe and some parts of northern Asia long after the historic age had gone in southern Asia. It is probable that during this neolithic age there was a migration to America.

It is very singular that as we go back to this neolithic age, which preceded the historic, and examine the races which prevailed at that time, we find so many resemblances in them to the American races. The resemblances consist in the shape of the skull and in the constitutional traits, rather than in their languages, and this confirms the position which we have long held, that language is the poorest of all the traits which can give us the proper data for the study of ethnology, to say nothing of archæology. Archæology is the science of relics, and many of these are the relics of dead races, and so furnish about the only material from which we can learn about these prehistoric periods. Ethnology is the science of the living races; language is one of the means by which we may at present classify these races.

Now, Payne seems to depend upon the linguistic for his information; while Ripley and others depend upon the comparative anatomy, and especially upon the cranial index. The cranial index is usually grouped, Alfred C. Haddon says, into

three series: a skull is said to be dolichocephalic, when its index does not exceed 75; to be mesaticephalic, between 75 and 80, and to be brachycephalic, when over 80. The question is, however, whether it was the dolichocephalic or the brachycephalic race that was first. Ripley maintains that the long-heads preceded the short-heads, but Haddon says:

Inhabitants of large areas of Asia are distinctly brachycephalic. There are two main groups of people in India: the tall, comparatively fair, dolichocephalic Aryan invaders and the short, dark, also dolichocephalic, aboriginal population. The typical yellow-skinned brachycephalics are scarcely represented in India.

Mr. A. H. Keene says:

Since the world was peopled by Pleistocene man, it was peopled by a generalized proto-human form prior to all later racial differences. The existing groups, that is, the four primary divisions—Ethiopic, Mongolic, American, and Caucasic—have each had their pleistocene ancestor, from whom each had sprung independently and divergently by continuous adaptation to their several environments. If they still constitute mere varieties, and not distinct species, the reason is because all come of like pleistocene ancestry, while the divergences have been confined to relatively narrow limits, that is, not wide enough to be regarded zoologically as specific differences.

III. The question arises whether the early condition of man did not favor successive migrations. It will be granted that man is different from the lower animals, in that he was able to construct a boat and by this means could pass from continent to continent, even where there was no land connection. Still, the supposition is that the peopling of the different continents was through a continuation of the same process which existed among the animals before he came on the stage of action. We need not go into the question as to the descent of man from the animals. All that we have to decide is whether man was created with all his faculties fully developed. On this point we may quote the opinion of Quatrefages. He says:

We can only form very vague conjectures upon the degree of intellectual development which man exhibited at his birth and during his first generations. At any rate it is possible to believe that he did not enter upon the scene of the world with innate knowledge, and the instinctive industries which belong to animals. Still less did he appear in a fully civilized state, "mature in body and mind," as thinks the Comte Eusebe de Salles. All traditions point to a period when human knowledge was very small, when man was ignorant of industries, to our eyes very elementary, and which we see appear in succession. Upon this first point the Bible agrees with classical mythology. The Hebrews have their Tubal Cain, and the Greeks their Triptolemus. Prehistoric studies confirm this progressive development in western Europe upon every point. Tertiary industries precede quaternary. The whole history of races, seems to me to give, at least in part, a representation of that of the species; and our thoughts go back almost irresistibly to the time when man found himself face to face with creation, armed solely with the aptitudes which were destined to undergo such a marvellous development.

If we take this for granted, does it necessarily imply that man remained in a condition of savagery for any great length of time; the evidence is that there was a migration from central

Asia in different directions, but that there was a progress made in the original seat and that the lower races continued in the state of savagery long after the beginning of history. Some hold that the physical barriers were so great that the civilized races could not follow the savage races, who had migrated so far away. This, however, is inconsistent, for the same aptitude for invention would give ability to overcome obstacles and reach distant points. There are evidences that this was the case, for there are myths and symbols, traditions, art products, customs, and architectural structures in America, which so resemble those common in Asia, that the inference is that there was intercourse between the two continents since the opening of history.

The earliest date for history is about 6000 B. C. The earliest date for tradition in America is about 2000 B. C. This would give 6,000 years difference between the traditional history of



MEDITERRANEAN TYPE.

the two continents, which would be a sufficient lapse of time for many migrations to take place. We must remember, however, that there was a long period before society in the East became sufficiently developed to make any record in writing, or even erect any monuments.

IV. The examination of the living races may assist us in solving this problem, or at least furnish hints sufficient for us to form some opinion. It is very remarkable that there are people in the north of Europe and of Asia whose appearance is so peculiar that they are by some regarded as the survivors of the old cave-dwellers of Europe, thus confirming the theory advanced by Dr. Dawkins many years ago, that the Eskimos were the same people who erected the earliest monuments in the north of Europe.

In speaking of the appearance of the cave-men of Europe Grant Allen maintains that they were distinctly hairy, resembling the Ainus, who are supposed to be the aborigines of Japan,



and refers to several sketches cut by themselves on horn, found in the caves, which show that they were covered with hair over the whole body. Prof. Dawkins maintains that the cave-men were physically developed to the same extent as the Eskimos, but does not deny Grant Allen's position that they were a hairy race. It is a very remarkable fact that the Skraellings which were discovered by the Norsemen paddling about in their skin canoes, skimming the surface, like mermen, resembled the ancient Picts of Scotland, and the wild shaggy men described by Sir Walter Scott, were also not unlike the Lapps of Siberia, though they were, perhaps, less civilized. The Picts were as much at home on the sea as on the land, and in this respect resembled the Eskimos. The short, thick-set figure, with a heavy beard is perpetuated in the pictures which are so common and are so familiar to all the children of Europe and North America, Santa Claus, the patron saint of the Germans. The hirsute qualities, which distinguished the Ainus, are shared by Europeans, rather than by the Asiatics, and have given rise, perhaps, to the idea of the hairy dwarfs, which are so frequently described in European folklore.

Now, it is very remarkable that the Pict houses of England are supposed to have been occupied by a race of dwarfs. In reference to these houses, we may say that there were three kinds; all of which had points of resemblance, and were distinguished by the one salient feature, that there was an unobserved entrance to them. Etymologically they may be described as burrows, barrows, and burghs. The drain-like circle house belong to the first class; the chambered mound belongs to the second class, and the burgh, which is built above ground, to the third. They represent different phases of one idea, different stages of one type of architecture. The underground passages or galleries are known as Pict houses. Between them and a chambered mound, such as Maes How in Orkney, the difference is great, and still greater is the difference between them and a subterranean brock, such as that of Mousa in Shetland. Yet they are so united by intermediate forms that it is difficult to say exactly when the one passes into the other. The question is whether they were caused by the gradual advance of one homogenous race, or by the blending of a higher race.

Now, the construction of these Pict houses has given rise to the theory that they were built by dwarfs. The peculiarity of them is that they are approached by a long passage-way, so small that only a dwarf could pass through them. Let us take the chambered barrow called Maes How, in Orkney. It was reached by a low, narrow passage, 53 feet in length. The first 20 feet was only two feet four inches high, and the same in breadth, but for the balance of the way was four feet four inches high. The passage enters the middle of one of four chambers 15 feet square and 20 feet high in the centre. The walls are six feet high, but they draw in toward to top;

each course of stone projecting beyond the other, making a rough arch, until the roof has been completed, but leaving an opening for the smoke to escape and for the entrance of light. The entrance to the passage was closed, and was only opened when the visitor knocked on the outside of the mound. This kind of house must have been occupied by a people, who resembled the Eskimos, who may have been the aborigines of Great Britain and the survivors of the Cave-Dwellers.

We will call attention to a little book entitled "Man,"\* prepared by W. E. Rotzell, M. D., which furnishes an excellent summary of the subject, and, being the latest production of its kind, may be supposed to give the recent views of the anthropologist.

This book begins with a description of the Animal Kingdom and its divisions. The author takes the position that man must have originated in a region where the highest of the



ALPINE TYPE.



TEUTONIC TYPE.

lower animals existed, as it is supposed that man has descended from some of these forms. This leaves the birthplace of the human species at some point in the region of Southern Europe, Equatorial Africa, or Southern Asia. It also makes it probable that the majority of the races of men originated in the Eastern Hemisphere, and that the American race, even if we grant that there was only one such race, was a late development, much later than some have supposed. We recognize in the Old World several different races of man, as the shape of the skull, facial angle, character of the hair, are different; while in this continent there are no such differences.

The African, or black race of Africa, is first considered. It is divided into three classes: the Negrillos, the Negroes, and the Negroids. The Negrillos are also divided into three

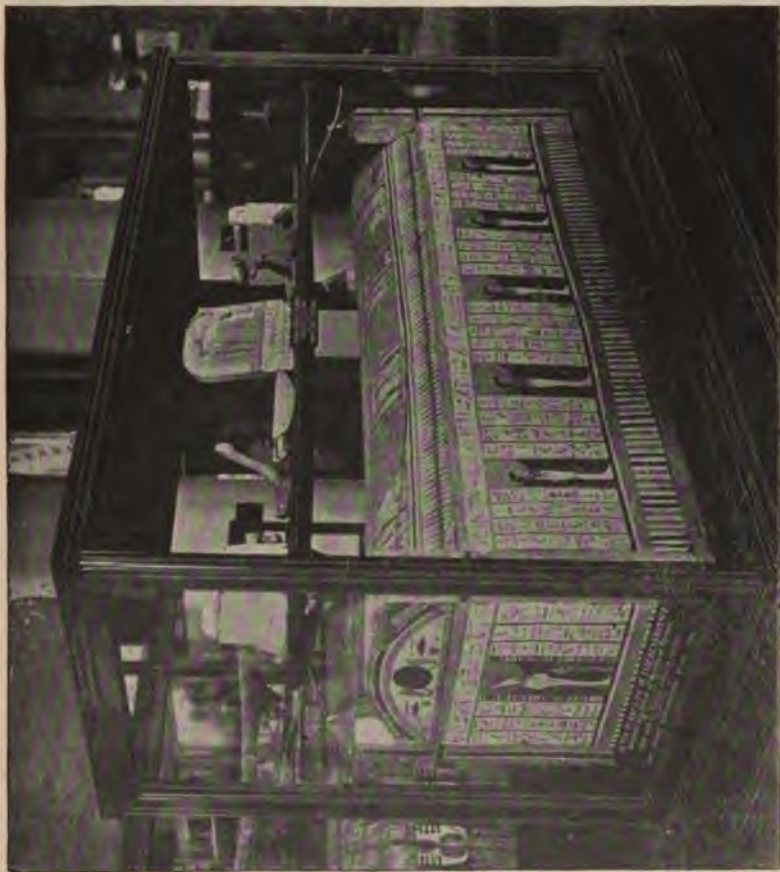
\* "Man: An Introduction to Anthropology," by W. E. Rotzell, M. D. Philadelphia: Edward Stern & Co; 1900.

classes: the Pigmys, Hottentotts, and Bushmen. The Bushmen represent a people who are degenerating. The Negroids are also divided into several classes: the Soudanese, the Bantus, of which the Zulus are a branch, and the Kaffirs.

The yellow, or Mongolian, race is next described. They had their original home in Asia, but they migrated into Europe. Portions of the race settled in Japan, Malayanesia, Australasia, and Polynesia, and probably reached the continent of America by way of Behring Strait. The characteristics of the yellow, or Mongolian, race are the color of the skin, which is of a yellowish tint. The hair is usually black and coarse, and the beard is scanty; cheek bones are prominent; eyes oblique; the features of the face may be described as broad. These characteristics are presented in the main by the red race, which tends to make the argument in favor of the Mongolian origin of the American aborigines very strong. Dr. Brinton divides the yellow race into two classes: the Sinitic, which includes the people of China and Farther India, and the Sibiric, which embraces the people situated north of the Altai Mountains and the Caspian and Black Seas. The Thibetans constitute one group of the Sinitic branch of the yellow race. The Indo-Chinese and the natives of Burma, Siam, Annam and Cochin China constitute another group of the same branch. The Sibiric branch includes the inhabitants of Siberia, including the Tungus, the Kalmucks, and the Tartars, who inhabit the Russian Steppes. The Turks are also the original members of the yellow race; they include the Osmanlis, the Yakuts: the Turcomans, and the Kirghiz. The Finns, who extend from the Baltic Sea to the Obi, are of Mongolian origin; they are divided into different branches: the Ostiaks and the Voguls situated on the eastern slope of the northern Ural. The Lapps have the characteristic Mongol face, though there is an uncertainty about their origin.

Now, it is interesting to take this description of the races and notice its bearing on the question of the peopling of America. We may say that on the point of the descent of all the American races from the Mongolians, there is a very considerable difference of opinion. The evidence, however, is that whatever the ethnical descent was, the American races must have reached this continent by migration, and the probability is that this migration was not confined to the geological period, but continued even after the beginning of history, and perhaps followed a number of routes, some by sea and some by land.

The routes are uncertain and yet there are footprints which we may recognize, and to these we may call attention in the future.



SARCOPHAGUS OF TABEKENKHONSUT, XXVI. DYNASTY



CORNER OF THE EGYPTIAN ROOM IN THE ART INSTITUTE, CHICAGO.

## ANCIENT EGYPTIAN ART IN THE MUSEUMS OF AMERICA.

BY W. C. WINSLOW, D. D., LL. D.

[It is the design of the Editor to publish a series of articles on the archaeological relics contained in the various museums of America, with a short account of the character, the location from which they came, and the date and age to which they belong. The following article by Dr. Winslow is used as a leader. The cuts and some of the material have appeared in *Biblia* for June, they are reproduced here with others, as they represent the best specimens which have been secured.—ED.]

In the hall of the Library of the University at Philadelphia stands a tall and graceful shaft in red syenite stone of the XIIth Dynasty period. It is from Ahnas, the Heracleopolis of the Greeks, the Hanes of the Bible, and the Ha-Khenensu, or seat of government, of the IXth and Xth Dynasties. In the University Museum is the colossal statue of Rameses II., with finely cut hieroglyphs, partly in color. Among our "objects" in Chicago is the oldest known group of statuary in the world,\* of the remote Vth Dynasty, and as such is of priceless value in the history of art. And why?

In his "History of Greek Art" Professor Tarbell says that "Egyptian sculpture in the round never created a genuine integral group, in which two or more figures are so combined that no one is intelligible without the rest; that achievement was reserved for the Greeks." (p. 22). The Curator of Classical Antiquities in the Boston Museum of Fine Arts remarks of the Monument of Kitylos and Dermys at the National Museum, Athens, "that the work is a *primitive* attempt to compose a group, by putting together two figures of the early athlete type. They stand chest to chest and leg to leg, the outside arm of each hanging rigidly at his side. The difficulty of the inside arms the sculptor has tried to overcome by placing that of each around the shoulder of his companion, making it visible on the outside." The word primitive I have italicized.

But one group presented to the Haskell Museum, Chicago, antedates this "primitive attempt" by about 3,000 years. It has much freedom of poise and is not without grace; "the outside arm" of the wife, not "hanging rigidly" at her side, reaches across her breast to clasp gently her husband's arm; and "the difficulty of the inside arms" is no difficulty at all to the husband, for his left arm is in full view, with his wife resting against its shoulder. The date of Professor Tarbell's book and of the descriptive catalogue of the Curator is 1896; our volume on the site Deshasheh, in the Fayum, in which this group is among the discoveries, dates 1898. As a poetical fact,

---

\* See Illustration page 246.

our discovery was being made while the foregoing critics were commenting as quoted. The translation of the un-rhythmical name of Nenkhefték is soothing and ethical, "No enemy of thine"; and Professor Griffith poetically and grammatically supplies "existeth."

The colossal statue of Rameses II., from "the fields of Zoan," presides in the Egyptian Hall of the Boston Museum of



OLDEST KNOWN STATUARY GROUP IN THE WORLD.

Nenkhefték and His Wife. Vth Dynasty of Egypt, 3640 B. C.

(Presented by the Egyptian Exploration Fund to the Haskell Museum in Chicago.)

Fine Arts, but the graceful shaft from Ahnas dominates it, and rivets at once the eye of the visitor who seeks for art and beauty. Here Rameses does not reign—or at least his rule is not oppressive. The simple hieroglyphs upon the statue afford excellent practice for beginners in a singular language, but of plural sounds, pictures, and variants. Indeed, all the tens of thousands of "objects" of every kind now in our museums

from the Egyptian Exploration Fund, afford a richly varied opportunity for study, in history, sculpture, art, ceramics, epigraphy, and ethnology. They are a splendid objective lesson. There is inspiration in "originals." An incident is appropriate. A prominent member of Congress was shown Harvard, Mt. Auburn, and St. Gaudens lions on guard in the Public Library, and how much more. He walked the Hellenic halls of the Museum and entered the Egyptian halls. "Why, these are originals! This is an inspiration. This is worth more to me



FOOT-BOARD OF COFFINS OF TABEKENKHONSUT.  
Metropolitan Museum of Art.

than all else that I have seen in your city." So said this practical law-maker to a friend of mine.

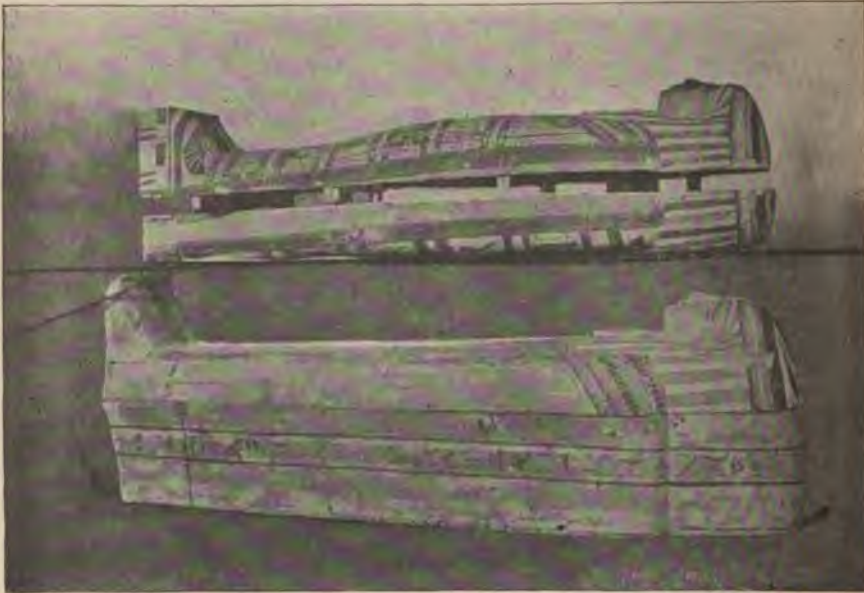
Observe the illustration of the sarcophagus of Tabekenkhonsut, in this article, now exhibited in the Metropolitan Museum of New York. On the lower shelf is this outer coffin of "a lady of quality." In the upper shelf are various interesting objects, but one of which I notice. It is the foot-board of the lady's inner coffin (see illustration), made of wood, cov-



ered with stucco and painted. The scene represents the deceased in a white garment, holding a red heart in her hand, being led by Thoth to Osiris and Isis. The figure of Nut, who personifies the heavens, is about the vignette, and the winged sun-disk is just above the group. The inscription explains the scene:

Royal offering of Seb (the father of Osiris) god of gods, may he bestow offerings of bread, wine, cattle, geese, incense, apparel, all things good and fine, all things sweet and delightful to the *Ka* of the Osiris, the lady of the house, the noble Tabekenhonsut, the justified one. Her mother was the lady of the house, the noble Ta-ma, revered, Osiris.

The second and third coffins (see illustration) are described in detail by Professor Gillett in his "Hand-book of Antiquities



SECOND AND THIRD COFFINS OF TABEKENKHONSUT, XXVITH DYNASTY.

Metropolitan Museum of Art.

in the Egyptian Department," but we will quote only his account of the outer coffin or sarcophagus:

"The coffin is rectangular, with a square post at each corner. It has a vaulted top, nearly semi circular. A line of text runs on the two sides of the coffin near the top, beginning at the foot end (right side):

O Atum, everlasting lord, of An (Heliopolis), Ra-Harmachis, the great god, ruler over gods, may they grant offerings of bread, wine, beeves, geese, divine incense, garments, all good things, pure things, all sweet and pleasant things, divine life to the *Ka* of the Osiris, the lady of the house, the honorable, *Ta-* (end of line) *-bekenkhonsut*, daughter of the priest of Menth,

lord of Thebes, deceased, son of \* \* \* \*, priest of Menth, lord of Thebes, *Mer-Amon*, justified; her mother was the lady of the house, the honorable, *Ta-ma*, justified, honored (by) Osiris, lord of Abydos.

"On each side of the coffin are five vignettes, each showing a mummy (with white legs, yellow body, green face, and black hair) on a red and yellow ground. At the head-end, Osiris, erect, and dressed in white, stands before a table of offerings on which is a full-blown lotus. At the foot is a mummy, like those on the sides, flanked by symbolic eyes and a checker-board ornamentation.



RAMESES II. NINTH DYNASTY.  
 (PHARAOH OF THE OPPRESSION.)  
 Boston Museum of Fine Arts.  
 (Gift of the Egypt Exploration Fund.)

"The cover has a band of text down the center with a repetition of name and pedigree of deceased. At the head-end is a sun-disk flanked by uraei and Behutet, the name elsewhere on cover given to the god Sopt. At the foot is the "good" sign, flanked by seated, lion-headed deities and *shen* amulets (signifying protection). At the four corners of the covers are figures of Sopt (Horus as a crouching hawk) seated on "lord" sign, and having symbolic eye behind and above each. On each side are four other vignettes. Those on right side (beginning at head-end) are as follows: (1) The deceased (dressed in white) pays adoration to a hawk-headed deity with disk (Osiris) behind whom stands Isis. The blanks above, for names of deceased and deities, never were filled in. (2) A human figure stands in centre with arms extended to Chnum (ram-headed) and Anubis (jackal-headed), who stand on either side. Nut, representing the heavens, over-shadows and surrounds the vignette on three sides; her feet and finger-tips resting upon the ground. (3) A human figure in red, faces Anubis and a uraeus-headed deity. Behind is a hawk-headed god (Horus?). (4) The vignette nearest the foot-end of the cover, contains the judgment scene. Thoth (ibis-headed) leads the deceased into the presence of Osiris, who is here represented as a hawk-headed deity (with disk on head) holding a *Uas*-sceptre. The four vignettes on the left side are as follows:

man figure stands in centre with arms extended to Chnum (ram-headed) and Anubis (jackal-headed), who stand on either side. Nut, representing the heavens, over-shadows and surrounds the vignette on three sides; her feet and finger-tips resting upon the ground. (3) A human figure in red, faces Anubis and a uraeus-headed deity. Behind is a hawk-headed god (Horus?). (4) The vignette nearest the foot-end of the cover, contains the judgment scene. Thoth (ibis-headed) leads the deceased into the presence of Osiris, who is here represented as a hawk-headed deity (with disk on head) holding a *Uas*-sceptre. The four vignettes on the left side are as follows:

(1) Nearest head-end, the deceased, in white, her name is written above and in front of her, stands before "Osiris, lord of heaven." Behind deceased is "Chnum" with ram's head and disk. (2) The Bark of Ra; the deceased adores hawk-headed Osiris, who sits on a throne under a canopy. A hawk-headed deity, with double crown of Egypt, acts as steersman, and the youthful Horus, seated, acts as lookout at the prow. (3) The deceased, as a mummy, stands before Hapi (dog-headed and Anubis or Tuamutef (jackal-headed), while the latter anoints the mouth of the deceased. (4) The deceased (in white) adores the four genii of the dead, who stand in the following order: Amset (human-headed), Hapi (dog-headed), Qebhsennuf (hawk-headed) and Tuamutef (jackal-headed)."

The foregoing detailed description will illustrate the value of technical studies based upon the "originals" in a museum. Even the uninitiated in hieroglyphic art can use the hand-books to advantage. Plaster casts can aid us, but they cannot teach us, *inspire* us, as can the genuine "objects" themselves. Besides, many of the antiquities, like these coffin cases, cannot be copied in cold plaster. Should not all who contribute to our archæological societies consider how important it is to secure originals for our museums? Here "Egypt" and the Egypt Exploration Fund eloquently answer the question, in plain English text, HOW TO OBTAIN ANTIQUITIES. Our museums eloquently attest the answer, and will continue to witness it, if the successful explorations by us in Egypt are supported by our public.

---

#### ANCIENT AND EGYPTIAN RELICS IN CHICAGO.

In addition to the articles from Egypt, which Dr. Winslow has described, there should be mentioned others, which are now in the museums of Chicago. Among these, we should first place the collection in Haskell Hall, which has already been described in this journal; further description is reserved for another time. Next to this in importance and variety is the collection gathered in Egyptian Hall in the Field Columbian Museum, of which we give a picture in the Frontispiece.

These two collections are near one another. The one in Haskell Hall in the University of Chicago grounds, the other in the Field Columbian Museum in Jackson Park; both of them have been arranged in cases and classified by Dr. Breasted, who is the foremost Egyptologist in the United States.

There is also a small collection in the Art Institute, which is situated on the lake front, about seven miles north from the Field Columbian Museum. This collection is noted for the fact that there are many Egyptian scarabs, the most of which can be traced to the Art Institute. It is said to be the largest collection of Egyptian scarabs in the United States and, perhaps, in the world. They

are placed here as works of art, rather than antiquities, and can be studied in that light. They were the gift of Mr. C. L. Hutchinson. In the same case is a large collection of beads, the most of them strung as necklaces; many of them very beautiful in pattern and color, and some of them made of very costly material. These beads are very interesting, for they show the artistic taste of the Egyptians and bring to light the objects with which Egyptian ladies adorned themselves many thousands of years ago.

We may say of all of these collections, that they are for the most part gifts to the museums, either from the citizens of Chicago, or from the Egypt Exploration Fund, to which the citizens have contributed, or from Dr. Flinders W. Petrie, of London, who has generously bestowed those gifts in acknowledgement of the funds which have been furnished him from Chicago to aid him in his explorations. The following are the names of the gentlemen who have contributed: Edward W. Ayer, William G. Hibbard, William F. Blair, William J. Gunning, Daniel W. Burrows, Mr. Higgenbottom, C. L. Hutchinson, Dr. Keeley, and others.

The objects in the Field Columbian Museum are arranged, according to their material rather than according to their age; the object for which they were composed being the most important feature, although the gifts of individuals have been kept together as far as possible. The most conspicuous object in this collection, at least the one that occupies the largest space, is, the ancient Egyptian boat, the gift of Cyrus A. McCormick; and next to this, are the mummies—twenty in number—which occupy cases arranged along one side of the room; also a wall-case of small mummies. There is, also, a large case full of grave tablets, varying in size from one to three feet in height, dating from 2000 B. C. on. Casts of hieroglyphics and picture-tablets, dating from 3000 to 2500 B. C. are arranged against the wall; also a relief, from an ancient mastaba, or tomb, and the side of a door-way from Memphis engage attention, as they illustrate the architecture, as well as the art of Egypt. An interesting collection of bronze vessels and tripods, the gift of Mr. William G. Hubbard, is worthy of attention, as the tripods are decorated with elephants' heads and trunks, which are skillfully wrought. A collection, also, of large alabaster vases from Thebes, also smaller vases of remarkable beauty and finish, Ushabti figures from ancient tombs, two serpents on glazed earthenware—blue and green, one of them coiled on a tablet and another, a double serpent with head raised in relief, above what might be called a weight.

Another case, full of bronze objects, contains a bronze sistrum of large size and of great interest, because it shows the kind of musical instruments that were used; it is supposed to have been used in the Temple of Ammon at Thebes. Among other bronzes, is a large statue of Osiris. There are various sacred symbols in the collection: the images of Osiris and of

the god Bess being the most numerous. There are, also, winged beetles and scarabaei without wings; also sacred hawks, sacred cats, sacred taus, symbol of life, made of pottery, bronze, gold, and silver; some of them finished in the round and very artistic.—EDITOR.

---

## GREAT IRELAND AND THE DISCOVERY OF AMERICA.

BY JUUL DIESERUD.

In the closing year of the 19th century, when the Norwegians are preparing to celebrate the 900th anniversary of the discovery of America, it would be interesting to have it settled once for all, if within historic time Leif and his crew really were the first Europeans to set foot on American soil. I am not prepared to take up the question in its entire length, but would like to say a few words of the loose statements frequently met with, that the Norsemen most likely were preceded by the Irish.

If I am not mistaken, this claim almost entirely rests upon a couple of narratives incorporated in the Icelandic Sagas and upon a paragraph in the geographical work of the Irish geographer Dicuil, entitled: "De Mensura Orbis Terrarum," written in the year 825. Mention is here made of the Thule of Plinius lying six days' sail to the northwest of Great Britain, and it is stated that some thirty years ago, monks, who had stayed at that island, from February 1 to August 1, told him (Dicuil) that a little before and after the summer solstice the sun, so to say, merely hid behind a hill, so that it did not get dark at all.

As a matter of fact this locality must have been Iceland, where according to excellent authority the Norwegians, on their arrival, found "books, bells, and crucifixes," etc., from which they judged that it had been previously inhabited by the Irish. The Norwegians called the Irish monks "paper," and the still existing local names Papey and Papafjord are ample evidence of the truth of this early tradition.

It is, however, certain that the Irish settlement in Iceland came to an end some time before the Norwegian discovery of the island in 860. And when in the following century the sea-roving Icelanders made frequent visits to Ireland, the natives seem to have retained only a very vague idea of the Thule of their grandfathers. They, according to the ingenious suggestion of Professor Storm, seem to have failed to see that it was identical with Iceland, and they gradually placed it farther and farther south; so that it finally became a settled belief, both in Ireland and Iceland, that there was in the ocean six days' sail west of Ireland an island, which once had been

to some extent settled by the Irish. The Icelanders accordingly called it "Ireland hit mikla" (Great Ireland, comp. Magna Graecia.)

When, therefore, later Icelandic vessels (the Irish were no longer a sea-faring people) got lost with their crew, it was easy to nurse the belief that they had been driven to this mysterious island in the Atlantic Ocean, and this is what really happened in the case of Are Marsson and Bjorn Asbrandsson, as told in Landnamabok and Eyrbyggjasaga.

The first-mentioned story reads in part as follows: "He (Are) was driven by storm to the White Men's country, which some persons call Great Ireland. It is situated in the ocean, not far from Vinland the Good. It is said to be six days' (=three days and nights) sail west of Ireland. He was not permitted to leave, but got baptized there." This, the saga says was told to an Icelander by the Irish in Limerick, Are Marsson is known to have lived in Iceland as late as 980.

In Eyrbyggjasaga it is told how Bjorn Asbrandsson ca 997 in sailing to Norway was driven out of his course. He had not been heard of for some thirty years, when another Icelander met with the same fate and came to a great country, where they found some people, that spoke a language, which they did not understand, but thought was Irish. The Icelanders were made prisoners; but soon a great many men came riding, headed by a tall, old man carrying a flag. He spoke to them in their own language, and proved to be the long missing Bjorn Asbrandsson. He prevailed upon his comrades to release their prisoners. The name of the country is not given, but we evidently have to do with the same mythical Great Ireland.

These are the slender threads out of which the legend of the Irish discovery of America has been fabricated. "Uncritical writers, like Professor R. B. Anderson, Rafn and others, have not hesitated to place this white men's country in Florida, or some other part of eastern United States. Professor Gustav Storm, to whose excellent treatise "Studies on the Vinland Voyages" the reader may be referred for a fuller treatment of the subject, does not, however, hesitate to designate the accounts quoted as unreliable sailor-yarns, and I am confident that history will finally adopt this verdict.

The Icelandic sagas, of which none was reduced to writing before the beginning of the 12th century, cannot but suffer by being uncritically treated as a gospel that contains nothing but truth. Some of them have proved to be good reliable history, others were mere fiction. The story of Great Ireland evidently belongs to the later category.

## THE NORTHERN INDIAN NATIONS.

BY JOSEPH EDKINS.

The connection which may be shown to exist between the northern languages of Asia and America, very decidedly favors the theory that America was peopled from Asia. The Kuro Siwo current \* coming up from the Philippine Islands and passing Japan on the east, would convey derelict boats to the point where it strikes the Pacific coast in British Columbia. The marks of resemblance in language point to early Mongolian immigration into North America.

*Assinnece*, a stone, in Cree, is *chilagon* in Mongol. The root is *sin* in Cree, and *til* in Mongol. The Mongol word has, also, the root *lag*. *Tim* deep in Cree, is the Chinese *shim* deep (root *tim*), and the Manchu *shumo*. The root of *tomahawk* in Cree is *tom*, as in *utommahum*, he beats it. But *tang* in Chinese is beat, not *tam*. In the Cree expression, *nin kek anemah*, I know him, the order of the words agrees with that of the corresponding Chinese *wo kok i*, I perceive him; of this the roots are *ngo* or *gwa*, *kak* and *i*. First and second personal pronouns are ultimately developed from demonstratives. Roots with guttural initials are ultimately developed from labials through the tooth series. By giving attention to the evolution of sounds from lip to throat and back again, it is to be hoped that as linguistic study proceeds all roots will be accounted for in a reasonable manner.

Fortunately the order of words in Cree is subject to certain laws which assist us in comparing that language with Asiatic languages. I kill him, is *ne nippahow*. The root kill is *nippah*. He kills me, is *ni nippahik*. *Nat*, is fetch; *wappam*, is see. I fetch him, is *ni natow*. He fetch me, *ni natik*. I see him, is *ni wappamow*. He sees me, is *ni wappamik*.

In the Mongol language the order is: he beats me, I him beat. In Chinese the order is: I kill him, he kills me. Hence, it may be concluded that the Cree had first the order, I kill him. At that time the Indian languages of North America were contemporary with Chinese speech. A change in order came while, as it may be supposed, the ancestors of the Crees were in Asia. They adopted the reverse order, as the Tartar nations did, but not in the same way. †

The Chippeway word *Inini* is the Chinese *nin*, man, and is also the Hebrew *enoski* (for *enot*), and the Greek *άνήρ*. This may be regarded as certain, because no words are sporadic in origin. All roots are primeval. Thus the Chippeway

\* See Judge Wickersham's Article in THE AMERICAN ANTIQUARIAN, Vol. XVI., January, 1894.

† The Cree says, "Me kills he." The Mongol says, "He me kills."

*ujichog*, spirit, is the Mongol *chitgur*, spirit, ghost. The Chippeway roots are *tit* and *tog*, but this race added a third root, *gur*. The Chinese have *sui* for *tot*, meaning a spirit which has taken possession of a person. The Chippeway and Cree word for God, *munida*, is, I suppose, composed of two roots, the Latin *manes* and *muni*; the Sanscrit honorific title for sages. The other root, *ned*, is our *Deus*; the Mongol, *ijin*, *ejin*, *ijid*,\* Lord; the Hebrew, *adonai*, and the Chinese *ti*. On the principle that no roots in any language are of sporadic growth, but that all are truly primæval, this identification cannot fairly be called in question.

I do not see how it can be denied that dissyllabic and trissyllabic roots in Cree and Chippeway speech are formed by the apposition of two or three monosyllabic roots. The Cree *nin gekanemah*, I know him, is formed *nin I ah hini*. For knowing, we have three roots—*gek*, *kan* and *nem*. *Kan* is our root *ken* in the English language. *Tem* is the Chinese *tung*, (for *tom*) understand. Unless we make this analysis etymology becomes hopeless. By reducing the root to its primary monosyllables we are able at once to point out its derivations.

It is necessary, also, to identify some of the Cree and Chippeway roots with those of the Semitic languages. What can we do with *ked*, thou, in Chippeway, but compare it with the Hebrew *kem*, *ka*, *ken*, ye, thou, thee, you? One is in Cree *peyak*, while in Chippeway it is *pashig*. The roots are *pat* and *dig*. *Pat* is the Bask *bat*, Turkish *bir*. *Zhig* or *dig* is the Mongol *nig*, one; the Kuzi (in Central India) *nekor*; the Tibetan *chig*; the Sokpa *nega*.

All roots are indestructible because of their intrinsic significance and the great extent of the continent of Asia. The evolution of labial to guttural, and a to i and u allows of fifteen or twenty forms. These are all to be found in some language. In the Chippeway *pashig*, one, we find two roots meaning one in apposition. The significance of roots prevents their total disappearance. Thus the Chinese *chit* or *tit*, one, is the Greek *êis*, *êv*, or *it*, *tin*. This is no other than *unus* and one, both of which have really lost the initial *t*, but so long ago, that it is quite wanting in ancient documents—Gothic or Italian.

To sit is *appa*, he sits; *u* is he. The initial in the Cree is lost. It is recoverable from the Hebrew *yashab*, for *yatab*, sit. The Taksya dialect in Nepaul has *tupa*, sit. The Abor Miri in Eastern Bengal has *dupu*, sit.

The Cree word for straight is *Quinskissu*. In this word the roots are *kit* and *sak*. The Chinese is *dik*; the Turkish, *doghru*. The Turkish then has two roots in apposition, *dog* and *gar*. The Japanese say *ma suga*, straight, and this word contains the roots *mat* and *sug* or *tug*.

\*In Mongol the plural is *ijid*, gods.



I have made use, in these comparisons, of Howse's Grammar of the Cree language, with which is combined an analysis of the Chippeway dialect. Both are prominent examples of Algonquin speech. They belong to Canada, and part of the United States, from Hudson's Bay to Pennsylvania, through twenty degrees of latitude. From the Atlantic to the Mississippi and the Rocky Mountains, the Algonquin dialects extend through sixty degrees of longitude. I have also made use of Sir William Hunter's "Comparative Dictionary of the Languages of India and High Asia."

My own theory is simply this: the present diversity of roots sprang out of original unity. The number of roots is limited by changes, which take place in the mouth in the transition from lips to throat and back again. The vowels are limited by the width and narrowness of the mouth aperture. The length of time during which their evolution has proceeded is not known, but probably it is not more than 20,000 years.

It is easier to compare the Algonquin languages with Mongol, Manchu, Chinese, Tibetan, and Japanese, than it is to compare Mexican and Peruvian languages with the speech of Asia, because in all probability the Algonquin race left Asia much more recently than the Mexicans. The Mexicans and Peruvians, with their advanced knowledge, would possibly reach America by the South Pacific. At least their traditions and remarkably peculiar civilization would arrive in that way. As to the Algonquin tribes, the problems they present receive a truly wonderful light from Asiatic speech. The Algonquin languages, with the Dakota, form a separate group, like the Tartar and Japanese group, the Chinese group, the Tibetan group, the Indo-European group, and the Semitic group.

The Cree and some interior dialects possess the sounds *th* and *dh* like English and Arabic. There is no language in Asia, except in the Southwest, which possesses these sounds, so far as I know. It is foreign to the genius of Tartar, Tibetan, Japanese, and Chinese speech. This habit of tooth-letter modification probably grew up in Western Asia, at least five thousand years ago. The Goths received it from the Arabs. It is likely, therefore, if the Crees learned it by imitation, that they were at that time on the borders of the Semitic area in Western Asia. It is surprising in how few languages this aspiration occurs, as compared with the frequency of the use of *f*, the corresponding labial aspiration.

In the Cree sentence *sapun igun uchi*, with a needle, the roots are *sap* (needle), *igun* (one), *se* (from). Needle is the Chinese *chen* (from), *tim* (needle). *Igun* is the Mongol *nig* (one). *Uchi* is the Mongol *eche* (from), the English *se* in hence, and the Latin *se* in separate, to separate. It was originally a pronoun of the third person. In the Cree lan-

guage *sapun igun uchi* may be varied to *uchi sapun igun*. In *Dacota*, only the first order is possible. In the *Tartar* languages the law is as in *Dacota*. It may, therefore, be concluded that the *Dacota* is grammatically nearer to the *Tartar* languages than is the *Cree*. So, also, the order is in *Finnish* variable. It is agreed generally among philologists that *Finnish* belongs to the *Ural Altaic* family. The word *Ural Altaic* means *Turkish*, *Mongol*, and *Manchu*. The word *Ural* means *Finnish* and *Hungarian*. It follows at once that *Dacota* and *Cree*, but especially *Dacota*, should be carefully compared with *Mongol*.

The vocative is expressed in *Cree* by *ak*, *ik*, *ok*. This we learn from *Howse*, page 184. Our vocative is *in*, and this was also in use by *Greeks* and *Italians* 3,000 years ago. The *Hebrew* is *be* in *ben* (within). We have probably lost the initial *b*, preserved in *penitus*, *penes*, and in *ben* in the expression "a butt and a ben," made use of when the *Scotch* people wish to describe a small house, with only a living room and a bedroom. The *Mongol* vocative is *dotora*. The *t* they always aspirate. The *Chinese* vocative suffix is *li*. The vocative prefix in *Chinese* is *li* or *tsai*. The root of *li* and *tsai* is *dat*, the same with the *Mongol* *dot*. The *English* *in*, if it has not lost the initial *b*, has, in my opinion, lost *d*. The *Japanese* for within, say *uchi* and *naka*. This last is the *Cree* word. *Howse*, a half century ago, did not venture to call the *Cree* vocative *tk*, or *g*, a word; he speaks of it as an affixed sign. By comparison with the *Japanese* *naka* we may learn its history. *Nakaba* is middle; *nakadachi* is a middleman; *nakagai* is a broker; *nakarai* is a marriage. This root being originally a demonstrative, is also extensively used as a negative, as a natural result of its pronominal origin. *Nakari* means "is not"; *nakare* is "do not." These meanings may all be derived from one root, *nak*. But *naki*, to weep, in *Japanese* should be explained as belonging to a different root; it is *lacrima* and *tear*.

It is not to be expected that languages spoken to the south of the *Dacota* and *Algonquin* area possess any such close analogies with *Asiatic* speech, as those which have here been pointed out. Their antiquity must be enormous, if they also, like the *Algonquins*, reached *America* by way of *British Columbia* or *Behring Straits*.

*Shanghai, April 30, 1900.*

## NOTES ON ASSYRIOLOGY.

BY REV. J. N. FRADENBURGH.

To recover a language that had been lost, written in an unknown and difficult syllabary, is a task to challenge the genius and patience of the best scholarship: yet this, to a large extent, has been accomplished. Egyptian hieroglyphs and Assyrian cuneiform characters have found their interpreters. Extensive vocabularies are already known, and additions are being made constantly. The main points in their grammars have been satisfactorily made out. Notwithstanding the enthusiasm displayed in these studies, the mass of unworked material is almost appalling.

We recall the interest with which we received Norris' contributions toward a dictionary of the Assyrian language as they appeared in the Journal of the Royal Asiatic Society. The small dictionary of Delitzsch was a later contribution, and is of great value to the student; and we have tried to exercise patience as the parts of his large dictionary have appeared, after too long intervals. We now look expectantly to the early completion of the "Concise Dictionary of the Assyrian Language" by Dr. W. Muss-Arnolt, the ninth part of which, recently issued, reaches the middle of the alphabet. The definitions are given in both German and English.

++ ++ ++

The German Expedition under Dr. Koldewey continues its work at the mound El-Kasr. Babylon was a city of temples of which Nebuchadnezzar was the great restorer and builder. In the building inscriptions, the goddess Nin-Makh, "the great lady," is frequently mentioned. Her temple and statue in terracotta have been discovered. Application has been made for a *firman* to explore Warka, the biblical Erech, whose temple was looted by the Elamite conquerors about B. C. 2280. It is to be hoped that ample provision will be made for the continuance of the work of exploration in the mighty ruins of Babylon and other cities by our allies in the recovery of lost empires.

++ ++ ++

The Exploring Expedition under Prof. H. V. Hilprecht, sent out by the University of Pennsylvania, continues its successful work. Its latest achievement is the discovery of the library of the ancient city of Nippur. The site of this library is an extensive group of hills southwest of the temple of Bel. Many tablets were found still lying on the shelves of clay, where venerable hands had placed them more than four thousand years ago. The library has yielded more than 25,000 tablets, and

nearly 18,000 belong to the present year. The subjects treated in these clay books are varied and numerous. Especially valuable for the full recovery of the most ancient form of the Sumerian language are the lists of words and cuneiform signs. We look forward with lively interest to the publication of the full results.

++ ++ ++

The work of exploration at Tello has been conducted by M. de Sarzec in a most thorough manner. A series of magnificent volumes present the results to the world of scholars. The work continues this year, with promise of important discoveries. One district of Tello was Gir-su, or Su-gir, Sun-gir, in which we may recognize "the land of Shinar," and whose dialectical form may be *Sumer*, concerning which there has been so much discussion.

++ ++ ++

America has taken an honorable part in recent explorations in Eastern lands. The expedition conducted by Professor Hilprecht is to-day easily foremost in the field of Babylonian exploration. It is with peculiar pleasure that we announce the organization of another expedition "for the purpose of excavating the sites of Ur of the Chaldees and other ancient Babylonian cities." The president is W. R. Harper, LL. D., of Chicago University; the secretary and acting-treasurer, W. H. Hazard, Ph. D., New York, and the director, Edgar James Banks, Ph. D., Cambridge. There is a strong list of vice-presidents, and an advisory board. Among the latter we note the names of William Hayes Ward, D. D.; John P. Peters, Ph. D., D. D., and Prof. Paul Haupt, Ph. D. In the field, besides the director, who will be the Assyriologist of the party, there will be one general assistant, one engineer, and one naturalist. The naturalist will work up the flora and fauna of Babylonia, which has never been done by an American. This feature promises to be of especial value. The results of the expedition are to be given to the Smithsonian Institution at Washington by special arrangements. For two years \$50,000 will be required. It is proposed to publish illustrated quarterly reports, describing the excavations, containing translations of important inscriptions, and articles on the flora and fauna. These reports will be issued to subscribers of \$5.00 or more to the fund.

The field selected is one of the most promising. Ur of the Chaldees, the birth-place of Abraham and Sarah, was a great city, and at one time the political and religious centre of the greatest empire of the Orient. Its history dates back to a period perhaps as early as four thousand years before the birth of Abraham. Doubtless the remains of this early period are still preserved beneath the soil.

In 1854, J. E. Taylor, the British Consul, dug among its ruins, identified the place, and published valuable results in the *Journal of the Royal Asiatic Society*. His excavations were

slight, but remarkable. He made out the construction of the temple of the moon-god; recovered an inscription of King Nabonidus of Babylon, who mentions Belshazzar, celebrated in Daniel by his carousal in the palace; uncovered the walls of a house, and brought to light two jars filled with inscribed tablets. There was also a multitude of miscellaneous objects of great value to a knowledge of the times. These only serve to indicate the richness of the treasures that must still lie beneath the soil. "The walls of the buildings may be covered with bas-reliefs and inscriptions, illustrating and recording the history of Abraham's people; their acts in peace and in war. The ruins must certainly conceal images of the gods, furniture, dishes, ornaments of costly metal and stone, and the graves of royalty. Upon the inscriptions we shall read history now unknown; the beginnings of the people who gave us our religion may now be cleared up, we shall know their manners and customs, possibly the origin of many religious ceremonies and beliefs which have come to us. We can hardly conceive the possibilities which excavations in these ruins may realize."

We are more than surprised that this work was not inaugurated long ago. We owe it to ourselves and the cause of truth that the work shall be no longer neglected. It is to be confidently hoped that the Ur Expedition will receive prompt and liberal encouragement. Those who are willing to contribute \$5.00 or more to this important work are urged to correspond with the director or secretary at once. The former may be addressed at 10 Appian Way, Cambridge, Mass.; and the latter, at 138 W. 111th St., New York. They will be pleased to send the plan of the Expedition and all information.



My introduction to Burritt's "Geography of the Heavens," in my early school days, was a delight. I now recall with pleasure the evenings spent in reading charming mythological tales, star-gazing, efforts to trace the forms of heroes and monsters and much wondering.

To the popular fancy of the Babylonians the stars were pictured designs on the fixed vault of heaven. At a later date, under scholastic influence, they became the "writing of heaven." Early writing was pictorial, and the characters were "likenesses" after their resemblance to pictures had been lost. A distinction was easily made between fixed stars and planets, and it was early observed that the latter did not "wander" beyond certain bounds. To assist memory, stars were grouped, and the lines joining them suggested the forms of real or mythological objects. Here was a connection between the early Babylonian script and the figures that imagination helped to place in the heavens.

The paths of the heavenly bodies were marked out, and the ecliptic was fixed as the standard for describing the location and motions of stars and planets. It was called the "Way of Anu." The sun and moon were looked upon as deities, and this deifica-

tion of heavenly bodies soon extended to certain planets and stars. Jupiter was identified with Marduk, Venus with Ishtar, Saturn with Ninib, Mars with Nergal, and Mercury with Nabu; while Anu was identified with the pole-star of the ecliptic, Bel with the pole-star of the equator, and Ea with a star in the Constellation Argo. The sun was the shepherd of the "sheep," the flock of heaven. The twelve signs of the Zodiac, except the Bull, were the monsters of Tiamat. The twelve months were devoted to gods: as Nisan to Anu and Bel, Iyar to Ea, Sivan to Sin, and Kislev to Nergal. They had also special names: as Sivan, "the month of brick-making"; Tammuz, "the month of taking seed"; Marcheshvan, "the month of opening dams"; Ramman, "the month of destructive rains," and Adar, "the month of grain-getting." The great divinities were associated with numbers: Ramman with 10, Shamash with 20, Sin with 30, Anu with 60, and Bel with 50. The study of the heavens for astronomical purposes was pursued with enthusiasm.

In all this we find popular beliefs, theology, agriculture, science, and superstition wondrously mingled. In some cases there are discovered reasons for these relations; in others there seem to be none. Several writers have made veritable contributions to a knowledge of Babylonian astronomy. We may name Lenormant, Hommel, Jensen, Strassmaier, Epping, Sayce, Robert Brown, Jr., and Jastrow.

These remarks have been suggested by the publication of "Star-Names and Their Meanings," by Richard Hinckley Allen, a stout octavo volume of xxii and 563 pages. The work which the author has devoted to this subject must have been stupendous. He has drawn from a great mass of literature, and has delved in many mythologies—Greek, Roman, Norse, Celtic, Anglo-Saxon, Chinese, Japanese, Hindoo, Egyptian, Arabic, Babylonian, and Assyrian. He treats of the Zodiac, the Lunar Mansions, the Constellations, and the individual stars. We have their names and their meanings, as the title of the book indicates; and these in many languages. We have, also, interesting mythologies, learned references, matters of astronomical biography and history, popular nomenclature, and quotations from modern literature. The poetical quotations are especially apt; indeed, many of the names of constellations and stars are condensed poems, gems of rare beauty.

The work may almost be called a record of recent discoveries in strange literature. It is not to be adequately reviewed in any comparatively brief writing. The work itself is its only proper review. Lovers of knowledge for its own sake will find the book, purchase it, and then prize it.

## ANTHROPOLOGICAL NOTES.

BY ALEXANDER F. CHAMBERLAIN.

NORTH AFRICAN ARCHÆOLOGY. In the *Revue mensuelle de l'École d'Anthropologie de Paris* (Vol. IX, 1899, pp. 41-57), M. Zaborowski discusses the "Neolithic Period in North Africa." He gives a *resume* of the discoveries of worked flints, etc., in the Sahara (there is a relative poverty of Neolithic remains, and one is struck by "the contact which seems to exist with Egyptian remains of like nature"), in Algeria (there are not a few grottos, as *e. g.*, at Pointe-Pescade, Guyotville, Ternifine, etc., containing evidences of occupation by Neolithic man), in Tunis (here, as in Algeria and the Sahara, there is the same apparent rarity of tools in polished stone), and Egypt. The author calls special attention to the rock-inscriptions, or petroglyphs, of northern Africa, especially Algeria. These petroglyphs exist at Tyout, Moghar-Tatani, near Tibesti, near Barday; at El-Hadj-Mimoun, near Figuig, on the River Oudeno; at Sous in Morocco, etc. With these picture-writings are to be compared the *graffiti* on the rocks of Upper Egypt, in the desert, between Edtou and Silsilis, etc.,—these *graffiti* are probably anterior to the appearance of hieroglyphic writing; and it would seem that the North African petroglyphs, generally, are of a high antiquity. Human figures (hunters, often accompanied by women) and the animals of the north African region are the characteristic features of many of these petroglyphs. According to M. Zaborowski the ancient Egyptians were not Asiatics, who supplanted a negro population (the presence of negroes in ancient Egypt is largely accounted for by the slave-trade, which is of incalculable antiquity), but belonged to the Mediterranean stock of Brinton and Sergi, who are responsible for the development of all the first great human civilizations. One interesting proof of this affinity is to be found in the custom of vase-burial, which seems in some way connected with the coming into use of copper. The very early contact of ancient Egypt with Nubia and Negro Africa is important.

++ ++ ++

EGYPTIAN ORIGINS. In the *Revue mensuelle de l'École d'Anthropologie de Paris* (Vol. IX., 1899, pp. 201-226), M. Jean Clédât discusses the difficult and dangerous problem of "Egyptian Origins." According to M. Clédât, the *fellah* of to-day hardly represents the true ancient Egyptian type, which already in the time of the great Ramses had come to be quite mixed. The autocthonous of Egypt, M. Clédât thinks, were negroes upon which "Ethiopians, *i. e.* Egyptians, intruded." M. Clédât be

lieves that the results of the latest researches confirm the ideas to be drawn from the investigations of De Morgan, Fosquet, etc., which link the Egyptian to the Mesopotamian type.

++ ++ ++

ALGERIAN ARCHÆOLOGY. In the January-February number of *L'Anthropologie* (Vol. XI., No. 1, pp. 1-21) M. Boule discusses the "Station paléolithique du lac Karâr,"—a palæolithic "station" near the village of Remchi, or Montagnac, in the Province of Oran. The animal remains discovered at Karâr illustrate "the contrast between the quaternary fauna of Algeria and that of Europe," a difference previously pointed out by M. Boule (Vol. X., p. 563). With the exception of a few extinct species (*e. g. Elephas atlanticus*), the majority of the quaternary species fossil in Algeria are still living in the south of the continent; just as many quaternary species of the European "stations" survive still in the extreme north of Eurasia or America. The worked stones, not counting chips, etc., examined by the author number some 200,—collected by M. L. Gentil, a young geologist, who handed them over to M. Boule some four years ago. Some of the larger specimens resemble the amygdaloid and lanceolate flints of Chelles, Saint Acheul, Toulouse, and other "stations" in France, etc. Some small specimens, dredged from Lake Karâr, resemble closely some palæolithic Egyptian flints figured by De Morgan. M. Boule inclines to believe in the contemporaneity of these two forms at Karâr. The lake itself appears to have furnished no neolithic specimens, but a few (among them a polished axe) such were found in the immediate neighborhood. The fauna discovered and the worked flints are, according to the author, of the same age, and the "station," taken altogether, resembles considerably that of Ternifine (near Mascara), described by Pomel and Pallary, as well as other Algerian "stations," at Ouzidan, Aboukir, etc. M. Boule comes to the general conclusion that "at a very distant epoch, in comparison with which the 7,000 years of Egyptian history are as nothing, there existed over a great part of the earth's surface men using stone tools of a very uniform nature, yet already so special and of such perfection, that experts can readily distinguish them from later makes."

++ ++ ++

NILE VALLEY FLINT IMPLEMENTS. In "Nature" (Vol. 61, No. 1590, pp. 597-599) for April 19, 1900, appears an abstract of a profusely illustrated paper (on the collection of stone implements from the Nile Valley, made by Mr. Seton Karr in 1896, and now in the Mayer Museum), published by Dr. H. O. Forbes in a recent number of the *Bulletin of the Liverpool Museums*. The collection consists of bracelets (illustrating all stages of manufacture), axe-like tools, leaf-shaped flints, knives, hoes, fabricators, scrapers, cores, flakes, and nondescript stones. Most of the specimens are of "a yellowish-brown or pale-grey,



opaque earthy chert," and the great bulk of them come from the region of the Wady-el-Sheikh, a tributary of the Nile. There is a remarkable resemblance between some of the knives and corresponding specimens obtained by Mr. Petrie from Kahun (Twelfth Dynasty), and also of some of them to "the finest of those from Scandinavia." The age of these implements, and of the flint workings of the Wady-el-Sheikh, is "from 3900 B. C., but more probably from the Twelfth Dynasty." Dr. Forbes wisely refuses to believe that "identity of form in the stone implements is sufficient evidence of unity of race, or of close connection between the races who made them." He doubts, also, the "palæolithic" character of many Egyptian flint implements; holding that the only flint implement "authentically palæolithic are the flakes and very rude scraper-like flints found by General Pitt-Rivers in the stratified, indurated, gravelly debris from a wady near the Tombs of the Kings." Along the banks of the Wady-el-Sheikh cores and flakes were found in thousands, and the question naturally arises: "Why so many thousands,—all perfect as flakes,—should have been struck off and never carried away?" The use of the numerous "long bars of stone, partially worked, is also a matter of conjecture. Dr. Forbes' paper is altogether a most valuable and interesting one.

++ ++ ++

MAN OF THE REINDEER PERIOD IN FRANCE. Under the title "Les Stations de l'âge du Renne dans les Vallées de la Vézère et de la Corrèze." Laugerie-Basse. Industrie, sculptures, gravures (Paris, 1900, 4to, 110 plates), MM. Paul Girod and Elie Massénat have published a very interesting monograph on one of the most noted "stations" of prehistoric man in France, dating back to a time anterior to the possession of domestic animals by the human beings who populated this region. Pottery, too, is absent from the remains of their culture. As a hunting people, their sense of art was considerably developed, as their animal-sculptures show. But these things are not special to them.

++ ++ +

ARCHÆOLOGY OF BRITISH COLUMBIA. From "Monumental Records" for March, 1899, Mr. Harlan I. Smith reprints (pp. 75-88), an abstract of his valuable and detailed paper on the "Archæology of Lytton, British Columbia," which appeared as Volume II., Part III., May 25, 1899, of the "Memoirs of the American Museum of Natural History" (New York). One of the most striking facts brought out is the similarity of the mode of life of the prehistoric people whose remains and relics have been studied to that of the Indians of the same region at the present day. The author discusses: Resources, food, tools (of which illustrations are given), war-implements, dress and ornaments, art, and burial-methods.

ARCHÆOLOGY OF ONTARIO. The Ontario "Archæological Report" for 1899 (Toronto, 1900, pp. 199), is another evidence of the zeal and activity of Mr. David Boyle, the Curator of the Provincial Museum. Pages 2 to 17 catalogue some 2,400 specimens added during the year to the Provincial Archæological collection, and pages 17 to 51 contain notes on certain of these specimens, among which are included clay pipes, bone articles, and articles of Iroquois folk-use in games, ceremonies, etc. The "rattlesnake shell gorget," figured on page 24, is of great interest, being, so far as known, "the only specimen of its kind found in Ontario," and possessing, moreover, "identity in design with the gorgets described by Professor Holmes,"—an unsuspected point of contact, perhaps, between Ontario and the southern States. This gorget appears to have been found "in a large bed of ashes, fully two feet below the surface, on the Sealey farm, Brantford township." To this Report Mr. G. E. Laidlaw contributes (pp. 41-50), an account of archæological investigations in North Victoria County, and Mr. A. F. Hunter (pp. 51-82) a detailed description of "Huron Village Sites in Tay, Simcoe county," a continuation of his valuable archæological monographs on this region of Ontario. Mr. Laidlaw concludes, concerning the region between the waters of Georgian Bay and those of Lake Ontario, of which Victoria County is a part, "there was a large [peaceful] semi-sedentary population extending along this ancient highway of waters to Lake Ontario." In Mr. Hunter's paper some forty-six village sites are described, and in the introduction, the author points out some popular errors respecting the region in question. According to the author, Victoria Harbor, to which the forest trails so noticeably lead, "was the commercial center of the Hurons, as it has also been of later Algonquins." This, too, was "the heart of the country that was smitten in 1649," when the Hurons were dispersed. Mr. Hunter's paper is followed by a briefer account by W. J. Wintemberg (pp. 83-92) of "Indian Village Sites in the Counties of Oxford and Waterloo," some twelve sites having been examined during the past four or five years by the author in this part of the Province. Village site No. 1, in Blenheim township, Oxford, is noteworthy on account of the copper awls there discovered. The remainder of Mr. Boyle's excellent report is made up of an interesting paper (pp. 92-123) on "The Wyandots" by W. E. Connelly, a translation by Mrs. M. E. Rose Holden of M. Benjamin Sulte's "La Guerre des Iroquois" (pp. 124-151), some "Notes on Some Mexican Relics" (pp. 152-163) by Mr. William Stuart, a detailed and valuable account of the "Music of the Pagan Iroquois" (pp. 166-189) by Mr. A. T. Cringan, and a "Study of the Word Toronto" (pp. 190-198) by General John S. Clark. The last page of the Report is occupied by a brief appreciation of the late Dr. D. G. Brinton.

Mr. Connelly's paper, which contains much of value concerning the clan system and sociology of the Wyandots, is a

little too dogmatic in places, and such statements as the one that the original home of these Indians was in the Ungava district of Labrador, need more proof than is yet forthcoming. The list of clan and personal names given by the author is very suggestive. Mr. Cringan's paper contains the musical notation of forty-seven pagan songs, all belonging to the Seneca division of the Iroquois, which were recorded on graphophone cylinders. It is interesting to learn that the modulation in Dr. Dyke's beautiful "Vox Dilecti" and in a Seneca "After Scalping Song" is accomplished by precisely the same means, "by a leap of a *major* sixth from the fifth of the minor key." And the author brings out many other curious points of resemblance and disagreement between the music of these aborigines and that of civilized peoples. General Clark's attempt to prove that "Toronto is an abbreviated compound word, somewhat disfigured, but based on *kaniatarc*, 'lake,' and *iokarontc*, 'a gap, breach, or opening,'" can hardly be looked upon as successful, although the ingenuity of the author is much in evidence.

++ ++ ++

TREPANNING AMONG THE SERVIANS. In the Correspbl. d. Deutschen Gesellsch. für Anthropologie (Vol. XXXI., 1900, pp. 18-23), Dr. S. Trojanovic discusses the custom of trepanning among the Servian population of the Balkan peninsula. Since in northern Albania twenty-five per cent. of all deaths occurring are due to blood-revenge, trepanning, as a treatment for wounds of the skull, attains considerable vogue. Another reason for the existence of the custom is the belief that it is a remedy for many diseases and affections of body and mind: Neuralgia, lunacy, headaches of violent sorts, brain-fever, &c. In Montenegro, Herzogovina, and Albania trepanation was carried on by certain folk-doctors called "medig," or "doctor," whose only occupation seems to have been that of healing (wounds especially). In Montenegro this art is hereditary in certain families, *e. g.* Ilickovic. Since 1856 trepanning has been forbidden by law in the Principality, but the practice still goes on in secret, the Montenegrin "medig" resorting to Albania, etc., where he is unmolested by the Turks. In Servia, itself, according to the author, the practice does not appear to have been common, although the "over the border" visits were known there also. Exact details as to Bosnia are lacking. Dr. Trojanovic gives a detailed account of the operation, with comparative notes.

++ ++ ++

THE "FIRE WALK." To Volume XV. (pp. 2-15) of the Proceedings of the Society for Psychical Research, Andrew Lang, the well-known folklorist and *litterateur*, contributes a paper on "The Fire Walk." Under this head are grouped the *te umu-ti*, or fire-walking ceremony of the Society Islanders and New Zealanders; the *vilavilavevo* of the Fijis; the fire-cere-

mony of Central Australia; the fire-walking over red-hot charcoal of the modern Japanese; the fire-rite in Mauritius; the performances of the Bulgarian *nistinaries*, or fire-walkers (a faculty regarded as hereditary); the human fire-extinguishers of Spain; the Hindu fire-walkers of Benares, and some, at least, of the "passing through the fire" of Semitic, Celtic, and other peoples—a dim shadow of which last lingers in the midsummer ceremonies of western Europe. These ceremonies, Mr. Lang thinks, deserve examination by medical experts, since "all these usual theories, whether of collective hallucination (photographic cameras being hallucinated), of psychical causes, of chemical application, of leathery skin on the soles of the feet, and so on, are inadequate." Suggestion is, however, a possible explanation.

++ ++ ++

ARYAN THEORY. M. André Lefèvre publishes in the *Revue mensuelle de l'Ecole d'Anthropologie de Paris* (Vol. IX., 1899, pp. 84-91) his lecture on "The Indo-European Theory." Much of the discussion on this subject has, he thinks, been sheer waste of brains and ink, the result of a misunderstanding between ethnology and philology. Dr. Lefèvre thinks also that the Aryan primitive home was somewhere in the region of the Caspian, "where still vegetate the degenerate *debris* of the original Indo-Europeans, driven back and forth by Mongolian invasion and Turkoman barbarism." The author seems a little too conservative on the whole.

In his "Herkunft und Urgeschichte der Arier" (Heidelberg, 1899, pp. 58, 8vo), L. Wilser argues ably for the Scandinavian origin of the Aryan peoples, with which seems to be bound up the theory of the superiority of the blond dolichocephalic section of the European white race. The author résumés in brief the facts in favor of the location of the primitive home of the Aryans in Scandinavia from the points of view of anthropology, philology, history, etc. Wilser considers the much-discussed Etruscans to have been a people of Aryan stock, closely related to the ancient Hellenes.

++ ++ ++

ORIGIN OF NEW RACE TYPES. The report of the remarks of Dr. Kollmann, of Basel, upon this subject at the Lindau Anthropological Congress, appears in the *Correspbl. der deutschen Gesellsch. für Anthropologie* (Vol. XXXI., 1900, pp. 1-5). According to Dr. Kohlmann, the first group of mankind, the primitive horde, originated somewhere within the tropics. The history of the development of mankind may be summarized thus: I. Period of the development of the Species *Homo sapiens preglacialis* (the primitive horde increases; all individuals possess the same characteristics). II. Period of the development of the Species *Homo sapiens preglacialis* (variation becomes active; races begin to be formed; migration from the

primitive home). III. Period of the development of *Homo sapiens intraglacialis* and *preglacialis* (through the effects of variation and of *milieu* several races have arisen; after migration into the various continents variability still continues, until the morphological race-characters are completely developed). IV. Period of the development of *Homo sapiens* (from the end of the *Diluvium* down to the present feeble variability in form of fluctuating changes; no longer are new races or types formed; constancy of morphological characters). The author holds firmly to the doctrine of the essential permanence of race-types since their origin in the dim past of mankind, and makes good use of the recent investigations of Dr. Livi in Italy, and Dr. Boas in America, to strengthen his theory. Crosses and *metis*-forms arise, but no *new races* and no *new types*, no *new varieties* or *species* of man; not even the many "fluctuating characters" of the modern European races seem capable of producing these—no six-fingered, four-nippled, or twelve-incisored race of man has yet appeared. And doubtless will not.

---

## EDITORIAL.

---

### CARE FOR CLIFF RUINS.

The women of Colorado have begun a wise movement. They have organized an association for the preservation of the cliff-dwellings, which are so numerous, and it has been regularly incorporated under the laws of Colorado. It is now the intention to acquire a title to the ruins, either by purchase or a grant from the State. The movement began in 1897, when the President of the State Federation of Woman's Clubs, Mrs. M. D. Thatcher, appointed a committee.

The association is formed on the lines of the Mt. Vernon and Mary Washington Associations. The initiation fee is \$2, and annual dues \$1. The officers are as follows: Regent, Mrs. Gilbert McClurg, Colorado Springs; first vice-regent, Mrs. W. S. Peabody, Denver; recording secretary, Mrs. J. D. Whitmore, Denver; corresponding secretary, Mrs. C. A. Eldredge, Colorado Springs; treasurer, Mrs. Mahlon D. Thatcher, Pueblo; auditor, Mrs. George T. Sumner, Denver. The charter membership of the association will be held open for six months. Committees will be appointed, and the association will set to work at once to raise money, secure membership, and lay the foundation for a State park.

The area of prehistoric ruins in the Southwest covers a tract of 6,000 square miles, extending from "the four corners" into Colorado, Utah, New Mexico, and Arizona. Therefore, the tract of land most valuable for a park has been a grave question at issue with the committee. They have had an accurate and comprehensive map made of the section called Mesa

Verde, the green tableland, in the southwestern corner of Colorado. It is their wish to include in the park that portion of the mesa and adjoining cañons which contains the most ruins.

It should be understood that Mesa Verde, the probable location of the future park, is a strikingly singular divide between the Mancos and the Montezuma valleys. Throughout its extent it is gashed and seamed by innumerable deep cañons and ravines. The uplands are crowded with forests of pinon trees in such close array that one finds it difficult to pick a passage through them. Ruins of the houses of the mesa-dwellers are thick upon the plateau.

The cañons which split the divide into tongues and islands of precipitous rock, are lined with the houses of the Cliff-Dwellers. The sides of the cañons are sheer walls of yellow sandstone, ranging in height from 500 to 1,000 feet. As a rule, the dwellings stand fifty or a hundred feet below the rim of the heights, in a sheltered recess overhung by beetling masses of rock. In a great many instances it is impossible to climb to the houses from the bottom of the cañon. Most of them have to be entered from the top of the cliffs. There are no definite roads or trails leading to them, and the difficulties to be overcome and the dangers to be dared in visiting the cliff-houses are many. The difficulties and dangers only show how necessary it is to build roads and trails and a rest house, so that people with great enthusiasm but little strength may visit the ruins.

The Cliff-Palace and the Spruce Tree House are two of the cliff-houses included in the tract set aside for the park. The Cliff Palace is 450 feet long, eighty feet high, eighty feet broad, and contains 127 rooms on the ground floor, and accommodations for probably 1,000 people. The Spruce Tree House is only a short distance from the Cliff Palace, and is one of the most finished specimens of prehistoric architecture yet found. A visit to one or both of these ruins would repay one for almost any amount of fatigue, and the Colorado Cliff-Dwellers' Association intends to be the path-finder for the delicate enthusiast as well as for the brawny relic hunter.

---

#### WHY AMERIND?

A recommendation, apparently serious, has recently been made to replace the name American Indian by the especially-coined word *Amerind*. This word has been made by the novel method of uniting the first part of the two words American and Indian. A single word for characterizing our American aborigines is certainly desirable. *American* is indefinite, being commonly applied to the white inhabitants of the United States, as well as to the "red man." *Indian* is bad, perpetuating an error. American Indian is, perhaps, clumsy and awkward. But by what right do we suggest a term like *Amerind*? Is the

intention to give the term scientific authority? Do we hope to first have it adopted by scientific men, and then extended to popular use? If so, let us follow ordinary rules. Two demands are rightly made of words seriously proposed for scientific purposes: the first is that they shall not be coined from the vernacular of the proposers; the second is that, taken from Latin or Greek sources, they shall be constructed by sensible methods, grammatically correct, and that the compound shall be descriptive. These rules are simple and reasonable, and have been recognized in all sciences.

If anthropology is to rank as a science, it should conform to scientific usage. *Amerind* does not follow these rules. We should justly object to Russian or Japanese students, who should construct at pleasure scientific terms from words of their vernacular and urge their authoritative use; in science we have no right to follow, any more than Russians or Japanese, a practice which would lead to confusion and inconvenience. As to its mode of formation—where else in science is there an example of the deliberate making of a term by chopping off unmeaning initial parts of two words and then uniting them? What does *amer* mean? What is the significance of *ind*? And what can *Amerind* mean, if neither *amer* nor *ind* mean anything?

There has been some discussion over the derivation of the word America; if it comes from a certain navigator's name, it certainly has no value in the suggested compound. If *ind* has any meaning—if, for example, it means the inhabitants of India—the error of using it in composition is as great as that of using it alone. But, one of the chief reasons assigned for coining the new word was the error in the word Indian. We dislike to differ with our fellow-workers, we dislike to appear refractory to a well-meant suggestion, but the word *Amerind* appears to us bad. Until a term is derived, which conforms to good scientific usage, we—personally—shall struggle on with the inconvenient (?) expression American Indian. Life is short, but even in America we may find time and strength enough to speak what words may be necessary to adequately and unmistakeably express our thoughts.

F. S.

## LATE DISCOVERIES IN THE EAST.

---

### A NEW ALPHABET DISCOVERED.

The discovery of Mycenaean antiquities and the ruins of an ancient city, or capital, in Crete by Mr. Arthur J. Evans has been announced. The following description is taken from the *New York Independent*:

"A palace of Mycenaean kings of perhaps 1300 or 1400 B. C. was found. Nothing of that age previously found in Mycenæ excels the fresco painting and stone carving. The royal bathroom, with its central throne, is preserved like a piece of Pompeii, and shows a luxury unknown to Mycenæ itself. But the most important discovery is that of a number of clay tablets with the ancient Mycenaean writing. The inscriptions are in a character which is neither Babylonian nor Egyptian nor Hittite nor Cypriote nor Phœnician, and they prove that a literary culture of indigenous production existed in Crete at that early period. The characters read from left to right, and not *boustrophedon* like the Hittite, and they are less pictorial and more hieratic than the latter. It is too soon to express any detailed views as to the affinities of this Mycenaean script, but it suggests comparisons with forms of the Cypriote syllabary, as well as with the Lycian and Carian characters. Mr. Evans suspects that many of them refer to palace accounts. The fact that they are clay tablets itself proves a relation to Babylonian culture."

Dr. Ward of *The Independent* says that it displays a system of syllabic writing quite unlike any previously known. Among the finds was a written tablet in old Cretan character, if we should not rather call it Mycenaean. We presume that it was known throughout all the regions occupied by the earliest Greek culture, five hundred years before the Phœnician alphabet was adopted, and by its simplicity drove out the earlier Mycenaean, Hittite or Lycian scripts.

---

### THE DELUGE TABLETS.

The museum at Constantinople contains various tablets which give the Babylonian account of the Deluge, some of which date back to the reign of Amnis-Zaduga King of Babylonian, 2140 B. C., or about the time of Isaac and Jacob, seven centuries before Moses. The discovery by George Smith of the tablets of the Deluge in the library at Nineveh, written in Assur-Banipals' reign, 600 B. C., was startling, but did not carry the date back. These tablets, however, show that the story of the Deluge was familiar to the common people of Babylonia and, perhaps, of all the East, from Assyria to Persia, long before the days of Moses.

The most remarkable feature of it, is that there is no record of the Deluge in Egypt, except that which is given in the writings of Moses. The Deluge story in Babylonia was compiled in twelve books—one for each month, showing how thoroughly the tradition was incorporated into the religious systems of the Babylonians.

---

### EGYPT BEFORE MENES.

Maspero, in his "Dawn of Civilization," declares that Menes was a mythical king, but the discoveries by De Morgan and Amelineau of the bones and seal of Menes, proves the correctness of history. More than this, recent discoveries have shown that before Menes there was a people living in the Stone Age; they were a white, blue-eyed Libyan race, and had already remarkable skill in making tools, dishes and ornaments out of



flint, obsidian, and other stones; but they had no metal tools and did not understand how to erect buildings of brick. There came down the Nile, a race of conquerors, who had probably crossed over from Arabia, but whose origin was in Babylonia.

---

#### AN ANCIENT GREEK FOUNTAIN FOUND.

A cable dispatch from Athens tells the New York *Independent* that Professor Rufus B. Richardson, Director of the American School at Athens, in his excavations at Corinth, has so far laid open the Propylæa as to restore the topography of that city, besides finding so much valuable sculpture that the Greek Government has provided a special museum for preserving the monuments that have been recovered. The latest unique discovery was in the Agora, where, at the depth of twenty-five feet, an ancient Greek fountain was found, with the bronze lion-headed spouts still in their original position.

---

#### THE UNIVERSITY OF CALIFORNIA.

Through the liberality of Mrs. Hearst the University of California has supported two exploration parties to Egypt, and has prepared a museum, which will contain such relics as are secured in that region, as well as those of the prehistoric relics of America. Messrs. Grenfeld and Hunt have transferred their allegiance to this Institution. They have secured from a cemetery of Coptos many papyri, mummies, and curious frescoes, most of them of Ptolemaic date.

---

#### DISCOVERY OF A CITY GATE AT KARNAK.

The fall of nine columns last year, against the pylon at Karnak, dangerously unsettled the huge mass of masonry, and now threatens to overthrow all of the columns of Hypostile Hall. M. Maspero has taken every precaution to avert the catastrophe; the expectation is that the wall of the pylon will be rebuilt, tier by tier, though there is some danger that the Nile flood will undermine the whole.

Egyptologists are rejoicing. The season has been a memorable one for them. In addition to the discovery of the mummy of King Menepthah, the Pharaoh of Exodus, "another valuable discovery," to quote Professor Sayce, "has been made by M. Legrani while excavating at Karnak. While setting up the fallen columns of the temple M. Legrani came upon a city gate, the first that has been found in Egypt. The gateway is of very great height, is made of large blocks of squared limestone, and is double, having one gate within another. Two chariots could easily have passed through it abreast. It was erected by Amenhotep II. of the eighteenth dynasty.

---

#### A SCHOOL FOR ORIENTAL RESEARCH.

A school for Oriental research has been established in Palestine. This is an important movement, for it will result in correcting many of the errors which have crept into so many books on Palestine and the Holy Land.

## BOOK REVIEWS.

RIJKS ETHNOGRAPHISCH MUSEUM TE LEIDEN: VERSLAG VAN DEN DIRECTEUR OVER HET TIJDVAK VAN 1 OCT. 1898 TOT 30 SEPT., 1899. 8°. pp. 34; 4 plates.

For little Holland to maintain and develop one of the best ethnographic museums of Europe is no light undertaking. Yet she does so, and does so nobly, at Leiden, in the Royal Ethnographic Museum, the last annual report of which is at hand. During the year two permanent assistants have been added to the Museum staff—one in the newly-established department of Physical Anthropology, the other in the section of East Indian Ethnography. For a part of the year a special assistant, Shinkichi Hara, was at work upon the Japanese collections.

The Museum is still pleading for a new building, a plea amply justified by the scholarly and important nature of the work it is conducting. A considerable portion of the report is devoted to the list of accessions. Among these is a magnificent collection of somatological material from the Philippines, including nearly four hundred skulls—the gathering of Dr. Schadenberg. This rich material is being studied by Dr. Koeze, and will be published by the Museum in the first volume of its *Transactions*, soon to appear.

From August 9th to September 30th the Museum arranged a special exhibit of its Japanese collection, which was visited by almost three thousand persons. This collection contains the extensive and historically interesting gathering of Van Siebold, together with many later additions. The Guide to this exhibit, prepared by the director of the Museum, Dr. J. E. D. Schmeltz, is a handsome piece of work, which not only well served its purpose as a guide, but also is important to students of Japanese ethnography. Not only has Leiden this magnificent ethnographic series in its Museum; in the University is, perhaps, the most valuable library of Japanese books in Europe. The Museum is a much-used centre for study and work. During the year eminent specialists from Bohemia, Germany, Switzerland, and the United States have made use of its opportunities. Classes of students have found its colonial collections useful. On May 24th, at the meeting of the Society for the Advancement of Scientific Study of the Colonies, Dr. Neuenhuis exhibited and explained his Bornean collection, which is at present deposited with the Museum. During the present year two important works are to be printed by the Museum—one a monograph upon Javan, the other an album of African ethnography. The Museum is certainly making great progress under Dr. Schmeltz's direction. F. S.

\* \* \*

LOS TATUAGES: ESTUDIO PSICOLOGICO Y MEDICO-LEGAL EN DELINCUENTES Y MILITARES. By Dr. Francisco Martinez Baca. Mexico: 1899. 8°. pp. vii. 292; 7 tables; 18 plates, with 99 figures.

We have already, elsewhere (*Am. Jour. Soc.*, vol. iii., pp. 13-17), described the laboratory of criminal anthropology in the State Penitentiary at Puebla, Mexico, and the work there done by Drs. Baca and Vergara. We now have before us the published results of a study made there upon tattooing, as practiced among Mexican criminals and soldiers. Lombroso and Marro in Italy and Lacassagne in France have studied tattooing among criminals in Europe. With other writers they have reached some results of interest. They find the practice of tattooing much more common among criminals than among "normal" men. They made an especial study of the designs in themselves and in their relation to the character, occupation, and life of

those who bear them. For Lombroso, tattooing among criminals is atavistic: the criminal—a man born out of the time to which he is adapted, tattooed because his remote barbaric ancestor tattooed.

In Dr. Baca's book we find interesting matter for comparison with that from Europe. The treatment is divided into three parts. In the first part, after a discussion of tattooing in general, the material gathered among Mexican *prisoners* is presented; in the second part, that from *soldiers* is examined; in the third, various theoretical and practical questions in legal medicine are propounded and discussed.

Most of these prisoners were pure Indians. They proceed from three sections geographically different—the mountains, the rather densely populated plateau district, and the lower hot lands. Out of some five hundred persons examined fifty-seven were somewhat tattooed—not a large proportion, as compared with the European. Of these none came from the northern mountain district. In Europe the criminal is often tattooed with designs related to his trade, or connected in some way with his crimes: these often give useful hints, aiding in identification. In Mexico the facts are curiously different; out of fifty-seven tattooed subjects, not one bore designs relating to his trade; out of the one hundred and seventeen designs upon these subjects, but four even remotely suggested the bearer's crime. Left to himself, the Mexican Indian of Puebla—even of criminal tendency—shows little desire for tattooing; it is in the jail or prison that the idea of being tattooed presents itself to him, or is urged upon him; out of the fifty-seven subjects, fifty were tattooed in prison, five in the barracks, and two outside. Compared with the criminals of Europe, these Mexican Indians show little taste for obscene or indecent representations. On the whole, the designs are simple and crudely done. The soldiers and criminals of Mexico show little difference in the designs they tattoo. However it is quite clear that among the criminals religious designs preponderate, among the soldiers erotic figures are more common.

We present herewith that part of the author's general table in which the one hundred and seventeen designs observed on criminals are classified:

Symbols	Religious	Crosses	21	
		Saints	14	
	Erotic-Religious:	Monstrances	5	
		Hearts with crosses	10	
		Hearts	6	
	Erotic	Women—clad	7	
		Women—nude	3	
		Initials of sweethearts	6	
		Names of sweethearts	6	
	Signs	Simply decorative	Initials of the criminals	6
Names of the criminals			1	
Decorative			8	
		Men	3	
		Dates	2	
Representative		Animals	Deer (liberty)	5
			Dogs (fidelity)	2
			Lions, tigers, &c. (sanguinary instincts)	4
			Eagles (liberty)	2
			Doves (love)	1
Anti-religious:	Devils	5		

It will be seen that Dr. Baca's material is interesting, not only to the criminologist and psychologist, but also to the ethnologist. We have learned, within a few days past, that Dr. Baca has been appointed to a position in the magnificent new prison at the City of Mexico, similar to that he has held at Puebla. He will then have an even greater opportunity to carry on his investigations. Fortunately, the work he has founded and conducted at Puebla will not be discontinued, but will be carried on under competent direction

F. S.

**POMPEII; ITS LIFE AND ART.** By August Mau, German Archaeological Institute in Rome. Translated into English by Francis W. Kelsey, of the University of Michigan. With numerous illustrations from original Drawings and Photographs. New York: The Macmillan Co. London: Macmillan & Co., Ltd.; 1899.

The destruction of the city of Pompeii in the year 79, by the eruption of Vesuvius, has preserved up to the present time many of the antiquities and architectural works of that early period. The city was situated on the Bay of Naples and was the chief seat of power at the time. When it was founded is not known. The oldest building, the Doric temple in the Forum, is of the style of the sixth century B. C. The founders were Oscans, but it was the city of the clan of the Pompeys, as Tarquanium was the city of the Tarquins.

The architecture of the early period was Greek. The subjugation and Romanizing did not come until the social war, 90 B. C. As a result we have a great deal of Greek architecture rather than Roman. Up to the present time about half of Pompeii has been excavated. Articles of furniture, objects of art, statuettes, and sculptures have been taken to the museums at Naples and at Pompeii. The author of this book has treated the subject from the archaeological standpoint, rather than the artistic. He describes the masonry according to the periods. One style of masonry seems very rude, as it is composed of lime-stone frame-work, filled in with rubble; built without mortar. The corners and door-posts were built of hewn blocks. Slabs were placed upright in the walls to hold the masonry in place. This style belongs to the early years of the Roman colony. The Doric temple was built in the sixth century B. C. The second period was that of the lime-stone Atriums. A third is called the Tufa period, in which the climax of Pompeian architecture appeared. It has a pronounced artistic character. Buildings are adorned with colonnades of the Doric, Ionic, and Corinthian orders. Wall paintings are lackings, but pictures of rare beauty are found in the mosaics of the floors. The fourth period covers the earlier decades of the Roman colony; but falls far below that just preceding.

The Forum is, perhaps, the most interesting feature in the city. This was very common in other cities, and is, perhaps, the survivor of the enclosed court, which was an important feature to the earliest villages. It was surrounded by temples, markets, and buildings devoted to civic purposes. No private houses opened on this area. The remains of a colonnade are seen on each of the three sides, but the colonnade is nowhere intersected by a street passable for vehicles. You descend the area by several steps. Only pedestrians could enter the Forum; carts and wagons were excluded. The area of the Forum was paved with flags. Originally there were many statues, which were of three classes: those of citizens, equestrian statues of life size, and statues of emperors, or members of the emperors' families; some of them colossal in size. Among them a statue of Augustus and an equestrian statue of Nero and Tiberius. In the Forum the various styles of columns have been preserved: one of Doric style, with the upper part fluted; another had the Ionic order; but the earlier period was the better of the two. The most important religious festivals were celebrated in the Forum.

In Greek towns the market place was laid out in the form of a square, but in the cities of Italy the Forum was, like an amphitheater, adapted to gladiatorial combats. It was used for games and contests. After the buildings in the Forum, there were three temples: one devoted to the Lares—the Temple of Jupiter—which dates from the pre-Roman period. It contains six Corinthian columns and had Etruscan characteristics. The arrangement of the steps is peculiar. An altar stood in the middle of the platform. At its left we see the arch, a strip of wall, and a platform with an equestrian statue. Within was the wall with decoration in the Pompeian style. A head of Jupiter was found in the cella. This head is compared to the bust in the Vatican Museum, and is described as follows: the face seems to suggest great force of will—great force of will is seen, also, in the

face of the Pompeian god; but it is will dominated by an alert and all-embracing mind. The forehead expands in a broad arch; the eyes—wide open—look out with full vision, under sharply-cut brows. Here we have no secret brooding; a powerful, yet clearly-defined and comprehensive personality is stamped upon features carved in bold, free lines. The other, Bust of Zeus, in the Vatican Museum, seems to suggest, not so much the power of a world-encompassing and lofty intellect, as absorption in great unfathomable thoughts. In the lines of the massive face irresistible force of will is revealed, and the capability of fierce passion lurks beneath the projecting lower part of the forehead and uneven eye-brows, threatening like a thundercloud; but for the moment all is deep repose, and the lids seem partly closed, over eyes that look downwards, as if not concerned with seeing. The sculptor has conceived of Zeus as the occult power of nature, alike the origin and law of all things, or as the personification of the heavens veiled by impenetrable mists.

\* \* \*

THE LITERARY STUDY OF THE BIBLE: AN ACCOUNT OF THE LEADING FORMS OF LITERATURE REPRESENTED IN THE SACRED WRITINGS. (Intended for English readers.) By Richard G. Moulton, M. H., Ph. D., Professor of Literature in English in the University of Chicago. Revised and partly re-written. Boston: D. C. Heath & Co. London: Isbister & Co. 1899; 569 pages.

That wonderful book the Bible has received more attention than any other book in existence, and is likely to receive still more in the future. There are, to be sure, several distinct schools which are devoted to the examination of it. Of these, the one which is, perhaps, the oldest takes it up as purely a religious book, full of maxims and teachings, all of which have an equal value. The students in this school, at an early date, broke it up into fragments, and have transmitted it with divisions into chapters and verses, but seem to have paid no attention to the connections or the history of the separate parts. Another school, which may be called the historical, treats it as a historical book, full of descriptions of ancient customs and allusions to the antiquities of the East, but also find confirmations of its truthfulness and genuineness in the discoveries which have been made during the past few years. A third may be called a school of critics, which may be divided into two classes; the one embracing those writers who are studying the text and endeavoring to make it as complete as possible, the other take the style, language and thought, and subject that to the severest criticism. A fourth school has arisen which is interested in the archæology of the Bible, and is devoted to the study of the antiquities of the East and to the comparison of the literature which has been brought to light by the monuments with that which is contained in this book. As a general thing, this school is opposed to the conclusions which have been reached by many of the so-called "higher critics," and puts back what they are disposed to pull up and throw away, or, at least, they present severe tests to the theories of the higher critics. This is a department in which our readers are undoubtedly much interested, and will be more so as time passes on.

A literature has been recovered in Babylonia, Egypt, and Palestine, which already exceeds in compass the whole of the Old Testament scriptures. The records already discovered confirm, explain, and illustrate the scripture records, and make it probable that they were contemporaneous with the other records, rather than reductions of fragments which had long existed. The discoveries seem to confirm the traditional view of the Bible, and actually represent it as the oldest book in existence, much older than the critics claim. There may be inscriptions and tablets and monuments, which in their present form, date further back than these written books, but they do not cover as much time or give as much variety, as does this Sacred World, and certainly do not furnish as good or as useful specimens of literature. No one would think of going to the Book of the Dead or to the Assyrian tablets for specimens of literature which might be brought before the enlightened public of the present day, as models of excellence.

There are specimens of Greek literature, which belong to a late date, comparatively speaking, but these in their moral tone and their general effect are not to be compared with the ancient books of the Bible.

A fifth school, and one which is likely to be more popular and more efficient than any of the others, is the one which treats the Bible as a book of literature. This school may be said to date back to the days of Herder, who wrote upon the poetry of the Bible, but did not enter into its literary character as a whole. A work which has been left to Professor Moulton, of the Chicago University, to accomplish, so that he may be said to be the founder of the school. The peculiarity of this school is that it treats the Bible just as it does any other work of literature. It divides it into different parts and, so far as possible, assigns each part to its own period; but takes the different parts in their sequence and traces the growth of thought and of literature, which is so apparent. The Bible is no longer a mosaic, which has been put together according to individual fancy, but is a plant, which has grown up and owes its beauty to the inner life.

Professor Moulton has treated the Bible purely as a book of literature, and has given many specimens which convince the reader of the superiority of that book, which is at present undergoing so much criticism from the hands of its professed friends. This is timely, for it shows that, as a literary inheritance, this book is beyond compare. The discoveries among the monuments of the East have confirmed the reliability and accuracy of the Bible as a work of history, but by studying the Bible as ancient literature and comparing it with such other specimens as we have inherited, or have recently discovered, we find it has a history of its own; that there is an order to the separate writings, just as there is in the Greek or Hindoo or Persian writings, or, in fact, as there is in the works of modern literature—English, German, French, &c.

Professor Moulton shows that there is a similar progress of thought and of style, that may be compared to that which every student has recognized in classic literature, and which the archæologists are recognizing, also, in the buried literature of the East. He says: "The literary study of the Bible is a new study. Its newness rests not upon sudden advance in our knowledge of Semitic people and institutions, but upon our changed attitude to the whole field of literary investigation." The inquiry is with the foundation forms of literature, such as epic, lyric, dramatic, and philosophic, and the like, all of which are represented in the sacred writings.

There is this difference between the literary student and the critics: the ordinary student delights in the personality of the reputed writers of the books of the Bible, but the critics seem to delight in cutting up these books into fragments and throwing a haze over the subject of their authorship; very much as former critics have thrown a haze over the works of Homer and the writings of Shakespeare, but with no advantage to themselves, or to literature in general. All these books stand before the public in their integrity, and none of them have been shaken from their foundations.

The especial value of Professor Moulton's book, is that it has brought out the beauties of the Bible as a literary work. We are at once brought by it to forget all our dogmatism and to lay aside our criticism, and are filled more than ever with an unbounded admiration for the literary treasures contained in it. The classification of literary forms in universal literature into epic, lyric, dramatic, etc., enables us to analyse and to discriminate between the different parts of the Bible, and to pick out the germs of literature according to our taste. If we are fond of the dramatic, we shall find much to satisfy us, and will be surprised to see how superior the dramas are. If, on the other hand, we admire the epic stories, we may take other parts, such as the story of Ruth, Joseph, Samuel, Sampson, and David, and will find much to admire. But in the midst of these epics there are strange tragedies in real life; some of them in the field, others in the palaces, and not a few in battle. The meditations and elegies in the Bible contrast with those tragedies, but these, again, are broken into by Biblical songs and by rituals, by lyrics and by dramatic prophecy. The doom songs and the rhapsodies are also in strong contrast. The wisdom literature, on the other hand, reminds us of the philosophy of Socrates and the wisdom of Plato.

This work is very valuable, for it enables us to understand the character or nature of the Bible better than ever before; it is, in fact, a key which unlocks the door of the treasure house and reveals gems and precious stones; some of them set in crowns which have been worn by the worthies of the past, and may, perhaps, be made to adorn crowns in the future.

It is no exaggeration to say that the Bible is, on the whole, the most interesting book in the world. We shall find this to be the case, when once we learn its real nature and get into full sympathy with it. It is a marvellous literary composite. Here are myths (but how unlike the myths of other people!), folklore, story, song, impassioned sermon, tender idyll, philosophic meditation, dramatic poem, and pious hymn—almost every form of literary composition; and all penetrated with the spirit of a religion that, however rude in its earliest expressions, bears in it the germ of the profound and spiritual faith, which, as Christianity, rules our reason and our hearts.

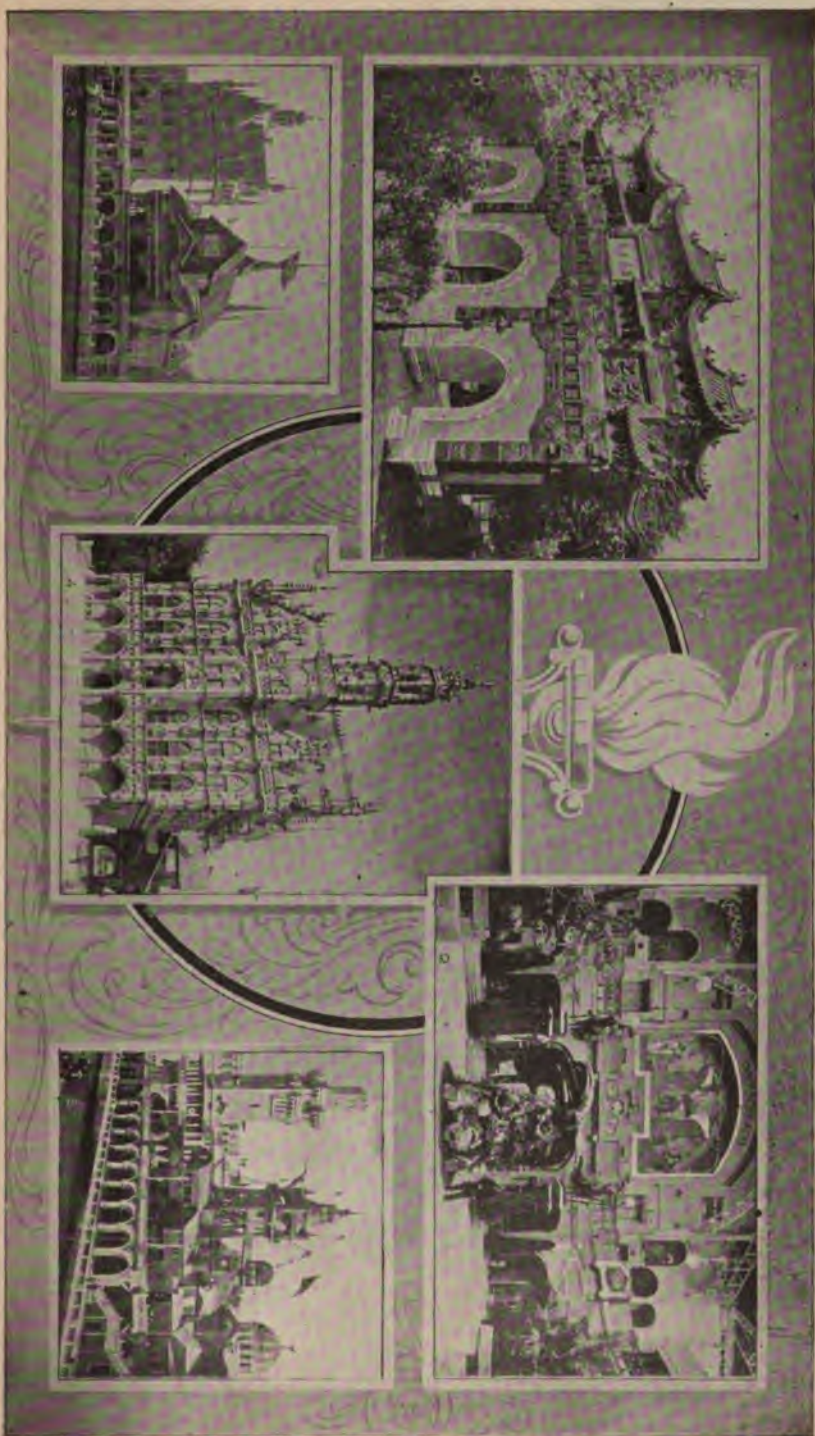
\* \* \*

POPULAR MISCONCEPTIONS AS TO CHRISTIAN FAITH AND LIFE. By Rev; Frank T. Lee. Boston and Chicago: The Pilgrim Press.

This is a practical and useful book, written by a successful and devoted pastor, as the result of experience. It is full of good common sense, and is at the same time thoughtful. It abounds with illustrations, drawn from all departments of life, some of them very vivid and instructive. The style is terse and forcible, and the arguments convincing.

Perhaps the best chapter in the book is the one on "The Popular Misconceptions as to the Bible." It opens with a reference to two paintings: one in the Parliament Building in London, the other in the Capitol in Washington. The first represents "The Departure of the Pilgrims," the second, "The Landing." In the full front of each picture is an open volume, that volume is the Bible. It is a beautiful illustration. Every one knows that that book, which has come down to us from so ancient a date, is like the key-stone of an arch; the foundations of the arch were laid in the religious thought and best learning of the ancient peoples, whose history is written in the monuments. The strength of the arch has been tested, and proved sufficient to bear up all that modern civilization can put upon it. It has borne the attacks of its enemies for many generations, but is, as Gladstone said, "the impregnable rock."

STREET OF NATIONS, PARIS EXPOSITION.







STREET OF NATIONS.

THE

# American Antiquarian

---

VOL. XXII.      SEPTEMBER AND OCTOBER, 1900.      No. 5.

---

## NUMERAL CHARACTERS: THEORY OF ORIGIN AND DEVELOPMENT.

BY CROWDER B. MOSELEY.

The simple characters so easily made that a knowledge of them is acquired so early that we seem never to have had to learn them have been the agents of good to the race so vastly great as to warrant a more thorough search than has yet been made to discover their origin and make known their history.

As indicated by the name "Arabic Numerals" so commonly applied to them, they were thought by Europeans to be of Arabian origin from the fact of their having been brought in with Eastern mathematics at the time of the Mohammedan invasion. If not for the first time at least in a way to make their use so general as to justify the names for the figures to the minds of those who gave it. But later and more extended intercourse between the East and the West discovered the fact that the ciphers were introduced into Arabia from India along with the knowledge of Hindu Algebra.

The question then that remains to be answered is "How did the Indian system originate?"

The aim of this paper is (1) to unfold a theory for the development of the digits out of a system still in use by the Chinese and neighboring peoples, and (2) to suggest in what way our system of written numbers has become so widespread in its use.

Before proceeding with the discussion it is thought best to introduce for inspection a table showing the changes that occur in writing the characters as the best means of indicating the method to be pursued.

There are four things to be borne in mind when considering such a development of our numerals: (1) That when writing their characters the Chinese and the Japanese, who make use of the Chinese ideographs, almost always make the otherwise horizontal line to slant upwards, so that the characters for one, two, three and others are made often at about an angle of forty-five degrees, or nearly so, and are not made

to set horizontally or straight across the page. (2) When written rapidly with the brush—as with these Eastern people—the lines are almost of necessity, connected. The brush is not lifted clear of the paper and then put down again to make the next stroke, but is moved rapidly from the finishing point of one stroke to the starting point of the next. (3) And the third is the constant habit of abbreviating many of the characters as much as possible to yet leave them recognizable by the expert. It is quite usual in the cursive writing to give the

	<i>Stiff</i>	<i>Ordinary</i>	<i>Cursive</i>	<i>Frequent</i>	<i>Conceal</i>	<i>Written</i>
	<i>Forme</i>	<i>Forme</i>	<i>Forme</i>	<i>Accidental</i>	<i>of the</i>	<i>Numbers</i>
				<i>Forme</i>		
1.	—	一	一	一	一	1
2.	二	二	二	二	二	2
3.	三	三	三	三	三	3
4.	四	四	四	四	四	4
5.	五	五	五	五	五	5
6.	六	六	六	六	六	6
7.	七	七	七	七	七	7
8.	八	八	八	八	八	8
9.	九	九	九	九	九	9

merest hint of the original form. (4) A fourth thing which it is necessary to consider is the effect of writing downward instead of across the page, and with a soft brush instead of a stiff instrument.

Now I take it that the figure one, when it came to be written with a stiff instrument, as the *stylus*, was made by a stroke downward as being more convenient than the upward-slanting stroke. And in this way of writing it the natural

tendency would be to make the mark to set a little more straight up and down. It is quite possible that the form of this character, so usually seen in our copy-books and elsewhere with a stroke upward and then downward, was the primitive way of making it, and that the upward stroke is a survival of the earlier form or of the horizontal line of the typical Chinese figure.

Two and three are so plain that almost anyone accustomed to seeing them written in their cursive form, whether in China or Japan, would be likely to see the similarity. In two the lines are united by being made without lifting the brush, and three in a similar way. And so when writing out your bill the shop-keeper, if a rapid scribe, will make them with such a free and rapid twirl of his brush that they frequently look almost identical with our figures two and three. When I first began to try to read the memoranda that would be brought in by the shop-keepers and others I soon began to notice the striking likeness of some of the twos and threes—which would sometimes occur—to our own.

Four does not appear so evident, but if we recall what has been pointed out about the habit of abbreviating the characters as much as possible when using the cursive style of writing and make our comparisons with this form of the Chinese figure rather than with the typical form there is less difficulty, and the likeness becomes more apparent. The typical form of the Chinese numeral is made with five strokes. These five strokes are, in the cursive form, sometimes reduced to two. Here the strokes 1 and 2 of the first are represented by one of the second form; while stroke 2 of the last form gives us a hint of all the remaining strokes 3, 4 and 5 of the typical form. In this last we have a character approaching in form a very common type of our figure four.

In the figure five the similitude is much more evident; for when written rapidly in the cursive form the Chinese figure looks always something like the so-called Arabic numeral and often *very much* like it, not to say there is sometimes almost identity of form.

The figure six of the Chinese system at first sight seems to bear no resemblance to the form of the digit as we know it, but not so when we have given it more close attention. Looking at the Chinese figure we see three points, one above a line and two standing below and a little apart from each other. Now let us remove the line and we have simply three dots in their proper triangular position. Now we simply unite these points by a dotted line and we have a perfect form of the figure six. But what about the missing horizontal line? We have it in the stem of the figure six as represented in the line above. Notice again the cursive form of the Chinese figure and bear in mind the principle already pointed out of the upward-slanting stroke and you see how the cross line tends to disappear.

As for seven two possible ways of development may be shown, (1) that out of the typical form of the character: (2) that of the cursive form. If the latter only the mere fragment of the original has survived, while the stem is the accidental line which is made by the brush in its course downward to the beginning of the next character which the writer would make below.

Dr. Walter Hough, of the U. S. National Museum, called my attention to the fact that seven is in some parts of the world frequently written with a short cross-line. If this were shown to be a very old form of the figure then a third possible development is suggested.

Eight again appears to bear no resemblance to the original Chinese numeral, but as with six, so with eight, we need only to study the varying forms of the primitive character. The original form becomes in the cursive writing variously written. The last twirl is simply the natural movement that comes in with our way of writing from left to right.

The typical form of the Chinese figure nine is noted in the table. Like the rest when dashed off by a rapid writer it is made without ever taking up the brush between the strokes

but the two run together as one. If instead of making the curved line to the right, the writing instrument is drawn downward, we get a figure closely resembling our nine.

For the sake of further comparison, another partial table taken from that of the Enc. Brit., Article on Numerals, is given here.

It will be noticed in the above that the Nana Ghat characters for one, two and three are the same as those of the Chinese system and thus point us back to a time when the Chinese numeral characters were used in their original forms. The same is true as regards the next line of Cave Inscription characters with the addition that the two straight marks of the figure two are joined together by a stroke as in the form given in the column of frequent and accidental forms in Table No. 1, while the character for eight in the Cave Inscription forms is like that for eight in the column just referred to, and from which our figure is here derived. Again, the forms for one, two and three in the Eastern Arabic characters are practically the same as those we now use, and at the same time plainly near their Chinese originals; while nine of this system is of the same form as that given in Table No. 1 for its development out of the Chinese character.

Now should the explanation here proposed be found to be according to the facts, the question would be: How did the

1	2	3	4	5	6	7	8	9
-	=	≡	4	h	p	7	7	Q
-	=	≡	4	h	p	7	4	3
1	2	3	4	5	6	7	8	9

1—NANA GHAT (INDIAN); 2—CAVE INSCRIPTION (INDIAN); 3—EASTERN ARABIC.

west come into possession of these written signs? In Johnson's Encyclopedia is this statement: "Arabian numerals or figures: the characters 1, 2, 3, 4, 5, 6, 7, 8, 9, 0, which Europeans received through the Arabs from the Hindus." In agreement with this, we find in the Encyclopedia Britannica these statements: "Thus far, recent inquirers are agreed. The disputed points are: (1) the origin and age of the Indian system; (2) whether or not a less developed system without zero but with the nine other ciphers used on an abacus entered Europe before the rise of Islam and prepared the way for a complete decimal notation." (Enc. Brit., Vol. XVII, p. 626.)

We have here, therefore, in these two sources a plain setting-forth of what is the accepted doctrine, namely, that ciphers with zero are from India by way of Arabia. Now upon this hypothesis, if the argument for the real origin of the digits be sustained upon fuller evidence, then the Indo-Arabian system was developed out of the Chinese system; and is in reality a Sino-Indian system; and so the question of the Encyclopedia Britannica of "The Origin and Age of the Indian System" is answered.

But another way of accounting for the widespread knowledge and use of this most convenient method of writing numbers may not be overlooked, namely, their natural development out of a primitive form which has been kept alive by the Chinese through the stretch of centuries, but which was common to other primitive peoples who occupied a neighboring territory to that of the Chinese before their immigration and settlement in central Asia, and by people who wrote, not with the brush but with a stiff instrument.

In conclusion,

A. THE DIGITS WERE RECEIVED BY US THROUGH THE ARABS FROM THE HINDUS. If this proposition is correct then upon the basis of the argument, the question of the origin of the Indian System is answered by pushing the inquiry a step farther back to China for the originals of our digits.

B. THE DIGITS A DEVELOPMENT FROM ANCIENT PICTURE-WRITING. If our digits are a development out of a primitive mode of writing pictures for the numerals still in use among the Chinese but developed out of these without special reference to the Chinese method by perhaps a number of different peoples (as the Aryans and others) who had some kind of commercial intercourse, and all about the same time, the knowledge of them is not necessarily solely from India or Arabia, but an acquisition made very early by our ancestors and handed down in the same way of other inherited knowledge.

In either case if what is here assumed be also a correct reading of the facts then not the Japanese and Koreans alone have profited by borrowing from this ancient *depositum* of practical arts and inventive genius—China, but the whole civil-

ized world by adopting and developing and turning to the highest practical use the digits, the art of printing and the mariner's compass, than which no other group of the same number has played so important a part in the world's progress from a state of higher barbarism to that of civilization and enlightenment.

---

### ANCIENT GEMS.

BY MARTHA ADELAIDE CURL.

In "Archæology" the term "gem" means an engraved stone of the precious kinds, and "even small engraved portions of hard and primitive rocks which have been set or worn as jewels by the ancients,"

The use and adaptation of gems for purposes of adornment and embellishment dates back to the remotest antiquity. Precious stones of fabulous value scintillated from their settings in the heads of Pagan gods, and their counterparts glittered and sparkled in the breast-plates of Jewish high priests. They are found encrusted in the mosaic and architectural work of excavated ruins of ancient civilization. The "Hundred Gated Thebes" has thrown out from the dust of its mouldering splendor half buried beneath the debris of time and tempest, carved gems—intaglios and the royal signet rings of long ago dead sovereigns; and they—gems—are found frequently in illustration of rhetorical figures with symbolic significance and with connoted points of emulation in the Holy Scriptures. The inspired, graphic description of the New Jerusalem contains eloquent mention of precious stones among other materials—the author bringing the description of the construction of that apotheosis of a city within the imaginative conception of the human mind.

While the beauty of gems may be such as to appeal to even the primitive eye and untutored taste, which would seem to indicate that they were designed by the Creator to minister to a natural and worthy love and admiration for the beautiful implanted in humanity, it is nevertheless true that they shine most surely and variously, and meet with more intelligent appreciation amidst civilized environment. For it requires a degree of hard labor on the one hand and of artistic skill on the other to find, possess and perfect these rare bits of apothecized carbon and crystalized mineral which do not characterize man in the savage or barbaric state. Not until he has come out of the wilderness and risen above the exigencies of necessity—material wants—does his mind and attention turn to the aesthetic values of such things found in Nature, or which contrivance and industry on his part can effect to produce—somewhat of art or its beginnings,

The rough pebble or crude gem in its matrix shows in a measure the potentialities of the finished sparkling jewel artistically cut; and some conception of its possibilities may occur

to the imagination of the untutored child of the wilderness or plain, as he comes upon it by accident in his roamings, altho' he has never seen a walled city of the Orient or an unwall'd metropolis of the Occident, or known, or dreamed, an atom of urbane refinement or modern progress, or any personal decoration more rational or attractive than the trophies of tribal warfare dangling from neck and girdle or the plumes of an eagle in his crest.

The aborigine knows one, and but one, elevating influence from the beginning—that is Nature's incomparable panorama of sky and landscape and sea. But this affords and presents to him such an infinite variety of phases, such an inexhaustible source of living interest, of food for contemplation, study, wonder and feeling, speculation and imagination, that he finds in it a god to worship—indeed a number of deities, each with his peculiar sphere of power and greatness and grace—endowed with glory and beneficence; and he finds therein the inspiration and the correspondence to every possible mood or fancy of his own mercurial mind and superstitious character. Not only that, but the poet in him finds the color and form, the beauty and sublimity, the grace and the grandeur, the subtlety of light and shade and meaning—(all of which contrast forcibly, and go to prove the one step from the Divine Maker)—all of these he finds and meets face to face, and they constitute all which form the pristine material from which spring Science and Art when acted upon by that philosopher's stone—the mind of man.

So the savage lives nearest Nature and Nature's richest stores—most priceless products; and being imbued with the spirit that pervades it all, he doubtless has, though he may not be able to segregate it from the multitude of other impressions which crowd his unsystematised, untrained mind—the unclassified lore which to a scientist would perchance be material for many books, but which only make the primitive man more wise without rendering him more useful. He has perhaps that innate appreciative understanding of the radiant gem which is not more opaline or iridescent than the sea and sky where the eternal stars and planets and suns shine and pass in procession and marvelous phenomena.

But it is in the diadems of kings that the gem has found its crown of setting. Among the crown jewels of various monarchs of the earth are found the most valuable gems known. Church and state have appropriated them to a great extent in the Old World, but in republics where there is no hereditary royalty—no supremacy but the intellectual and commercial—there are found among the princely fortunes of a few some gems that can compare even with continental traditional wealth in exquisite fineness and estimated value.

There is much mention of gems in Ancient History. And although in celebrated collections of gems forgeries are sometimes found, there are about 10,000 reputed to be antique—a



mere fragment of those formerly existing. Among valuable gems known to fame in antiquity are the pearls and emeralds owned by Lallia Paulina, wife of Caligula, valued at £320,000; the pearl swallowed by Cleopatra, valued at £80,000; the scabbard of Mithridates, 400 talents, or £7,522; and one given by Julius Cæsar to Servila, £4,800.

One of the most ancient uses of gems was as signets—seals—according to history and Greek mythology.

In the minute description of Aaron's breastplate, the settings of stones were disposed in four rows, and engraved with the names of the children of Israel "like the engravings of a signet—according to the twelve tribes." The stones were in order—sardius (carnelian), topaz, carbuncle, emerald, sapphire, diamond, ligure, agate, amethyst, beryl, onyx, and jasper.

An early instance is the emerald of Polycrates about 700 B. C. There are laws of Solon against counterfeiting signets. The writings of Platonists and Stoics allude to gems. The earliest Greek intaglios are supposed to have been cut from the scarabæi of Etruscan work. Later their use was general.

Pyroteles and Appollonides were the names of two celebrated engravers—the first having engraved the portrait of Alexander the Great. Ptolemy V, presented as a gift his portrait engraved on an emerald to Lucullus.

Earlier or contemporaneous with the Greek school was the Etruscan consisting of scarabs—entirely carved out of sardius, cornelian and agate, exquisite work but generally severe in style, with subjects derived from earliest Hellenic myths and occasional inscriptions in Etruscan language. The engravings were surrounded with a guilloche or engraved border, and the scarab pierced through its long axis to set as rings or wear as an article of adornment. These date probably from the beginning to the middle of the 3rd century B. C., when Etruria fell into the power of the Romans.

The devise of Pompey was a lion carrying a sword; that of Cæsar, Venus armed with a dart.

Passion for these charming little works of art led Scaurus step-son of Sylla, to make a collection of gems. Pompey sent the collection to Mithridates as an offering to the Capitol. And Cæsar presented six such collections to the shrine of Venus Genetrix; and Marcellus another to the Palatine Apollo.

The names of the artists who engraved the gems are sometimes found upon them.

Cameos, or gems in relief, appear at the period of the Roman Empire. The term is applied to engraving on stones of two or more layers, such as onyx sardonyx, and different from the relief gems cut out of stones of one color. Ancient specimens of these are of the greatest rarity. The most remarkable ancient cameos known, are those of a Vienna collection supposed to represent in engraving the Apotheosis of Augustus. These were worn on articles of attire. Names of the artists are rarely found upon these.

The themes of engraving on ancient gems run the whole gamut of ancient art, in successive stages of development:—animal forms, deities and mythologic battles, heroic exploits, tragedy and myths later—portraits, historic representations and allegories. Inscriptions were numerous and varied; names of deities and persons, legends, dedications, gnomic sayings—indicating amulets and charms for procuring love, mottoes and distichs of poetry. These were often added subsequently and do not always betoken the gem's first appearance.

Owing to the production of false antique stones by skilled engravers of modern times, the diagnosis of gems is rendered so difficult that that branch of archæology requires great judgment to guard against deception.

"The general fall of arts at the period of the Byzantine Empire seems to have been accompanied by a decline in the art of engraving on gems."

"The art which had declined at the close of the 16th century in Italy flourished in the 17th century in Germany under Rudolph II., for whom Lehmann engraved at Vienna; and in France where Coldore worked for Henry IV. and Louis XIII. In the 17th century Sirletti, who died at Rome in 1737 excelled in portraits and copied antique statues with great excellence. The two Constanzi are celebrated in 1790. Rega, of Naples, is said to have come nearest the antique. Natter, of Nuremburg, who died in 1763, is celebrated for his intaglios—the greatest artist of the age."

In the dark and middle ages ancient gems were preserved in shrines, chasubles and other ecclesiastical vessels in which they were set. Collecting them as works of art originated with Lorenzo de Medici, who formed the Florentine collection and had his name incised on the gems. The European collections comprising those acquired by various monarchs, contain numerous rich and rare gems of all sorts. The British Museum contains a collection of about 500 stones; besides these are a few notable private collections.

As to the origin and nature—the chemical analysis of the precious stones—we find the diamond, the hardest and most brilliant of substances, chemically pure carbon—crystalized—one might say apotheosized—thus differing from a bit of charcoal, which is amorphous and uncrystalized. The diamond is the most valuable of gems with the exception of the ruby, which after the weight of three or four karats is passed surpasses it in rarity and price.

The geologic process by which diamonds are formed is that of certain conditions:—enormous heat and stupendous pressure both brought to bear upon carbon at the same time and crystalizing it. This takes place in small vents known as "chimneys," through which great quantities of molten matter are expelled quickly by volcanic convulsion. The diamond is a product of the heat and pressure induced by this violent, sudden and forcible movement.

The value of diamonds is determined partly by weight and partly by quality; and cutting adds to their commercial value. The most transparent are said to be of the first water. Diamonds in color are found white or colorless, blue, yellow, brown, rose-red, and even black. They are found in rocks and clay veins, as crystal or rolled grains, and imbedded in matrices. For equal weight the white and rose-tinted of the first water are the most valuable. They increase in value vastly out of proportion to variation in weight.

The first diamonds known to the Romans were, it is said, brought from Ethiopia; but the mines of Golconda were known in the 1st century, and from that time till one hundred years ago India was the possessor of the most valuable diamond mines in existence. Diamonds were brought from Borneo, Malacco, and other parts of the east until the 18th century. They are now found in Brazil, Australia, and the East Indies, and Africa, the latter now furnishing most of the world's supply.

The sapphire has a distinguished attitude, and is a little more comprehensive than the others. The finest ruby is a specimen of the sapphire; and a colorless sapphire of the finest quality may be easily taken for a diamond; while the blue variety popularly known as the sapphire is a charming stone. It thus enjoys a versatility and range that is unique and enviable and a supremacy that is historic and interesting. It was one of "the twelve that shone on Aaron's breast-plate"; and so the ruby receives distinguished mention in the Scriptures as emblematic of wisdom and virtue.

Of these minor stones the ruby stands first in point of value, rarity and appreciation, and even rivals the diamond. A specimen of true pigeon blood color and of transparent purity even excels the diamond. It is regarded by mineralogists as a red variety of sapphire. The finest rubies are found in the east—Ceylon, Burmah, Syria and Peru.

The emerald ranks next to the ruby. Its value depends much upon its freedom from flaws, as well as color. When of a velvety green it is extremely beautiful. It is regarded as a variety of the same species as Beryl; and again, as in the case of the ruby, the Oriental Emerald is the name applied to a fine green variety of sapphire. The finest emeralds are brought from South America. They are also found in Upper Egypt—probably the source from which the ancients, by whom they were highly prized, obtained them. Pliny mentions the emerald in his writings, and many carved ones were found in the ruins of Thebes. They were used by the ancients to make eyeglasses—Nero looked through an emerald at the contests in the arena; and artists in sculpture used the emerald to "refresh" the sight.

The blue sapphire comes next. More abundant than the former stones, it is found in various parts of the east, particularly Ceylon, famous for its rubies and sapphires. Its forma-

tion is usually crystallized in six-sided prisms terminated by pyramids, in alluvial soils, embedded in clay, and associated with gneiss and granite. Among the Greeks the sapphire was sacred to Jupiter.

The topaz is much valued for jeweller's purposes. Either colorless, blue, green, or yellow, its crystals are translucent, harder than quartz and lustrous. They are found in primitive rocks. The finest and most prized come from Brazil.

Amethyst is a variety of quartz, differing from common quartz of rock crystal chiefly in its beautiful purple violet color. Owing to its comparative abundance, it is much inferior in value to other gem stones. By the ancients it was much esteemed for the virtuous properties it was supposed to possess, and was worn as an amulet against intoxication with wine. The name, indeed, is derived from the Greek word signifying un-intoxicated. It is found as a mineral in Europe and the Orient.

The pearl, as everyone knows, is the product of certain marine and fresh water mollusks, chiefly the pearl oyster, and is owing to the fluid secretion with which they line their shells; coatings of this being applied in self-defence by the sensitive creature to cover and surround a grain of sand or other foreign particle that intrudes within the shell and has an irritating effect. The pearl is a detached or sometimes adhesive bit of the lustrous, shining, smooth substance thus formed, which is called when hardened *nacre*.

Secured by divers, the pearl oyster shells are sometimes nine by twelve inches in diameter. The most famous pearl fisheries and finest pearls are those of the East—the coast of Ceylon, Bahrein Islands, Persian Gulf, and India; also found off Panama, South America, and the West Indies. Varying greatly in size, pearls range from those as large as a pea, to minute seed pearls, and in tint from pure white through pink to jet black—the latter rare and costly.

There are river pearls also; and Bavaria has a fresh water pearl fishery where fine specimens are found.

All pearls have a market value—the inferior ones, small and imperfect, are crushed or ground to powder, and the pearl dust used for polishing the finer pearls, and the powder is also used by the Chinese in pharmacy. Imitation pearls are extensively and skillfully made.

The opal—ominous and enchanting stone—differs from quartz in containing five to thirteen per cent. of water. Its structure is not crystalline. It has a conchoidal fracture and is easily broken. The finest is called precious opal, or noble opal. Usually of a bluish or yellowish white hue, it is polished with convex surface, never cut in facets, its colors best exhibited so.

This gem, too, was a favorite with the ancients. The Roman Senator Nonius "preferred exile to giving up an opal to Mark Antony." Pliny mentions the same, ascribing to it a great

value. The Imperial Cabinet of Vienna contains the most celebrated opal now known—five by two and one-half inches. Opals are brought from Hungary, Saxony, and South America.

#### SENTIMENTS AND SUPERSTITIONS.

The sentiments and superstitions regarding precious stones make a theme replete with interest: ancients and moderns alike have entertained them. Whether one has faith or not, the fancies are attractive.

Ascribed as birth-stones to the various months, one's respective gem is supposed to serve as a mascot or talisman, its magical influence to guard from misfortune and evil. The garnet for January signifies constancy; dedicated to February the amethyst ensures contentment; March—blood-stone, emblematic of courage and fortitude; April—diamond, innocence; May—emerald, love and happiness; June—agate, health, wealth and long life, (or else the pearl—purity); July—ruby, nobility of mind; August—sardonyx (or moonstone), conjugal felicity; September—sapphire, to prevent mental unrest; October—opal, hope; November—topaz, for friendship and true love; December—turquoise, for success in life. Allied with the influence of the stone is the astral influence of the stars in one's horoscope.

#### OTHER SUPERSTITIONS.

Opals have been long noted for being unlucky, but on the other hand are regarded as just the reverse when their influence is enlisted for, instead of against one; and among the ancients they were held in high favor, and had the reputation of giving courage and strength of nerve to the timid, and of fostering enterprises; and as potent to give one safe conduct through storms of thunder and lightening. Sir Walter Scott in "Anne of Gierstein" is said to have suggested, if not helped along the cause of the opal's fame for ominous qualities.

To pearls has from ancient times been ascribed the power of inspiring love—hence Cleopatra's costly beverage of her finest pearl dissolved in wine for Anthony. But for better purposes, reduced to powder and mixed with milk, pearls are said to cure fevers and sooth irritable nerves.

Diamonds are credited with the power of insuring in the individual the wise insight of intuition. And sapphire to clarify the mind, develop the creative imagination, and favor scientific research, and also antidotes the venom of reptiles. The ruby is said to imbue its loyal owner with an enterprising spirit; also to drive away ghosts and calm anger. The turquoise "true blue" preserves from danger of falling from heights, and indicates the state of one's health. The chalcidony is the talismanic stone for travelers, explorers, and those bent on hazardous exploits. A black agate is supposed to "confound the politics" of one's enemies—appropriate for statesmen—and ensure one's personal victory. Amethysts are for those who need to resist temptation to drink. The carne-

lian secures fortune's favor; but onyx is baleful to the wearer at night. Garnets are worn in Bombay and Brazil to ward off the plague and yellow fever. Jasper is antipodistic to melancholy and disease. Sardonyx procures honors, wordly position and rising fame for the wearer.

---

### THE NATIVE RACES OF CENTRAL AUSTRALIA.\*

A REVIEW BY J. W. MURPHY.

Regarded from an ethnological point of view, this is one of the most satisfactory works recently published. In fact, so thoroughly is it done that it is probably within bounds to assert that a careful study of its pages will make us as well acquainted with the natives of Central Australia—their social and political organization, manners and customs, arts and industries, traditions, myths, rites, and ceremonies—as we are with tribes that are nearer home, and with whose institutions we are supposed to be more familiar.

Important as such thorough investigations are at all times, they have, in this case, an added interest for us in so far as they necessitate a radical change in the opinion we have hitherto held of the Australian's position in the scale of progress. Instead of groveling in the lowest depths of savagery, as we have been accustomed to picture him, it is now in order to assign him a place which (except, perhaps, in the development of a few industries) is but little inferior to that occupied by our own Indians. Certainly, in the capacity he has shown for social and political organization he has nothing to fear from a comparison with his savage compeers here or elsewhere; and in everything that relates to his intercourse with his neighbors, and with other tribes, to say nothing of the consideration with which he treats his women and children, and especially the old and infirm, he is not behind, if, indeed, he is not, mentally and morally, somewhat in advance of the standard by which we assume to measure his progress.

Of course this is but another way of saying that these tribes, like savages everywhere, have the virtues and vices of their condition, and consequently that resemblances more or less striking are to be expected in their customs, institutions, and mode of life generally. This, we need not add, is apparent even to the most casual reader; and yet in spite of the uniformity that is to be found at the base of most of their institutions, there are differences existing, not only between tribes that are far apart, but among those in close

---

\* By Baldwin Spencer, M. A., and F. J. Gillen, Special Magistrate and Sub-Protector of the Aborigines, Alice Springs, South Australia. The Macmillan Co., 1899, 8vo, pp. 671.

proximity to each other, so numerous and so pronounced in character as to call for an explanation. Take, for example, the question of descent, and we find that in some of these tribes it is in the paternal, and in others in the maternal, line, and that "it is not yet possible to say which of the two methods is the more widely practised" or the more primitive. So, too, in regard to the system of organization known as the totemic, and to some of the obligations and limitations to which it gives rise. Among the Urabunna, for instance, totems govern marriage, and children belong to the mother's totem; while among their next neighbors—the Arunia—totems have nothing to do with marriage, though the tribe, like all central Australians, is divided into two exogamous intermarrying groups; and a child's totem, owing to a belief in what may be termed the theory of reincarnation, "will sometimes be found to be the same as that of the father, sometimes the same as that of the mother, and not infrequently it will be different from that of either parent." Other differences there are in the privileges and restrictions that belong to this particular system of organization, just as there are in some of the ceremonies connected with the rite of initiation, and in a few of their arts and industries. It is unnecessary, however, to refer to them in detail, as they are one and all believed to be of degree and not of kind, and hence do not indicate a difference in race. On this point our authors hold very decided opinions, for, after telling us, that "this great continent was most probably peopled by men who entered from the north," they add:

"The most striking fact in regard to these at the present day is, that, over the whole continent, so far as is known, we can detect a community of customs and social organizations sufficient to show that all the tribes inhabiting various parts are the offsprings of ancestors who, prior to their migrating in various directions across the continent, and thus giving rise to groups separated to a great extent from one another by physical barriers, already practiced certain customs and had the germs of organization which has developed along different lines in different localities."

In other words, they hold, and, as we think, justly, that the fact of the existence of a custom, or a form of organization, among two or more tribes is a proof of uniformity that cannot be gainsaid by differences that may have supervened in the way such a custom or system is observed or followed.

Among the other questions that are here discussed and have for us a special interest, may be mentioned the fact that, in declaring their belief in the former existence of group marriage among these people, our authors bear out Morgan's theory on this point, though the contrary opinion, as held by McLennan, Curr, and others, has of late, been

much in vogue. We are also told, somewhat to our surprise, that "marriage by capture, which has been so frequently described as characteristic of Australian tribes, is the very rarest way in which a Central Australian secures a wife," thus, or course, doing away with the account, once familiar to most of us, of a band of savages lying in wait by a water-hole against the coming of the lubras for water, when such of them as were required were seized, "and if they attempted to make any resistance, they were struck down insensible and dragged off." So, too, contrary to what we have hitherto been taught, we are now to learn that the practice of sub-incision could not have been instituted for the purpose of preventing or even checking procreation, for the simple reason that it does nothing of the kind. This is proved by the fact that "every man without exception throughout the central area, in all tribes in which the rite is practiced, is sub-incised. . . . He must be before he is allowed to take a wife, and infringement of this rule would simply mean death to him if found out."

Infanticide, not sub-incision, is said to be the explanation of the small size of the average family, and it is resorted to "not with any idea at all of regulating the food supply, so far as the adults are concerned, but simply from the point of view that, if the mother is suckling one child, she cannot properly provide food for another, quite apart from the question of carrying two children about." Powerful as this practice must have been in keeping down the population, it was probably not so destructive in its effects as was the belief in sorcery. Among them, for instance (and the same thing will apply to our Indians), "there is no such thing as belief in natural death; however old or decrepit a man or woman may be when this takes place, it is at once supposed that it has been brought about by the magic influence of some enemy, and in the normal condition of the tribe the death of one individual is followed by the murder of some one else, who is supposed to be guilty of having caused the death."

□ In an appendix we have a table of the bodily measurements of twenty men and ten women, the majority of whom belonged to the Arunta tribe. Limiting ourselves to the men and to what is termed the cephalic index, we find that it ranges 68.8, to the extreme of dolichocephalism, through all the different degrees of mesaticephalism to 80.55, which is just within the limit of sub-brachycephalism. As the group of which this tribe forms one, has been, for "long ages locally isolated" and "shut off from contact with other peoples," the variation here noted would seem to show that there is practically no limit to the differences that may be found in the head-form of a people of relatively pure breed, and, consequently, that the cephalic index is of little or no value as an indication of race.



In conclusion, it may not be out of place to call attention to the fact that, rude as is the Australians' code of morals, "their conduct is governed by it, and any known breaches are dealt with both surely and severely."

Especially is this true of the infractions of any regulation governing the intercourse between the sexes. These are punished by death, or in some severe manner, and, curiously enough, the reason assigned for such severity is that the offence is against the tribe, and "has no relation to the feelings of the individual." In thus transferring the duty of punishment from the individual to the tribe, these people may be said to have reached a level of development not yet attained by some of us who are rated much higher in this scale of progress.

Generosity, we may add, is one of their leading features, as it is always their custom to give a share of their food, or what they may possess, to their fellows, and particularly to the children and to the aged and infirm, who are unable to provide for themselves. Of course, there were times of scarcity, and possibly they were frequent here, owing to the inhospitable nature of the soil. But when times are favorable the "black fellow," we are told, is lighthearted, lives in the present, and gives no thought as to what the morrow may bring forth.

At night time men, women, and children gather round the common camp-fires, talking and singing their monotonous chants hour after hour, until one after the other they drop out of the circle, going off to their different camps, and then at length all will be quiet, except for the occasional cry of a child who, as not seldom happens, rolls over into the fire and has to be comforted or scolded into quietness. Granted always that his food supply is abundant, it may be said that the life of the Australian native is, for the most part, a pleasant one.

#### TORTURES AMONG THE ABORIGINES.

That torture was practised among the aborigines, especially at the time of the initiation of their warriors, is well known. Catlin has described the manner in which they inflicted these tortures, and has given a plate in his works which illustrates it. The custom has disappeared from among most of the tribes, but survives among a few, as will be shown from the following clipping from a Spokane (Washington) newspaper.

"Yakima Indians on the reservation near Toppenish, Wash., gave a medicine dance this week. Half of the tribe, including Chief White Swan, is civilized. Old customs and dances have long been abolished. Two hundred Indians gathered unknown to the chief and performed the rites. Seven candidates for the place of medicine man underwent severe tests of endurance. Every day the candidates would torture themselves. Fire brands were applied to the bare skin until the flesh dropped from the bones. Gashes were cut on the back and breast. The one who withstood these self-inflicted tortures longest won the position."

## THE DELUGE TABLETS.

BY REV. J. N. FRADENBURGH.

The year 1872 is memorable in the history of Oriental discovery. In the autumn of that year, George Smith, assistant in the Assyrian department of the British Museum, whose genius in this line of research has been seldom equalled, and, perhaps, never, excelled, discovered among the thousands of tablets that once belonged to the library of Assurbanipal, King of Assyria, the half of a clay tablet that apparently had been divided into three columns, and in the third column of the front side read: "On the mountain Nizir, the ship stood still. Then I took a dove out, and let her fly. The dove flew hither and thither; but, since there was no resting-place there, she returned back to the ship." He did not find the remainder of this tablet; but succeeded in piecing out from many fragments parts of two others. These completed the text, and furnished several various readings. One of the copies contained the colophon: "The property of Assurbanipal, the king of hosts, the king of the land of Assyria," and also the interesting statement that this account of the Deluge was the eleventh canto of a series of twelve. Here, then, was a great heroic poem, which was afterward found to consist of about three thousand lines and to celebrate the exploits of an old King of Erech.

In 1882, Sir Henry Rawlinson pointed out the fact that has gained wide acceptance, that these twelve cantos symbolize the course of the sun through the heavens during the year of twelve months. This has been worked out with great learning and patience by several Assyriologists, and its application to the sixth, seventh, and eleventh months—and, perhaps, some others as well—may be considered unquestionable. The eleventh canto in three copies is the best preserved of the series, only the beginning being much mutilated.

In 1878, Hormuzd Rassam brought from Mesopotamia a fragment of a tablet; and at a little later date the Museum acquired still another, with the beginning of the story nearly perfect. Paul Haupt, working in the Museum, made further discoveries in 1882. We are indebted to this accomplished scholar for the publication of all the discovered material, the arrangement of the incidents in their order, and probably the most accurate translation. Prof. Jastrow, in his "The Religion of Babylonia and Assyria," presents a masterly analysis of the work, to which I am especially indebted.

The centre of the action in the first tablet of the series is the city of Uruk, or Erech, a walled city in southern Babylonia, known as the place of seven walls. This was the capital of a kingdom which was probably contemporaneous with the earliest

period of Babylonian history. In the first canto, the city has been besieged by some enemy for three years. The greatest confusion prevails, and calamities, some of them unnatural, are multiplied.

With the second canto appears the name of the enemy. Gilgamesh has entered the city and is in full control. We learn but little of his nationality. He is from Marada. Jastrow says that, "as seems certain," he is a Cassite. Not from the text itself, but from his representations on certain very ancient seal cylinders, we may conclude that he belongs to an era preceding the third millennium. His oppression of Uruk is very severe, so that the people appeal to the goddess Aruru, the creator of mankind, to create a hero who may successfully resist the conqueror. She thereupon takes a piece of clay and creates the half-human and half-animal Eabani. He lives in a state of nature, and yet consorts with domestic as well as wild animals;

" Eating herbs with gazelles,  
Drinking from a trough with cattle,  
Sporting with the creatures of the waters."

He is ensnared by the harlot Ukhat, and accompanies her to Uruk.

The three following cantos have been much mutilated, and little can be made out of them. Gilgamesh gains Eabani as an ally in a war against Khumbaba, the Elamite, who threatens Uruk. The account of this war is not given, yet the struggle against this enemy seems to have been successful.

The sixth canto begins with the celebration of the victory. And now Ishtar makes love to the hero, but is rejected. He reminds her that many who have hitherto accepted her love have met with a sad fate, cursed by her magical power. In a rage, she tells the story of her insult to her father Anu; and, at her urgent request, the god creates a divine bull, Alu, to destroy the hero, but the latter, with the assistance of Eabani, slays Alu. Then, standing on the wall of Uruk, Ishtar utters the curse:

"Cursed be Gilgamesh, who has enraged me,  
Who has killed the divine bull."

At this, Eabani is aroused and challenges the goddess to a personal combat, and to express his contempt throws the carcass of the bull into her face.

The seventh and eighth tablets are represented only by small fragments. We only learn that a fatal disease, probably sent through the wrath of Ishtar, seizes upon Eabani, and causes his death.

In the ninth tablet Gilgamesh mourns the loss of his friend. And now the hero himself is taken with a mortal disease. He has heard of one named Parnapishtim, who has escaped the common fate of man, and in some far-distant country enjoys immortality. He determines to visit him, and learn the secret

of his exemption from death. He sets out, and encounters many dangers. The mountain Mashu is a place of many terrors. It has two entrances, the places where the sun rises and sets, and these are guarded by scorpion men,

"Of terror-inspiring aspect, whose appearance is deadly,  
Of awful splendor, shattering mountains,"

but the hero is permitted to pass. He reaches the shore, where are the palace and the throne of Sabitum. She forbids his further progress, but at length, yielding to his pleadings, she consents, if he can but persuade the ferryman Ardi-Ea. This ocean surrounds and extends beneath the earth, and beyond is the great gathering place of the dead. The ferryman consents, and he crosses safely in the venturesome boat. The hero reaches the home of Parnapishtim, who tells him it is impossible for mortal man to escape death. This carries us on to the eleventh canto, the episode of the Deluge.

The hero of our story inquires how it is that Parnapishtim himself has escaped death, and this calls forth the story of the Deluge. There was a city, Shurippak by name, situated on the Euphrates, that became very corrupt, and its destruction by a mighty storm was determined at a council of the gods. Ea, the god of wisdom and creator of mankind, warns Parnapishtim in a dream:

"Erect a structure, build a ship,  
Abandon your goods, look after the souls,  
Throw aside your possessions, and save your life,  
Load the ship with all kinds of living things."

Directions are given as to the dimensions of the ship, and the plan of the building. Parnapishtim inquires what explanation he shall give when the people ask him as to the purpose of the building. He is told to reply that he is going to dwell with Ea, since Bel, the god of the earth, has cast him out of his territory, and is ordered to announce the coming calamity to the people:

"Over you a rainstorm will come,  
Men, birds, and beasts will perish."

Ramman the god of storms will overthrow the devoted city. Parnapishtim builds, according to instructions, a flat-bottomed boat with upturned edges, such as still navigate the Euphrates. Upon this is placed the house-boat, its width and height, each 120 cubits, seven stories high, sixty-three apartments, carefully calked, pitched with bitumen within and without, and stored with oxen, meal, and wine, for a festival to celebrate its completion.

Parnapishtim places all he has in the ship—gold, silver, goods, "living creatures of all kinds," and his whole family. He enters the ship and closes the door. The storm comes on—rain, winds, thunder, lightning—for seven days. Men and gods are terrified.

" Brother does not look after brother,  
Men care not for another, in the heavens  
Even the gods are terrified at the storm.  
They take refuge in the heaven of Anu.  
The gods cowered like dogs at the edge of the heavens."

The storm extended beyond Shurippah to the whole country, and is soon beyond the control of the gods, who helplessly mourn and lament. But Bel, who seems alone to have been responsible for the unexpected extension of the storm, seeks the destruction of the whole race.

The seventh day the storm ceased, one day more and dry land appeared, and the boat stuck fast to the mountain Nizir—the name means "salvation." Six days the ship remained on the mountain.

" When the seventh day approached  
I sent forth a dove.  
The dove flew about  
But, finding no resting-place, returned;  
Then I sent forth a swallow.  
The swallow flew about  
But, finding no resting-place, returned;  
Then I sent forth a raven.  
The raven flew off, and, seeing that the water had decreased,  
Cautiously waded in the mud, but did not return."

Parnapishtim, who gives this account, leaves the ship, and offers sacrifice on the top of the mountain. "The gods breathed in the odor; the gods breathed in the sweet odor." They gather "like flies around the sacrifice." Ishtar declares that Bel shall not enjoy the sacrifice, since he was the cause of the greater deluge of waters. As Bel approaches, he is enraged that any of the race should have escaped. Ea remonstrates with him for the destruction of the innocent with the guilty:

" Punish the sinner for his sins,  
Punish the evil-doer for his evil deeds;  
But be merciful so as not to root out completely,  
Be considerate not to destroy everything."

Bel is reconciled. Says Parnapishtim:

" Bel came to his senses,  
Stepped on board of the ship,  
Took me by the hand and lifted me up,  
Brought up my wife, and caused her to kneel at my side,  
Turned toward us, stepped between us, and blessed us:  
'Hitherto Parnapishtim was human,  
But now Parnapishtim and his wife shall be gods like us.' "

Gilgamesh is now permitted to eat magic food and to wash himself in the water of life. He is indeed healed of his disease, but remains mortal. There is also revealed to him "the secret of life," a plant that grows at the bottom or on the side of a deep fountain. The ferryman takes him to the place, and he grasps the plant, but it slips out of his hand and is snatched away by a demon.

The twelfth canto finds Gilgamesh seeking to learn the secret of the future life. Eabani is raised from the dead and questioned, but can give no satisfactory answer. And thus the great epic ends.

Jastrow subjects the epic to discriminating study, points out the various elements of different ages—historic and natural, popular and scholastic—that enter into its composition, and compares it with Biblical and other fragments. It does not come within the purpose of this article to enter fully into these interesting subjects of discussion.

Parnapishtim is called Adra-Khasis, "the very pious"; in its original form, it seems to have been *Khasis-adra-m—m* is an emphatic termination, as Jastrow points out, thus doubling the emphasis. This latter epithet is distorted in the account of the Deluge, written in Greek by the Chaldean priest Berosos in the third century before Christ, and appears as Xisuthros.

According to this account, preserved by Alexander Polyhistor and Abydenus, Kronos reveals to Xisuthros in a dream that on the fifteenth of the month Daesios all mankind would be destroyed by a flood. This Chaldean Noah was the tenth King of Babylon. He was commanded to bury the records of antiquity in Sippara, the city of the Sun, build a ship, take all birds and four-footed beasts, and enter the ship with his family and friends. He built the ship 9,000 feet long and 2,000 feet wide. The flood came, but seems to have been of brief duration. Xisuthros sent forth birds three times; the last time they did not return. He made an opening in the ship, and looking out found the earth dry again, and his boat stuck fast on a mountain. He disembarked with his wife, daughter, and helmsman, erected an altar, offered a sacrifice, and then, with those who disembarked with him, disappeared. Those who remained in the ship called him by name, and heard a voice from the skies exhorting them to live a godly life, and telling them that, on account of his piety, he had been taken away to the gods, and his family and helmsman had been admitted to the same honor. They were bidden to return to Babylon and dig up the buried records. Hearing this, they offered sacrifices, obeyed the directions of the heavenly voice, rebuilt Babylon, and founded cities and temples.

Père V. Scheil has recently discovered a new account of the Deluge. This interesting document is found on a fragment of a terra-cotta tablet that originally consisted of eight columns, four on a side. Fortunately the superscription remains. When any literary work required several tablets, the superscription of each repeated its title, which consisted of a few words of the beginning. The superscription of this tablet shows that it formed the tenth chapter of the story, "While the Men Rested," and quite distinct from the story preserved in the previously discovered versions that begin with the words, "They See a Source," and form its eleventh chapter. Ancient mythological and legendary pieces wrought into various literary compilations.

This tablet was found in Sippara, according to those from whom it was obtained, a city of ancient literary fame. This statement is partially confirmed by the name of the scribe, Ellit-Aya. Now Aya was the consort of Shamash, and Sippara was the principal seat of the worship of these divinities. The scribe was a scholar in one of the many schools that flourished in the city of the Sun-god. The tablet is carefully written. "The signs are a little worn, but legible. After each ten lines, Ellit-Aya has lightly marked the sign for *ten* in the margin of the column, and the total of the column at the foot, and finally the total number of lines at the end of the tablet, in all 439 lines." The tablet is dated "the 28th day of the month Sebat, in the year when King Ammizaduga built the fortress Ammizadugaki at the mouth of the Euphrates," approximately 2140 B. C.

When the ancient cuneiform scribe found the text that he was copying mutilated, he conscientiously indicated the fact by the word *libis*, "effaced." The use of this word in the tablet under consideration proves that it is a copy of a more ancient document. The date of the original must have been several centuries at least earlier than the copy. The main facts of this fragmentary account are: the punishment of man for sin; the flood as the instrument of this punishment; the ruin of city and land; the building of a ship for safety, and the intercession of a friendly god. The tablet furnishes the form of the name *Khasis-Adram* mentioned above.

It may be mentioned in this connection that Lenormant in his "Beginnings of History," traces traditions of a deluge among many peoples and tribes on all the continents and many of the islands in all parts of the world. This fact has not yet received adequate consideration.

I had intended to compare these several accounts with the relation in Genesis, but the space at my command forbids. I will only say that the many differences seem to me to consist in incidentals; in essentials there is agreement. The thorough exploration of "Ur of the Chaldees" and other early cities of Babylonia will doubtless bring to light other verses. Possibly the original written documents may yet be recovered.

## MEXICAN PAPER

BY FREDERICK STARR.

In 1880, Dr. Ph. J. J. Valentini presented his important discussion upon Mexican paper before the American Antiquarian Society.\* The article is unfortunately but little known. After mentioning the enormous quantity of paper, paid as tribute to the Aztec Confederacy, Dr. Valentini investigates the materials from which the ancient Mexicans manufactured paper and the methods they employed. He quotes Petrus Martyr and Diego de Landa in regard to paper made from tree bark in the hot lands, and Gomara and Hernandez relative to paper made from the leaves of maguey in the plateau country. These authorities wrote shortly after the Conquest. Boturini, who came much later, does not refer to bark paper, but mentions that from the maguey, and also speaks of a paper made from palm leaves, samples of which in his possession, were "as smooth as silk." Clavijero, also a comparatively late author, speaks of silk and cotton as materials for paper—or, at least, as surfaces upon which paintings were made.†

We cannot refer to any satisfactory ancient descriptions of Mexican paper making. Petrus Martyr never visited Mexico, and, while his account is interesting and his description of the paper itself is exact, his information as to its origin is at second hand. Still he plainly states that the paper he saw was made from the inner bark of a tree. Diego de Landa describes the Maya paper as made from "the roots of a tree." Valentini, reasonably it seems to us, explains this as referring probably to the buttressing swellings at the lower part of the rubber tree, *Castilloa elastica*, which he asserts is still called *amatl* (Az.—paper) by the natives of Central America.

Boturini describes the making of paper from maguey, as follows:

The Indian paper was manufactured from the leaves of the *maguey*, which in the national language was called *mell*, and in Spanish *pita*. They threw them into water to rot and washed the fibre from them, which, when cleaned, they extended to make their paper thick or thin, which afterward they burnished for painting upon it.‡

Boturini probably never saw the manufacture of paper from maguey, but his account, derived from some unknown author or by tradition, is probably correct, so far as it goes. Regard-

---

\* "Mexican Paper: an article of tribute; its manufacture, varieties, employment and uses." Worcester: Charles Hamilton; 1881; 8°, pp. 22.

† "Historia de Mexico." Ed. of 1883. Mexico. Vol. i., p. 273.

‡ "Idea de Una Nueva Historia Generala." Ed. of 1871. Mexico. Page 326.



ing maguey paper we have a capital early authority in Motolinia. He says:

Good paper is made from *mell*: the sheet is as large as two sheets of ours, and they make much of this in Tlaxcala, which goes through a great part of New Spain. There are other trees from which it is made in the hot lands, and of these they are accustomed to use a great quantity: the tree and the paper are called *amall*, and from this name they call letters and books and paper *amate*, although there is also a special name for book.\*

— Paper was still made from maguey in 1580 at Culhuacan, near the City of Mexico, as proved by the statement of Gallego in the ms. *Relacion de Culhuacan*. As a matter of curious and bibliographic interest, we may mention the fact that paper of maguey fibre has been lately made at the City of Mexico. In 1898, Dr. Nicolas Leon reprinted Maturino Gilberti's "Arte de la lengua Tarasca ó de Michoacan" (1558). One hundred copies were printed, in a sumptuous large quarto edition, on maguey fibre paper made expressly for the work.

But our special interest is not maguey paper. We have referred to it because Mr. Hough has lately thrown doubt upon the use of maguey paper by the old Mexicans. He begins his note with these words: "There seems to be a general impression that the ancient Mexican codices were written on paper made from the bark of the maguey (agave species), as this statement appears in the works of all the writers who have mentioned the subject."† This is a curious claim. Neither Gomara, Hernandez, Motolinia, Clavijero, Boturini, Lorenzana, Orozco y Berra, Chavero, Valentini, or Biart—and these are the only writers we have consulted in order to test Mr. Hough's claim—speak of the bark of the maguey as material for paper. As Mr. Hough goes on to state—the maguey has no bark. All these writers state, however, and there is no reason to question their statements that paper *was* made from the leaf (*hoja* or *penca*) of the maguey. There can be no question that two kinds of paper were made and used extensively by the ancient Mexicans—the maguey paper on the Plateau, the bark paper in the low country: the former would have been more common among the Aztecs, the latter, among the Mayas. We believe that Mr. Hough's conjecture that "the numerous ridged stone beaters and smoothers found in Mexico were used in making paper from bark," is entirely justified. They were, no doubt, also used in "extending," by beating, the maguey fibres. This use of such stones we suggested in our teaching prior to 1891.

In March, 1899, Señor Nochihua, an educated and intelligent Indian at that time connected with the Jefetura at Tlalnepantla, state of Mexico, told us that bark paper is still beaten at San Gregorio, in the state of Hidalgo. In our last journey to Mexico we looked into the matter and found it of consider-

\* Motolinia: "Historia de los Indios de Nueva Espana." Ed. Icazbalceta. Mexico, 1858; p. 246.

† "Material of the Mexican Codices," *American Anthropologist*, n. s. 1, pp. 789-790.

able interest. While we have already announced our results,\* we may be permitted to again present them here. We found that such paper is still made over a considerable area in the warm mountainous parts of the states of Hidalgo and Puebla. The region presents a curious condition ethnologically. Four tribes or peoples—Aztecs, Otomis, Tepehuas, Totonacs—are sandwiched in with one another in the strangest way. One village may be Otomi, the next Tepehua; or one may be Tepehua and the next Totonaco. Two little streams coming together at an acute angle may mark three tribal territories, one people living in the included space, and a different one on either side. Even in the same town two tribes may dwell side by side: thus Pantepec, state of Puebla, is a Totonaco town, with one section,



OTOMI WOMAN BEATING BARK PAPER.†

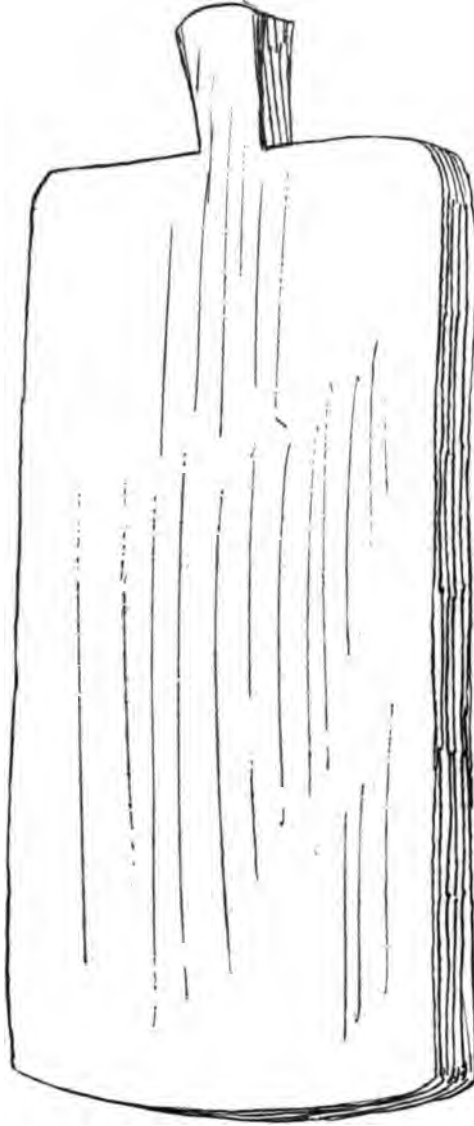
of perhaps thirty houses, Otomi. In Tlaxco, Puebla, the four peoples—Aztecs, Otomis, Tepehuas, Totonacs—live together. Throughout the region these peoples maintain their tribal distinctness; each retaining its own language and peculiarities of dress and customs.

So far as we know, the making of bark paper in this region is peculiar to the Otomis. Others who wish it, purchase it from them. We have certain knowledge of the manufacture at four towns—San Gregorio (Dist. Tenango, Hidalgo), Xalapa (Dist. Zacualtipan, Hidalgo), San Pablito (Municipio Pahuatlan,

\*"Notes upon the Ethnography of Southern Mexico," Proc. Davenport Academy of Natural Sciences, Vol. viii., pp. 181-182.

† See advertisement.

Puebla), Ixtololoya (Muninipio Pantepec, Puebla). "At San Pablito two kinds of bark are used: *moral* gives a whitish, *xalama* a purplish paper. The bark is best gathered when full of sap, but is kept after drying. A board is used for a founda-



BOARD ON WHICH BARK PAPER IS BEATEN.

tion on which to beat. A stone, approximately rectangular and generally with the corners grooved for convenient grasping, is used for a beater. The bark is carefully washed in lye-water, taken from maize that has been prepared for *tortillas*; it is then washed in fresh water, and finally boiled until it shreds readily into slender strips. These are arranged upon the board—first a boundary line for the future sheet of paper is laid out, and then strips are laid near together, lengthwise, within this outline. They are then beaten with the stone until the spread fibres are felted together. The sheets are dried in the air, folded, and done up in a package of a dozen, which sell for three *centavos*. The work is done by the women, and usually in the houses with a certain degree of secrecy. The sound of the tapping of the stones is, at certain times, to be heard through the whole village."

We regret not being able to identify *moral* and *xalama*, with certainty, botanically.

The *moral* should be some sort of mulberry. Many persons, who have spoken of this paper-making, have told us that the tree chiefly used is *jonote*: the Presidente at Pantepec claims

that *hule*—the rubber tree—is the proper plant, which would agree with Valentini's claim that the *amatl* is the Castiloea elastica. But Orozco y Berra considered the *amatl* to be *Cordia Boissieri*, D. C.; and the judge at Pahuatlan asserts that the "dragon tree" is used for paper-making, as well as the *moral*. Whether all this perplexing list can be reduced to the simple *moral* and *xalama* of the Otomis of San Pablito we are uncertain.

Valentini presents much information regarding the uses of Mexican paper. Much was used for writing, much for public decoration, but no doubt the larger part was used in religious ceremonies. He quotes many passages from Sahagun relative to religious use of paper. The temple, idols, victims, priests and performers were decked with paper: great sheets of paper were carried in processions; paper streamers were attached to rods and staves to be carried, or set up at designated spots; bones were wrapped about with paper; ears of maize, sprinkled with *hule*, were wrapped in paper; paper sacks were used for carrying certain objects; paper was burned with *copal* and *hule* as an offering; special pieces of paper were supplied the dead as passports. We need not quote all of Valentini's quotations, but there are two or three which are, for us, of special importance. As Valentini abbreviates them, we quote and translate directly from Sahagun:

In this same *fiesta* in all the houses and palaces they raised some staves at the end of which they fastened papers full of drops of *hule*, and they called these papers *Amateuill*; this they do to the honor of the gods of water.\*

In the sixteenth month *Atemustli* (the descent of rain) the ceremonies are conducted by the priests of the Tlalocs, or gods of rain:

In this time the satraps (priests) of the Tlalocs were growing very devout and penitent, praying their gods for rain and expecting the showers. When it began to thunder and give signs of rain these satraps took their censers. \* \* \* \* Thus they began, then, to incense all the statues of the temples and of the wards. With these services they demanded and expected the rain: other persons, from desire for rain, vowed to make images of the mountains. Five days before the time of the feast they bought paper, *hule*, *nequen* and knives, and with much devotion prepared themselves by fasts and penances for making the images of the mountains and covering them with paper. \* \* \* The whole night they occupied in cutting papers in different fashions, and they called the objects cut out in this way *teuivill*.† They attached them at their base to some great staves, in the manner of a flag. All these papers were sprinkled with *hule*, and then they thrust this staff in the *patio* of the house of every man, and there they remained the whole day of the *fiesta*; those who had made the vow to make the images, invited the ministers of the idols to come to their houses to make the papers with which they had to adorn the images of the mountains, and they made them in the *calmecac*; after they were made they bore them to the houses of those who had vowed. \* \* \* On arriving they decorated the images, which were made of dough of amaranth; some had made five, some ten, and others fifteen—images of the mountains upon

\* Sahagun: "Historia general de las cosas de Nueva Espana." Ed. Bustamente. Mexico, 1829; Vol. 1., p. 84.

† Probably the same as "teteuit=teteotl"=idol.

which the clouds gather—like el Volcan, la Sierra Nevada, and la Sierra de Tlaxcala. \* \* \* Having killed, as they say, all these images or statues, they took off the papers with which they were adorned and all together they burned them in the *patio* of the same house. \* \* \* When the feast was finished they gathered the papers off the staves, which were placed in the *patios*, which they called *letevill*, and carried them to certain places of water which were marked with some stakes set up, or to the heights of the mountains.\*

In these passages, we find the use of paper in religious festivals connected with the desire for rain. Paper is considered as a sacrifice, it is sprinkled with drops of *hule* (also a sacrifice), it is cut into decorative forms for placing upon gods or sacred objects, and in connection with all this a feast is celebrated.

Interestingly enough, paper still serves quite similar purposes. The paper now made by the Otomis is not used for writing, nor wrapping: it is employed in pagan ceremonials and in witchcraft. These Indians celebrate annually their "costumbre" (custom). This differs from place to place, but everywhere we find paper cut for decoration of saints or sacred objects, sprinkling it with the blood of a sacrifice, eating a common meal—and all this done with specific reference to the rain and crops. A single case from my "Notes" will illustrate:

Otomi Indians in the *Municipio* of Tlacuilotepec (at Cuaxtla for example) celebrate annually *El Costumbre* ("the custom"). They believe that Montezuma will come again, and that, meantime, he it is who gives health, crops and all good to the people. They prepare a feast in his honor, of which he is believed to partake with them. An enclosure is prepared in a retired spot and a table made; upon it they place many *munecos* of paper. Formerly they used the bark paper for these, but now they buy paper in the *tiendas*. These figures may be so many as to cover the table two inches deep. They shove money—usually small silver pieces—under these figures. *Guajalotes* (turkeys), hens, or other offerings are slain and the blood from the headless bodies is sprinkled over the *munecos*; this they do that Montezuma may not be annoyed and that he may give them the things they may desire. After the feast the money and the figures are left upon the table, and the *mestizos* steal the former.†

As to the use of the paper in witchcraft we may quote from the same place:

Thus, it is cut into *munecos* (figures of persons, horses, or other creatures) upon which to practice witchcraft. At a trial in Pahuatlan the judge found upon the prisoner a figure cut in such paper intended to represent him (the magistrate): it had been sewn through the body and the lips sewn through—this to prevent his pronouncing a sentence. By burying these about the house or *corral* of an enemy harm is wrought him or his animals. Mr. Alfred Culin, an American who has lived some years at San Bartolo, has had many left at his house; he says they spot the place of the heart with blood and thrust spines through them. In the cave behind and above San Bartolo piles of them are sometimes left after gatherings of *bruja*s. Bunches of them are left at places in the mountain roads to be trodden under by the passers. An old man at Pantepec says they are also useful in curing disease; a *bruja* will cut a figure to represent his patient patron: this is then worn by the subject at the place of the disease.

\* Sahagun: "Historia general de las cosas de Nueva Espana." Ed. Bustamente. Mexico, 1829; Vol. i, pp. 176-179.

† P. 182.

And, lastly, a word comparing this Mexican bark paper and the well-known Polynesian *tapa*. Paper or cloth of beaten bark has been made in America, or is now made, not only in Mexico, but also in Nicaragua, Panama, Peru, and other parts of South America.

We have already quoted Mr. Hough regarding beating stones. These are, as he says, among the commonest of Mexican antiquities. While presenting some variation, they are, on the whole, much alike. What modern beaters we have seen are



MODERN BEATERS FOR MAKING BARK PAPER: MEXICO.

smaller and cruder than the ancient ones. The specimens shown above are fair examples. One is of gray lava rock: it is almost square, measuring about two inches on a side, and one inch thick; both sides are smooth from use, one more so than the other. The second specimen, of the same material, is rectangular, two and one-fourth inches long by an inch and a half wide, and one and one-fourth inch thick; the edge is mid-grooved along the sides and the stone more ing: the two are unequally one which is become round. These little small for a hand, but are of the hand of an In cut 4, a fair ancient beaters



ANCIENT BARK BEATER: MEXICO.

It is larger and more carefully made than the preceding: it is of a handsome, dark—almost black—serpentine; it measures three and one-half by two and three-fourths inches, and is almost one inch and a half thick. One side is perfectly smooth from rubbing and is rounded along the edges, as in one of the recent specimens; the other side is flat and divided into seven ribs by six grooves. The corners are notch-grooved for finger holds, or for passage of lashings for a handle. A little larger than usual, and much better made, the specimen is typical of a whole class in its one smooth and one ribbed side, and corner notching or

edge grooving.\* These old beaters—larger and better made than the modern—suggest a question: Is it not probable that the old industry was *man's* work? Conservative woman has clung to it, and with tools, in size better adapted to her handling and quality showing the lessened importance of her art, still beats out the paper now used only in religious or superstitious ways.

But there is another type of ancient paper beater found in Mexico, though it is much rarer than the preceding. The



STONE CLUB FOR PAPER BEATING (ANCIENT): MEXICO.

specimen illustrated above is of a fine-grained, rather heavy, green stone; it is a pounding club or mallet, with handle and beating body in one piece; it measures seven and one-fourth inches in length. The handle presents an elliptical cross-section, while the beating body is almost rectangular in such a section; the four almost flat faces measure a little less than two inches across; three are smooth, while the fourth is ribbed with ten longitudinal ridges produced by nine grooves. The similarity of this beater to the common Polynesian *tapa* beater is evident at a glance. In cut 6 we have such a beater in hard wood. In cut 7, a bark beater is represented, which is almost the same in form and character, but is made of bone: this is from the



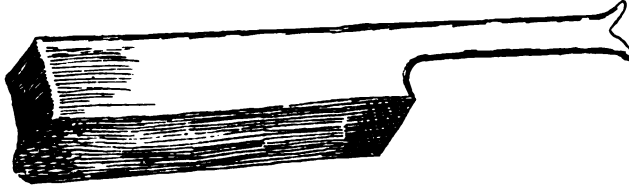
TAPA BEATER FROM POLYNESIA: HAWAII.

Tlingit Indians of Alaska. The Polynesian and Tlingit specimens are longer and more slender than the Mexican, but all three are plainly one implement. All present a form of club with handle and beating body in one piece; all show a rectangular section of the beating portion; all present three smooth faces, and one grooved and ribbed. Beaters for bark occur, in-

---

\* In my "Manual of Mexican Archaeology," now in preparation, I shall illustrate a series of these beating stones, to show their range in form and character.

deed, in other countries, *e. g.* New Guinea and Africa; they are usually quite different from these in sectional form and in the mode of grooving. Personally we are inclined to see a significance in the the similarity of the Polynesian-Tlingit-Mexican



BARK BEATER OF THE TLINGIT: ALASKA.

beaters. Were there no other evidence pointing to relationship or contact between the three populations, the argument would be, indeed, weak; as it is, however, this similarity presents evidence which reinforces an argument already made.

#### A REMARKABLE INDIAN PIPE.\*

BY W. J. WINTEMBERG.

This interesting and valuable stone pipe was found by the writer in August, 1898, on the site of an ancient Indian camp near the village of Bright, in Oxford county. On one side it has the representation of the Thunder Bird, a mythical being to which was attributed the natural phenomenon implied by its name. The drawing represents a bird with a human head.† The four lines coming down obliquely to the right and left sides of the bird's head evidently represent lightning. The simplest delineation of lightning among savage folk would naturally be by these zig-zag strokes. Even among our deaf mutes the gesture sign is by describing with the index finger of the hand its zig-zag course through the sky. These zig-zag lines are also used by the Pueblos or Tusayan Indians to represent lightning, and among the ancient Assyrians three zig-zag "thunder-bolts" were the symbol of Vul, the atmospheric god.

It is a matter of conjecture what the upright line and the three cross bars on the breast signify. They may represent the vital organs; perhaps the heart and lungs, and, symbolically, the life of the individual. Of course all this is mere conjecture. Perhaps some of our more advanced mythologists could throw some light on the subject. The bird's talons or claws and the wings are well shown, although they are dispropor-

\* Reprinted from the "Reliquary and Illustrated Archæologist," April, 1900.

† According to a description of this fabulous creature given by an Iroquois sorcerer to the Jesuit missionary Brebœuf, the Iroquois thunder bird also partook slightly of the human form: "It is a man in the form of a turkey cock."—*Relations des Hurons*, 1636, p. 114.



portionately small. The three tail-feathers are also well shown, and the curious markings on the middle one may have had some mythic meaning to the primitive artist. The zig-zag mark at the right of the bird's tail no doubt represents another lightning stroke, or a snake; or, perhaps, both, for among some savage tribes the lightning and the snake were regarded as identical, *i. e.*, the lightning flash, owing to its resemblance to the sharp, sudden, zig-zag movements of the snake, was often called a fiery serpent. Thus, some tribes of our Canadian



INDIAN PIPE WITH MYTHOLOGICAL DESIGNS.

Indians call the lightning a fiery serpent, and believe that the thunder is its hissing. And if we turn to old-world mythology, we also find the lightning identified with the snake—the flashes of lightning having been regarded by the Greeks as the fiery serpents of Zeus, the god of the air. The side opposite to the thunder bird bears a series of incised lines, making a pattern often found on pottery. On the side to the right of the bird is the drawing of a man with an unfinished head. This figure also has an upright line and cross-bars on the breast, except that they are arrow-like in form. On the remaining side is the stem-hole, and above it are two deep hollows. Above these is the figure of a quadruped, probably a fox or a wolf. Below the stem-hole is the deeply-incised figure of a cross. The cross was used as a symbol before the appearance of Europeans on this continent, and it is generally believed to have reference to the cardinal points.

The lines surrounding the top of the bowl were for ornament alone, and appear to have been an afterthought, as they cut the upper part of some of the designs. This pipe was found in what was at one time Neutral, or Attiwendaronk, territory. To the writer's knowledge it is the only specimen of the kind that has ever been found in the peninsula of Western Ontario. It is now in the Ontario Archæological Museum, at the Education Department, Toronto.

## ANCIENT AZTEC CITIES AND CIVILIZATION.

BY STEPHEN D. PEET.

Several questions arise in connection with the ancient cities of Mexico, which need to be answered before we can proceed with the description of them. They are: First, were they worthy of the name *cities*? second, are the descriptions which were given by the Spanish historians correct, or must we rely upon the evidence of the archæologists for our knowledge of their real character? third, what is the testimony of history concerning these cities and their early growth and progress? fourth, in regard to the architecture which embodied itself in these ancient cities: can we distinguish it from that which preceded it, and so decide what cities belonged to the Aztec, and what to the Toltec period.

I. In reference to the first question, we may say that certain modern writers have been disposed to reject the term *city* altogether from their vocabulary, when speaking of ancient places in America, whether found in Mexico, Central America, or Peru; and in its place use the term *pueblo*, conveying the idea that they were nothing more nor less than large Indian villages, similar to those which are still occupied in New Mexico, and that the people who built them were no more civilized than the Indian tribes of the North. We maintain, however, that there was a great difference between the Indian villages and the so-called cities, and that this difference was an index of the stage of culture which had been reached.

To illustrate: we find, even at the present time, Eskimo villages which are mere collections of huts constructed of ice and snow, or of bone and bark, and approached by long passageways. We find that the tribes in the eastern portion of the continent dwelt in stockade villages, or in inclosures surrounded by earthworks; their houses being constructed mainly of wood. There are villages on the Northwest coast, which belong to the fishermen and hunters, the most of which are constructed of wood, and are arranged in a line along the water front, and are marked by an immense array of totem-poles, which seem at a distance like masts of vessels, but are indicative of the history and ancestry of the people.

In the more central districts, especially on the plateau, the villages are contained in great communistic houses, many of which are placed upon the summits of the mesas, and are built of adobe or of stone.

In Peru the villages were generally the capitals, and were connected with roadways which passed over the mountain; they were under the control of the Incas, the capital being the centre, where were the finest specimens of architecture.

In Mexico and Central America people seem to have been gathered into large places, which were laid out after a fixed order and were under a central government, and abounded with temples, palaces, canals, bridges, fountains, and gardens, and contained many elaborate specimens of architecture.

These several types of native architecture represented the various grades of civilization, each one of which was confined to a separate geographical district and is suggestive of a distinct form of aboriginal culture.

It should be remembered that these Aztec cities had a very different origin from the ordinary Indian villages of the North, and were built on a very different plan. They may have grown up out of rude villages, and the people may have come up from the clan life into a later social organization; yet so much of their art and architecture was borrowed from the civilization which had previously existed among the Toltecs, that the signs of their own native growth were lost in that which had been added to it. Every people owes its architecture and its art to the different elements which have prevailed in the region, and we can no more confound the Mexican city with the pueblo of New Mexico, than we can the modern city with the little hamlet of log houses, or the houses of the white man with the hut of the ordinary Indian. The growth of society was greatly modified by the surroundings, and the city which grew up in the midst of the beautiful lake and was connected with the banks by long artificial dykes must have had a very different history from that of villages which had been erected on the summits of the lofty mesas and which owed their defense to the walls by which they were surrounded, and their conveniences to the terraces with which they were provided.

There were, to be sure, other cities built upon the summits of mountains of Mexico, as Messrs. Holmes and Charnay have shown; but these mountain cities, which stretch out at great length and cover the entire summits, are very different from the compact pueblos which were compressed into one great house, and resembled great bee-hives with their cells occupied by human beings. The government of a monarch, who ruled over a large district and who subordinated all adjoining tribes to his own power, was very different from that of a village *cacique*, who ruled over a single village and had a few officers subject to his command, but who knew all of his people by name, as a father does his children.

The Spanish historians did not stop to ask the history of the people before they gave the name "city" to the various places which they entered. They knew that they were governed by religious despots, and that in the midst of each, there were temples, where bloody sacrifices had been offered, and it was very natural that they should call the places cities, and their rulers kings or monarchs, and their religious men priests, and that they should apply the very terms which were in common

use among them, in speaking of the objects which they saw. They were accustomed to the architecture which had grown up in Europe during the middle ages, and their minds would naturally revert to feudal despots, who dwelt in their castles and who ruled over their retainers, who lived in the surrounding forests.

It was not to be expected of the Spaniards at this time that they would draw the distinction between the ancient cities of Mexico and the ordinary Indian villages, and certainly not to show the difference between the ancient cities and the pueblos of New Mexico, for they knew nothing of the latter.

The names\* which the Spanish historians used would of themselves show very clearly that there was a very different condition of things among the ancient Mexicans from that which prevailed among the northern tribes. Consequently the term *pueblo* should not be applied to the cities, nor *medicine lodge* to the temple, nor *council houses* to the palaces, nor *medicine men* to the priests, nor *tribal chiefs* to the kings. Tribal society may have continued on a basis of kinship, but self-defense brought about the confederacy of the tribes of Mexico, and this confederacy resulted in establishing cities which were in reality capitals.

The City of Mexico was divided into four principal quarters, with twenty war-chiefs, one chief representing the element of worship, all under one head, the "chief of men," or king, who seems to have been like the monarchs of the East, clothed with power of priest and king.

II. In reference to the descriptions by the historians, it should be said that there were many things to account for them. While they have been pronounced by various critics as extravagant exaggerations, yet the latest researches are proving that they were in the main quite correct. There were certain influences which would lead them to give a rose-colored view, and yet this was better than a tame and spiritless account. The reports of the discovery so recently made by Columbus and his company had aroused great expectations, and there would naturally be a desire in the minds of the writers who were de-

\* We take at random from Bandelier's report the following: "The residence of the CHIEF OF MEN was called *TECPAN*, THE HOUSE OF THE COMMUNITY; for the official family had to wait upon the officers and chiefs who transacted business at the *TECPAN*. The officer called KING of Mexico, or EMPEROR of Anahuac, was *Tlacateuchtili*; while the MAJOR DOMO, or keeper of the tribute, was called *Cihuacohuatl*, HEAD-CHIEF. The lands of the official house were called *TECPANTALLI*, and constituted tribal stores. The council was called *TLACOPAN*, and was composed of chiefs or speakers and supreme judges, and sat in two different halls in the *TECPAN* or palace; one of which was called the court of nobles. The twenty independent social units composing the Mexican tribe were called *CALPULLI*, and were bound to avenge any wrong. The holding of a particular territory, a common dialect, a common tribal worship, characterized each one of these *CALPULLI*; but the 'city' seems to have been the centre of the government, so that there was a change going on from the tribal stage to that of land tenure. Each *CALPULLI* had its particular god, which was worshipped as a tutelary deity within the territory, consequently each kin had its particular temple, and had a right to separate worship. Sahagun says that they offered many things in the houses which they called *CALPULLI*, which were like churches of different quarters, where those of the same kin gathered to sacrifice, as for other ceremonies.

"The great temple of the Mexican tribe was called *CALMECAC*, interpreted the 'Dark House.' This was the abode of such men as underwent severe trials preliminary to their investiture with the rank of chief. Each *calpulli* had a 'House of Youth' joined to the temple. There were houses of education. Besides these, there was a special place for the education of the children of noblemen. Those who were trained for the priesthood dwelt in the house called *CALMECAC*."

scribing the new scenes into which they were entering to meet these expectations, and this possibly led them to exaggerate their reports. It was, however, perfectly natural that they should draw a comparison between that which they saw in the New World and that which was so familiar to them in the Old, for their minds would inevitably revert to their native country, and there was no better way of expressing themselves.

It should not be considered as owing altogether to a purpose to deceive, that the wonderful scenes which came before their eyes were vividly described, for the Spaniards were a very impressive people and lived in a romantic age, and were accustomed to speak and write in figurative language.

There is no doubt that the explorers were greatly surprised by the scenes which came to their vision as they landed upon the coast and passed into the interior, especially when they reached the borders of the Plateau and were able to get a glimpse of the beautiful valley which was encompassed by the mountain ridges, and in the midst of which shone the silvery waters of the lake, which was to become the scene of their most daring exploits. The lofty snow-covered peaks of the great mountains, which stood like sentinels to guard the eastern entrance to the valley, also impressed them with a sense of the sublime, for they are still counted among the highest and grandest of the mountains of the world. The fact that in the midst of this beautiful valley there were so many so-called cities which were filled with a teeming population, and that so many of the appliances and conveniences of a native civilization were apparent was matter of surprise.

This civilization has been compared to that of Europe during the middle ages. It might better be compared to that of Egypt during the time of the first four dynasties, when the Pyramids were erected; or to that of Babylonia, before the time of its conquest by the Assyrians, when the great walled cities covered the valley of the Tigris and the terraced pyramids and palaces began to be built; or, still better, to the civilization of India and China, when their history first began to be written. The Spanish historians were disposed to draw a parallel between this civilization and that of the feudal times, when there were so many lords and barons dwelling in castles, who held the land in their possession and ruled the masses by their power, making them their vassals and retainers. There were no knights errant and no tournaments, no pilgrimages or distant journeys, no such conquests as made the names of certain kings of England famous.

The magnificence of the Moorish architecture never appeared in Mexico. The vision of the Alhambra had never dawned upon this rude people, there was no such mingling of turrets and towers with the vast expanse of the houses of great cities as met the eyes of Marco Polo in his journey to the East. The marvels of Cathay were not discovered by the Spaniards, though they were perhaps in hourly expectation of

finding them. There is no doubt that their minds were tintured with the stories which had been told of the cities of the East, and the conviction that America was a portion of the Asiatic continent had not lost its force. It was a day of romance and chivalry, and the kings of Europe were satisfied with nothing short of romance. It cannot be laid altogether to a love of exaggeration, that such writers as Sahagun, Bernal Diaz, Torquemada,\* Veytia, Ixtlilxochitl and Clavigero gave such rose-colored views.

The accuracy of science was nowhere exercised, and literal exactness could not have been expected from them. It was, however, fortunate that there were those who could recognize the beauty of the scene, and could appreciate the inventions and improvements which had been wrought out by this strange people, who lived beyond the seas, and that they could adequately describe the style of the art and architecture which was prevalent.

The cities have passed away, and the scene which so wonderfully impressed the Spaniards at their advent has entirely changed. There are, to be sure, many modern cities which have grown up on the very sites where were these aboriginal towns, and some are disposed to draw the contrast between the ancient and the modern; but it is better to take the picture which was drawn by the historians as correct, and from this learn what were the peculiarities of the aboriginal life, though it may be necessary first, to consider the history of the people who dwelt there, and especially the architecture which prevailed.

III. Let us now turn to the third question and inquire into the history of the Aztecs, and see how rapidly they grew into a semi-civilized condition, and then ask about the influences which had conspired to produce this change. We hold that the Aztecs borrowed nearly all of their civilization from the Toltecs, that they adopted their style of architecture and their art, and yet there were certain peculiarities which distinguished the cities of the Aztecs from those of the Toltecs.

The Aztecs, who built the beautiful cities and temples which so charmed the eyes of the Spanish conquerors, as they came to the summit of the great mountain ridge, which surrounded the Valley of Mexico, were a rude tribe, who had entered the valley from the north about the year 1300. They wandered for a time, seeking for a suitable place in which they might make their home, and were at last influenced, as tradition goes, by a sight which they regarded as a sign from heaven. A bunch of cactus was growing upon a rock and upon the cactus an eagle

---

\*Torquemada, a provincial of the Franciscan Order, came to the New World about the middle of the sixteenth century. As the generation of the Conquerors had not then passed away, he had ample opportunities for gathering the particulars of their enterprise from their own lips. Fifty years, during which he continued in the country, put him in possession of the traditions and usages of the natives, and enabled him to collect his history from the earliest missionaries, as well as from such monuments as the fanaticism of his own countrymen had not destroyed.

was perched, and in the eagle's claw was a serpent, which was always an expressive sign to the natives. This sight led them to settle upon the shores of the lake, which was then a small inland sea, its salt waters having been the result of the geological formation. The following description of the lake and the valley which contains it, will be interesting in this connection:

The Valley of Mexico is an immense basin of an approximately circular shape, sixty miles in diameter, completely bounded by high mountains and having only two or three passes out of it. No water drains out of the basin. The surface of the valley has a mean altitude above the sea of 7,413 feet, and an area of about 2,270 square miles. Mountain ranges arise on every side, making a great coral of rock, containing many villages and hamlets with the ancient capital as the centre. The valley, thus hemmed in with solid walls of rock, had been an inland sea for many cycles, and during the early existence of man the salt water spread over a large portion of the valley. The waters were gradually lessened by seepage and evaporation, and the Aztec immigrants, coming from the North in the fourteenth century, having received a sign that they were to build their city here, settled on its shores and began building dykes and combating the over-flow of the waters. Nearly fifty years before the discovery of America Nezahualcoyotl saw the necessity for a drainage canal, and commenced the work in 1450; he constructed an immense dyke to divide the fresh water which came down from the mountains from the salt water of the lakes. The City of Mexico was at this time but a rambling Indian village built upon floating rafts on the water and numerous islets on the borders of the lakes, but so arranged that in the event of the water rising, the whole city would float.

When Cortez arrived in Mexico in 1519, he found, to his great surprise, the defense of the city admirably arranged, and a most enchanting view of flowering islets formed the floating capital. Little towns and villages, half concealed by the foliage, looked, from a distance, like companies of wild swans riding quietly on the waves. A scene so new and wonderful filled the heart of the Spaniard with amazement. So astonished was he at extent of the water of Lake Tezcuco, that he describes it as a "sea that embraces the whole valley.\*"

The history of Mexico began with the invasion of the Toltecs from an unknown region during the fifth century, or about the time of the Roman occupation of Great Britain, and actually kept pace with the progress of Europe during the centuries that followed. It reminds us forcibly of the history of the British Islands during the middle ages; or, as Prescott says, during the time of Alfred the Great. There were, to be sure, no signs of the presence of the art and architecture of the civilized world, and no such contact with Rome or with the historic nations of the East; but the evidence is furnished us from the monuments and ruins which have been discovered, that the Toltec civilization did not fall short of that which prevailed in the south of Europe at this time. This Toltec civilization continued until the end of the twelfth century, when it was in turn forced to give way to that of the Aztec tribe, who swept down from the coast of California, Oregon, and other northern regions. It is generally agreed that the Aztecs formerly lived far to the north, and gradually worked their way southward until they reached the flowering Anahuac, but it is not

---

\*See Romero's Geography of Mexico.

known what their condition was when they arrived at their final destination, though the general opinion is that they were like other wandering and migrating tribes, and were little above the condition of savages. Still, the fact that they so soon conformed to the civilization of the Toltecs who preceded them, and adopted their arts and architecture, renders it probable that their apparent savagery was only the result of their wandering life, and that they had the elements of growth within themselves.

IV. As to the architecture and its marvelous development, it will be remembered that the Aztecs were nomads differing very little from other wandering tribes; and yet in the course of three centuries they came up to a state of civilization which seemed to the Spaniards absolutely marvelous; showing that there was as rapid advancement among some of the prehistoric races as among the historic. Mr. Matthews says:

The general characteristics of the architecture are those which their predecessors, the Toltecs, possessed, and the supposition is that their rapid progress was owing to the fact, that they borrowed the civilization of their predecessors. Their temples were built after the pattern of the Toltecs, and so were the survivals of the native art. Their palaces, so called, were low, one-story buildings, without windows; but rested upon terraces, which raised them above the surface. Each was composed of a stone basement and surrounded by a species of façade, carved in imitation of reeds and decorated in high relief with scrolls, monsters, and masks, such as are used at present on prows of battleships among the Polynesian Islanders. The roofs, as near as can be ascertained, were flat and the rooms were lighted from the doorways, which were, in some instances, widened by means of columns, which were ornaments as well as defences. The temples play a more important part than any other building. Forty thousand *Teocallis*, or "Houses of God," graced the ancient cities of Mexico, and many, though ruined, are still extant. Like the Chaldean temples they consisted, when whole, of huge platforms, piled one above another, which drew in as they ascended, and were crested with a shrine containing altars and images of gilded stone.

Two remarkable specimens still stand at Teotihuacan, near the City of Mexico; they were called anciently the "Houses of the Sun and Moon." Though much ruined and over-grown with vegetation, sufficient yet remains for intelligent restoration, and the fact that these temples are believed to belong to the Toltec civilization lends them an additional interest. The "Temple of the Sun" rose originally to a height of 171 feet, having a base of 645 square feet. That of the Moon was of smaller proportion, both had their faces turned toward the four cardinal points of the compass, which argues a knowledge of astronomy among the builders, and both were furnished with walled approaches placed at right angles to their four sides which, while dedicated to the stars, still served the useful purpose of tombs for the chiefs of the nation.

Better known than these is the Teocalli of Cholula, the most marvelous of Mexican monuments, as regards size, and dedicated to Quetzalcoatl; rising only a few feet higher than the House of the Sun, yet it covers an area of twice the size of the pyramid of Cheops; according to some about twenty-six acres; according to others, sixty acres. Though so extensive in size, it cannot be compared architecturally with the great feat of masonry on the Nile, since even in its palmy days it could never have been much more than a huge mound of clay, and sun-dried brick, pierced with subterranean passages, and surmounted by a rude sanctuary without even the grace of good proportions.\*

\* See "The Story of Architecture" by C. T. Matthews, page 180.



We may say that there were many other cities in Mexico, which are now in ruins, some upon the mountains, others in the valleys; but the majority of them have been ascribed to the Toltecs, and these illustrate the difference between the ancient and the more modern civilization.

It appears that the Aztec cities were originally villages, not unlike the *palafittes* or lake villages, which were built upon piles over the water, and which belonged to the Stone Age.

But these cities were placed on the summits of the mountains, and were constructed by a process of transforming the slope of the mountains into a series of pyramids and platforms, which were probably surmounted by palaces, or by temples and altars, their very sightliness making them impressive objects in the landscape.

We are to notice the peculiar quadrangular arrangement of the apartments of the kings and the inclosures occupied by the priests, as well as the orientation of the pyramids, for there was a religious motive embodied in it; the worship of the sun requiring that the city be built after a certain pattern. This quadrangular arrangement has been spoken of by Mr. W. H. Holmes, who visited the ancient city of Monte Alban and traced out the plan after which it was built, in the arrangement of the great pyramidal mounds which covered the mountain sides and changed their summits into artificial shapes.

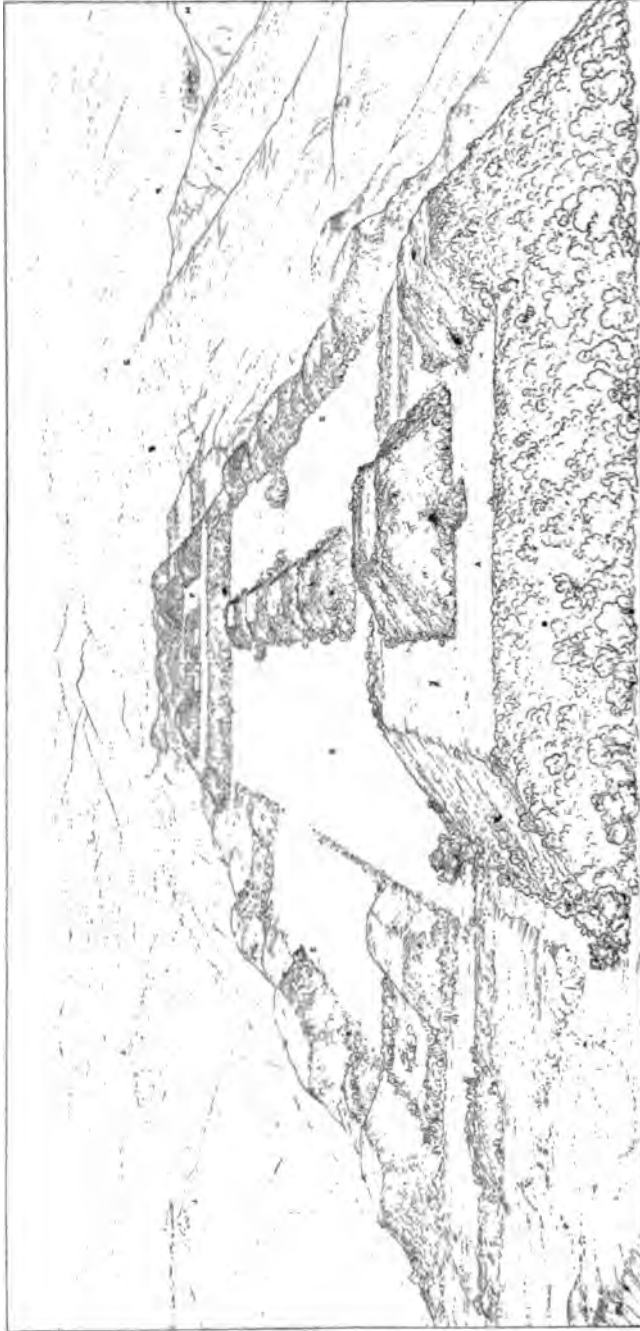
The description by Mr. W. H. Holmes is especially worthy of attention, as his experience as an archæologist would naturally lead him to be very cautious in his expressions. After speaking of his ascent of the mountain and cultivated terraces and the discovery of well-preserved quadrangular ruins arranged about a quadrangular court, he describes the scene which presented itself:

From the mainland, I ascended the central pyramid, which is the crowning feature of this part of the crest, and obtained a magnificent panorama of the mountain and the surrounding valleys and ranges. Turning to the north, the view along the crest was bewildering in the extreme. In years of travel and mountain work, I had met with many great surprises, such as that experienced on emerging suddenly from the forest-covered plateaus of Arizona into a full view of the Grand Cañon of the Colorado, or of obtaining unexpected glimpses of startling Alpine panoramas—but nothing had ever impressed me so deeply as this. The crest of Alban, one-fourth of a mile wide, and extending nearly a mile to the north, lay spread out at my feet. The surface was not covered with scattered and obscure piles of ruins as I had expected, but the whole mountain had been removed by the hand of man, until not a trace of natural contour remained. There was a vast system of level courts, enclosed by successive terraces and bordered by pyramids upon pyramids. Even the sides of the mountain descended in a succession of terraces, and the whole crest, separated by the hazy atmosphere from the dimly-seen valleys more than 1,000 feet below, and isolated completely from the blue range beyond, seemed suspended in mid air. All was pervaded by a spirit of mystery, solitude and utter desolation, not relieved by a sound of life or a single touch of local color. It seemed, indeed, a phantom city, and separated as it is by half a dozen centuries from the modern city—barely traceable as a fleck of white in the deep valley beyond the saddle of the Lesser Alban—furnishes a tempting field for speculation.

I have endeavored to convey some notion of this remarkable scene in the panorama which is constructed from a sketch made from the summit of



**SITE OF MONTE ALBAN.**  
**This city was built on the summit of the mountain, the peaks and sides having been transformed by artificial means into platforms and pyramids.**



PANORAMA OF MONTE ALBAN.

the central pyramid seen in the foreground of the view. The point of view assumed is indicated by a cross in the profile view of the mountain, and also by a cross on the accompanying map. In the foreground is the great terrace, referred to above, crowned by its two pyramids, one placed at the southeast corner and the other, the main mound, situated a little to the left of the centre.

Behind this group is the central feature of the ancient city, a vast court or plaza, a level, sunken field 600 feet wide and 1,000 feet long, inclosed by terraces and pyramids and having a line of four pyramids ranged along its centre. \* \* \* The chain of pyramids extending from north to south along the middle of the great square constitutes one of the most interesting features of the remains. They are well shown in the panorama and map. In viewing these works, one is tempted to indulge in speculation as to the conditions that must have prevailed during the period of occupation. How striking must have been the effects when these pyramids were all crowned with imposing temples, when the great level plaza about them, 600 by 1,000 feet in extent, was brilliant with barbaric displays, and the inclosing ranges of terraces and pyramids were occupied by gathered throngs. Civilization has rarely conceived anything in the way of amphitheatric-display more extensive and imposing than this.

This would show that the cities at the outset, were laid out after a definite plan, and did not owe their character or shape to accidental circumstances, or even to the character of the site on which they were based. The uniformity of the Mexican architecture is very instructive on this account, as it shows that it was borrowed from an older people, rather than introduced by a savage race. It, however, shows what style was common among the barbaric races of the earth, and brings before us that type which was common in Asia many thousands of years ago. The analogies are found in the cities of the East, such as Babylonia, Ninevah, Thebes, far more than in the villages of the hunter tribes of the North, and show that they were built after an entirely different system. In this respect the early historians are more correct than some of the modern archæologists; for they described the cities as they saw them, while the archæologists depend upon only the ruined cities and a few relics and remains which are left, from which they are able to trace the plans after which they were built.

There was another advantage which the historians had over the archæologists: they all describe the scenery in such a manner as to present a perfect picture which appeals to the imagination and pleases the fancy; but the archæologists are held by the technique of their science and feel bound to give the details and measurements of each part in turn, rather than the artistic character of the whole scene. For this reason we prefer to quote the historians, and shall do so without stopping to criticise their style or correct their statements.

It is due to the Spanish historians that a picture of barbaric magnificence has been preserved and that the middle stage of human progress has been portrayed. The descriptions of costumes, equipages, house-furnishings, military equipments, mode of warfare, as well as of social habits and customs, and all the details of domestic life are worthy of careful study on this account. The most brilliant and gorgeous scenes riveted their attention, for they were as novel and strange to them as

they would be to us. Many of the objects which they saw were so fragile that they were easily destroyed, and so passed out of sight. But, the featherwork and gorgeous head-dresses which were worn by the warriors were as true signs of the barbarism which prevailed as was the strange architecture which was embodied in their temples. As Prescott says:

Architecture is, to a certain extent, a sensual gratification; it addresses itself to the eye, and affords the best scope for the parade of barbaric pomp and splendor. It is the form in which the revenues of a semi-civilized people are most likely to be lavished. The most gaudy and ostentatious specimens of it, and sometimes the most stupendous, have been reared by such hands. It is one of the first steps in the great march of civilization.\*

The historians speak, to be sure, as if the warriors and chiefs belonged to an organized army, and of the tribes as if they were great nations, and of their *caciques*, or monarchs, as if they were the kings of a great empire. But this description was certainly as correct as that of the writers who have compared the people to the wild tribes of the North, and who have made the confederated cities of Mexico to resemble the Iroquois confederacy which formerly existed in the State of New York. The tribes which were situated in the valley of Mexico may have been at one time nothing more than savages, and their condition may have been no better or higher than that of the Iroquois, when they were visited by Champlain. But the vision which greeted the eyes of Cortez, as he looked down upon the valley of Mexico, was very different from that which met the eyes of Champlain when he attacked the little band of Iroquois on the shores of the lake which bears his name.

The villages, or so-called castles of the Iroquois were situated upon the different lakes which are scattered throughout the state of New York, with the chief village, where the "Long House" was situated, in the very centre of the confederacy. It was owing to the fact that they were so secure in their strongholds, and were so strong in their confederated capacity, that they became a terror to all the tribes. It did not take more than three or four centuries for either confederacy to come up to the summit of its power, but the great advance during the previous history of Mexico under the Toltecs had given to the Aztecs a civilization which was very unlike that of the Iroquois. And so the scene which greeted the eyes of Cortez, the Spaniard, was very different from that which engaged the attention of Champlain, the Frenchman. As Prescott says:

Cortez, at the very time of his landing, recognized the vestiges of a higher civilization than he had before witnessed in the Indian islands. The houses were some of them large, and often built with stone and lime. He was particularly struck with the temples, in which were towers constructed of the same solid materials, and rising several stories in height. In the court of one of these, he was amazed by the sight of a cross, of stone and lime, about ten palms high. It was the emblem of the god of rain. Its appearance suggested the wildest conjecture, not merely to the unlettered soldiers, but subsequently to the European scholars, who speculated on the character of the races that had introduced there the symbol of Christianity.

\* See Prescott's "Conquest of Mexico," Vol. I., p. 134.

The Mexicans had many claims to the character of a civilized community, but the detestable feature of the Aztec superstition was its cannibalism; though, in truth, the Mexicans were not cannibals in the coarsest acceptation of the word. They did not feed on human flesh merely to satisfy a brutish appetite, but in obedience to their religion. Their repasts were made of the victims whose blood had been poured out on the altar of sacrifice. Human sacrifice had been practiced by many nations, but never by any on a scale to be compared with that in Anahuac. Scarcely any author pretends to estimate the yearly sacrifices throughout the empire at less than 20,000. Indeed, the great object of the war with the Aztecs was quite as much to gather victims for their sacrifices, as to extend their empire. It was customary to preserve the skulls of the victims of sacrifices in buildings appropriated to the purpose. The companions of Cortez counted 136,000 in one of these edifices. Human sacrifices were adopted by the Aztecs early in the fourteenth century, about 200 years before the Conquest, but it was this that led to their ruin in the end.

V. With this general description of the characteristics of the ancient cities of Mexico, we now turn to give an account of the location of particular cities through which the Spanish conquerors passed, and which they have described so graphically. Various writers have drawn from the Spanish records, and have given us excellent accounts of the Conquest as well as the character of the cities. Our knowledge of the architecture which prevailed is secured from them, but has been confirmed by later explorations of the archæologists.\*

Tlascala was one of the most important and populous towns on the tableland. Cortez, in his letter to the Emperor, compares it to Grenada, affirming, that it was larger, stronger, and more populous than the Moorish capital, at the time of the Conquest, and quite as well built. The truth is that Cortez, like Columbus, saw objects through the medium of his own imagination. The Tlascalans, who had been driven to the mountains and there hidden themselves behind the great wall which they had built between the mountains, making an artificial barrier to supplement that which was natural, were ready to join with Cortez in his attack upon the cities which were situated in the valley. The following description, given by Prescott, is taken from one of the old Spanish historians and furnishes a picture of the people:

The crowds flocked out to see and welcome the strangers,—men and women in their picturesque dress, with bunches and wreaths of roses, which they gave to the Spaniards, or fastened to the necks or caparisons of their horses, in the same manner as at Cempoalla. Priests, with their white robes, and long matted tresses floating over them, mingled in the crowd,

\*The chief modern authorities are Prescott and H. H. Bancroft, though the explorations of Charnay, of Bandelier, and of W. H. Holmes have thrown much light on the ruined cities. These confirm the accounts of the early Spanish historians.

scattering volumes of incense from their burning censers. The houses were hung with festoons of flowers, and arches of verdant boughs, intertwined with roses and honeysuckle, were thrown across the streets.

The garments of the common people were many colored, and the multitude were arrayed in beautiful feathers. The warriors who came forth to defend the cities, were also armed with weapons which were of superior character, and their chiefs were covered with plumes and head-dresses very imposing to the sight. Each nation had its own particular standard on which were painted or embroidered the armorial bearings of the State. That of the Mexican empire, as we have seen, bore an eagle in the act of seizing a tiger or jaguar. That of the republic of Tlascala, a bird with its wings spread as in the act of flying, which some authors call an eagle; others, a bird or crane. Each of the four lordships of the republic had, also, its appropriate ensign: Tizatlan had a crane upon a rock; Tepeticpac, a wolf with a bunch of arrows in his paws; Ocotelulco, a green bird upon a rock, and Quiahuiztlan, a parasol made of green feathers. Each company or command had also a distinct standard, the colors of which corresponded to the armor and plumes of the chief. The great standard of the Tlascaltec army was carried by the general commanding, and the smaller banners of the companies, by their respective captains; they were carried on the back, and were so firmly tied that they could not be detached without great difficulty.\*

The architecture of this city does not seem to have equaled that of the cities in the valley, such as Cholula, Tezucuo, and Tenochtitlan or Mexico. Still, it was of a character to surprise the Spanish conquerors. The division of the city into four quarters resembled that which prevailed in all of the Aztec cities. The following is a quotation from Prescott, which will show the degree of civilization reached:

The houses were built for the most part of mud or earth; the better sort of stone and lime, or bricks dried in the sun. They were unprovided with doors or windows, but in the apertures for the former hung mats, fringed with pieces of copper or something which, by its tinkling sound, would give notice of any one's entrance. They peculiarly excelled in pottery, which was considered as equal to the best in Europe. It is a further proof of civilized habits that the Spaniards found barber's shops and baths, both of vapor and hot water, familiarly used by the inhabitants. A still higher proof of refinement may be discovered in a vigilant police, which repressed everything like disorder among the people. The city was divided into four quarters, which might rather be called so many separated towns, since they were built at different times and separated from each other by high stone walls, defining their respective limits. Over each of these districts ruled one of the four great chiefs of the republic, occupying his own spacious mansion and surrounded by his own immediate vassals.†

The next city which Cortez visited, was the ancient city Cholula, capital of the Republic of that name. It lay nearly six leagues south of Tlascala and about twenty southeast of the City of Mexico. It was said by Cortez to contain 20,000 houses within the walls, and as many more in the environs. It was of great antiquity, and was founded by the primitive races who overspread the land before the Aztecs, and carried back the foundation of the city to the Olmecas, the people who preceded the Toltecs. It had been reduced to vassalage by the Aztecs, and its people were in frequent collision with the Tlascalans.

\* See Prescott's "Conquest of Mexico."

† See Bancroft's "Native Races of the Pacific States."

The inhabitants excelled in various mechanical arts, especially that of working of metals, the manufacture of cotton and agave clothes, and of a delicate kind of pottery, rivalling, Herrera says, that of Florence in beauty. The capital, so conspicuous for its refinement, was more venerable for its religious traditions. It was here that the God Quetzalcoatl dwelt and taught the Toltec inhabitants the arts of civilization. It was in honor of this benevolent deity that the stupendous mound was erected, on which the traveler still gazes with admiration, as the most colossal fabric in New Spain. The date of the erection is unknown, for it was there when the Aztecs entered on the Plateau. It had the form common to the Mexican *teocallis*—that of a truncated pyramid, facing with its four sides the cardinal points, and divided into four terraces. The perpendicular height of the pyramid is 177 feet. Its base is 1,423 feet long, twice as long as the great pyramid of Cheops. It may give some idea of its dimensions to state that its base, which is square, covers about 44 acres, and the platform on its truncated summit embraces more than one. It reminds us of the colossal monuments of brick-work, which are still seen in ruins on the banks of the Euphrates, and, in much better preservation, on those of the Nile.

The following description is from Bancroft's "Native Races," Vol. iv., p. 484:

From a base of about 1,440 feet square, whose sides face the cardinal points, it rose in four equal stories to a height of nearly 200 feet. Traces of artificial terraces are noted on the slopes, and excavations have proven that the whole amount, or a very large portion of it, is of artificial construction. The material of which the mound is constructed is *adobes*, or sun-dried bricks, generally about fifteen inches long, laid regularly with alternate layers of clay. Col. Brantz Mayer says the *adobes* are interspersed with small fragments of porphyry and limestone, but the historian Veytia ascertained the material to be small stones and a kind of brick of clay and straw in alternate layers. \* \* \* Bernal Diaz at the time of the conquest counted 120 steps in the stairway, which led up the steep to the temple, but no traces of the stairway have been visible in modern times. Humboldt shows that it is larger at the base than any of the Old World pyramids, over twice as large as that of Cheops, and a little higher than that of Mycerinus. He says: "The construction of the *teocalli* recalls the oldest monuments to which the civilization of our race reaches. The historical annals of aboriginal times, confirmed by the Spanish records of the Conquest, leave no doubt that the chief object of the pyramid was to support a temple." Latrobe says: "Many ruined mounds may be seen from the summit, in fact the whole surface of the surrounding plain is broken by both natural and artificial elevations."

There is no doubt that this terraced mound was a pyramid on whose summit was the ancient *teocalli* in which the Toltec priests formerly worshipped. It was probably the centre of the so-called city which Cortez entered and by stratagem conquered, though with great slaughter of the natives, and with considerable loss to his own troops. It was originally the shrine at which the nations or tribes, who dwelt in the Valley of Mexico, gathered for sacrifice,



and resembled the temple at Palenque, which was also a sacred place of the Maya race.

Torquemada says they came the distance of 200 leagues, and Sahagun, who saw the Aztec gods before the Christians had tumbled them from their pride of place, has given a minute account of the costume and insignia worn. He says:

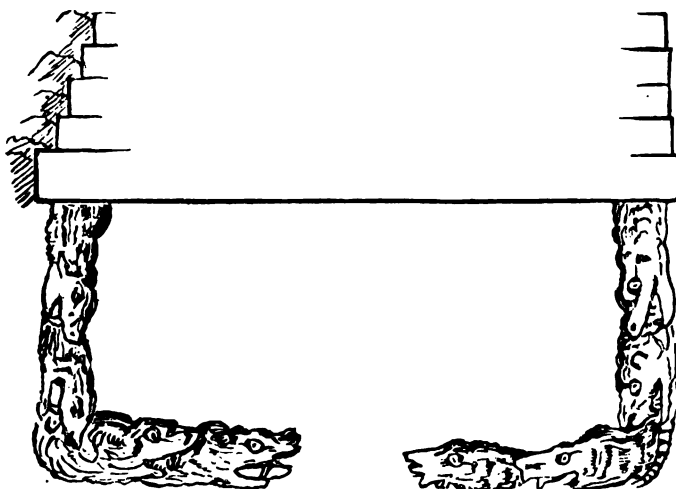
On the summit stood a sumptuous temple in which was the image of the mystic deity, god of the air, with ebon features, wearing a mitre on his head waving with plumes of fire, a resplendent collar of gold about his neck, pendants of mosaic turquoise in his ears, a jewelled sceptre in one hand, and a shield curiously painted, the emblem of his rule over the winds, in the other. The sanctity of the place, hallowed by hoary traditions and the magnificence of the temple and its services, made it an object of veneration, and pilgrims from the furthest corners of Anahuac came to offer up their devotions at the shrine of Quetzalcoatl. In no city was there such a concourse of priests, so many processions and so much pomp of ceremonial sacrifice. Cholula was, in short, what Mecca is among the Mohammedans, or what Jerusalem is among the Christians. It was the "Holy City" of Anahuac. The Aztec gods were worshipped and 6,000 victims were annually offered up at their sanguinary shrines.

Nothing could be more grand than the view which met the eye from the area on the truncated summit of the pyramid. Toward the west stretched that bold barrier of porphyritic rock which nature has reared around the valley of Mexico, with the huge Popocatepetl and Iztaccihuatl standing like two colossal sentinels to guard the entrance to the enchanted region. Far away to the east was seen the conical head of Orizaba, soaring high into the clouds, and nearer, the barren, though beautifully shaped Sierra de Malinche throwing its broad shadow over the plains of Tlascala.

At the elevation of more than 6,000 feet above the sea are the rich products of various climes, growing side by side, fields of maize, the juicy aloe, the chilli, Aztec pepper, plantations of the cactus; the land irrigated by numerous streams and canals, and well shaded by woods that have disappeared before the rude axe of the Spaniards. The Spaniards were filled with admiration at the aspect of the Cholulans; they were particularly struck with the costume of the higher classes, who wore fine embroidered mantles, resembling the graceful Moorish cloak, in texture and fashion. They showed the same delicate taste for flowers as the other tribes of the Plateau, decorating their persons with them, and tossing garlands and bunches among the soldiers. Immense numbers of priests mingled with the crowd, swinging their aromatic censers, while music from various kinds of instruments gave a lively welcome to the visitors. The Spaniards were also struck with the cleanliness of the city, the width and great regularity of the streets, which seemed to have been laid out on a settled plan; with the solidity of the houses, and the number and size of the pyramidal temples. At night, the stillness of the hour was undisturbed, except by the occasional sounds heard in a populous city, and by the hoarse cries of the priests, from the turrets of the *teocallis*, proclaiming through their trumpets the watches of the night.

The city of Mexico, called in the native language Tenochtitlan, was the largest and the most powerful of all the Aztec cities. It occupied, as we have said, an island near the centre of the lake, which was reached by three artificial dykes, one of which connected it with Tlacopan, capital of an allied tribe; a second with the city of Tezcuco, and a third with Xochimilco. These various cities were destroyed by the Spaniards, scarcely a fragment of them remains. The following description, gathered by Prescott from the early historians, is worthy of our notice:

They also saw as they passed along several towns resting on piles and reaching afar into the water, a kind of architecture which found great favor with the Aztecs. The water was darkened by swarms of canoes filled with Indians. The army kept along the narrow tongue of land, which divides the Tezcucan from the Chalcan waters, and entered on the great dyke which connected the island city with the mainland. It was the same causeway which forms the southern avenue of Mexico. The Spaniards had occasion more than ever to admire the mechanical science of the Aztecs, in the precision with which the work was executed, as well as the solidity of its construction. It was composed of huge stones, well laid in cement, and wide enough throughout its final extent for ten horsemen to ride abreast. At a distance of half a league from the capital, they encountered a solid work, or curtain, of stone, which traversed the dyke. It was twelve feet high, and was strengthened by towers at the extremities, and in the centre was a battlemented gateway, which opened a passage to the troops. After this the army reached a drawbridge near the gates of the city. It was built of wood, thrown across an opening in the dyke which furnished an outlet to the waters, when swollen by a sudden influx.



SERPENT WALL IN MEXICO.

The architecture of the city of Mexico is interesting from the fact that it shows how a village, which resembles the lake villages of Switzerland in being placed over the water and built upon piles, grew up to be a great city, with streets, houses, palaces, temples and market-places, and yet continued to be reached by canoes. The growth was rapid, and no specimens of the early stages have been preserved. This growth was due to contact with a Toltec civilization, which had preceded the arrival of the Aztecs, as well as to the resources which the valley afforded, but mainly to the occupations of the people. Mr. Prescott says:

Agriculture was the chief employment, and this resulted in the rapid development of commerce and art. There was scarcely a spot so rude, or a steep so inaccessible as not to possess the power of cultivation. \* \* \* From the resources thus enlarged by conquest and domestic industry, the monarch drew the means for the large consumption of his own numerous

household, and for the costly works which he executed for the convenience and embellishment of the capital. He filled it with stately edifices for his nobles, whose constant attendance he was anxious to secure at his court. He erected a magnificent pile of buildings, which might serve both for a royal residence and for the public offices. It extended from east to west 1,234 yards, and from north to south 978 yards. It was encompassed by a wall of unburnt bricks and cement, six feet wide and nine feet high, for one-half of the circumference, and fifteen feet high for the other half. Within this enclosure were two courts. The outer one was used as the great market-place of the city; and continued to be so until long after the Conquest, if, indeed, it is not now. The interior court was surrounded by the council-chambers and halls of justice. There were also accommodations there for the foreign ambassadors; and a spacious saloon, with apartments opening into it, for men of science and poets, who pursued their studies in this retreat, or met together to hold converse under its marble porticos. In this quarter, also, were kept the public archives, which fared better under the Indian dynasty, than they have since under their European successors. Adjoining this court were the apartments of the king, including those for the royal harem, as liberally supplied with beauties as that of an Eastern sultan. Their walls were encrusted with alabasters and richly tinted stuccos, or hung with gorgeous tapestries of variegated feather-work. They led through long arcades, and through labyrinths of shrubbery, into gardens where baths and sparkling fountains were overshadowed by tall groves of cedar and cypress.

This palace, so graphically described, was a pile of low, irregular buildings, flanked upon one side by the wall of serpents, *coatlpanthli*, which encompassed the great *teocalli*, with its little city of holy edifices. It may have embraced the apartments which were necessary for the accommodation of the great household of the Aztec monarch; all of them arranged in a quadrangular shape, but built in an unsubstantial way and of perishable material.

It will be remembered that this city, with all its grandeur, was swept out by the Spaniards in the process of a three months' siege. The point of attack selected by the Spanish general was Xochimilco, or the "field of flowers," as the name implies from the floating gardens which rode at anchor, as it were, on the neighboring waters. Prescott says:

It was one of the most potent and wealthy cities in the valley, and a staunch vassal of the Aztec crown. It stood, like the capital itself, partly in the water, and was approached in that quarter by causeways of no great length. The town was composed of houses like those of most other places of like magnitude in the country—mostly of cottages and huts made of clay and the light bamboo, mingled with aspiring *teocallis* and edifices of stone, belonging to the more opulent classes.

## THE PROGRESS OF EGYPTOLOGY.

BY REV. WILLIAM C. WINSLOW, PH. D.

The progress of Egyptology during the year 1899, treated by the writer in the May-June number of *THE AMERICAN ANTIQUARIAN*, will now be illustrated by considering a few of the publications, including those which deal directly with discoveries or results from excavations. And first, let us note what is doing in the line of catalogues of our great collections.

Two important catalogues have appeared. The Berlin Museum has issued an entirely new edition of its Egyptian collection. The papyri are no longer included; notwithstanding this, however, the size of the volume is doubled, yet without making it too bulky for the pocket. Full indices make reference easy, the descriptions are revised to date, and notices of large numbers of new acquisitions are added. The arrangement and headings are greatly improved, so that the guide forms in itself a compendium of Egyptian archæology; it is by far the most valuable and handy catalogue yet issued by any museum and is indispensable to the archæologist, who will find abundance of new ideas in the headings and descriptions. Among the new acquisitions we notice particularly the precious fragments obtained during the previous year from the temple of Sabura, now in course of systematic excavation (p. 42), and portions of an unique astronomical instrument of about the XXVIth Dynasty, with an ingenious explanation of its use (p. 309). So, too, the British Museum has published a complete guide to the mummies and coffins which now form so prominent a portion of the collection, occupying almost the whole of the first and second Egyptian rooms. It is embellished with twenty-five plates illustrating an example of the XIth Dynasty and other instances from the XXth Dynasty to late Roman times; it also gives a summary account of the smaller objects in the cases of the same rooms. The plates are numbered in chronological order, but are inserted in the book according to the order in which they are described. Dr. Budge is the editor of this very useful guide.

Mr. Quibell reports upon that gigantic enterprise, a "Complete Catalogue of the Gizeh Museum." It is encyclopædic. He considers that the work will make up some forty volumes, and besides the main inventory, three slip catalogues are to be made:

(1) Catalogue of places, showing at a glance all the objects known to have come from the several sites.

(2) Catalogue of names of persons, arranged alphabetically.

(3) Catalogue of objects dated with certainty, arranged in order of dynasties and reigns.

Indexes of previously existing catalogues and of references to Egyptological literature are being prepared.

The organization and plan of the work are due to Herr Borchardt, who was engaged on the cataloguing of the statues for nearly a year before he was joined by any of his colleagues.

About 10,000 numbers out of perhaps 50,000 have been done. Herr Borchardt has described the statues and Old Kingdom monuments, and is now working on architectural models. Herr Reisner has catalogued the boats and canopic vases and most of the amulets. Mr. Crum has dealt with the Coptic monuments, M. Chassinat with the sarcophagi of the two great Der el Bahri finds, Freiherr von Bissing with pottery, faience and bronze, and Mr. Quibell has been engaged with the archaic monuments. Several volunteers have worked on the catalogue; notably Messrs. Grenfell & Hunt on its Greek papyri, Prof. Wilcken on the ostraca, and Dr. Miller on Greek inscriptions.

"A History of Egypt under Ptolemaic Rule" and "A History of Egypt under Roman Rule" are remarkable and timely publications, essential to every student and reader of Græco-Roman Egypt. Between the first volume, by Prof. J. P. Mahaffy, and the second by Mr. J. G. Milne, there is a wide difference of treatment in the use of material. Mahaffy usually fails to give his authority, while Milne cites references by the wholesale. The former may be more readable, but the latter is more useful. We are assured that Mr. Mahaffy is largely-occupied with the fortunes of the Ptolemaic dynasty, the characters and complicated matrimonial relationships of the several sovereigns, while he nowhere gives any detailed and comprehensive survey of the administrative and economical organization of the country. Indeed he frankly abandons it as impossible (p. 93); but this is surely to overlook the success of Lumbroso, and since the appearance of that admirable work the available materials have been increased by the great discoveries of the last ten years. No doubt many difficulties and obscurities remain; but this is equally the case with every part of the history of the Ptolemies, and would only provide the greater scope for Mr. Mahaffy's ingenuity, boldness and resource. In any case, a collection and sifting of the existing materials could not fail to be useful to the student, both for the purpose of reference and as a starting point for future research. This is what Mr. Milne has attempted for the Roman period, and it is the most valuable portion of his book. His summary of Egyptian annals is somewhat dry and barren; but his

tabulation of administrative and economical details, which occupies chapters i., viii., ix., x., and the appendices, will be most gratefully welcomed by those who have hitherto had to collect the evidence for themselves from scattered documents, and who can appreciate the labor involved in such a work.

Mr. F. G. Kenyon gives us a very valuable work on "The Palæography of Greek Papyri," for which he has great aptness and brilliant acquisitions. Its scope may be indicated by specifying the heads of the various chapters: (1) The Range of the Subject; (2) Papyrus as Writing Material; (3) Non-Literary Papyri; (4) Literary Papyri of the Ptolemaic Period; (5) Literary Papyri of the Roman Period; (6) The Transition to Vellum. To these are added appendices, giving a complete catalogue of the literary papyri hitherto discovered (up to and including the first volume of the *Oxyrhynchus* papyri), a list of the principal publications of non-literary papyri, and a table of abbreviations used in papyri. The book is illustrated by twenty photographic plates and a table of eighteen alphabets of literary hands. The whole is an attempt to marshal the evidence which the recent discoveries have furnished with regard to Greek palæography of the papyrus period (a period of which our knowledge was of the scantiest till within the last ten years), and to suggest the leading principles to which that evidence points.

Mr. W. E. Crum has a very scholarly and useful chapter in the *Archæological Report* of the Egypt Exploration Fund on "Coptic Studies." To turn to matters ecclesiastical, we find that M. Revillout has published a very elaborate volume of 400 pages on the Coptic texts relative to the Nicene Council. Such texts throw much light upon the accepted status of a council that composed the famous creed of the Catholic World. It will be recalled how Mr. Groff made some startling and interesting discoveries of the names of Jacob and Joseph in the Karnak lists. Mr. Crum says that Mr. Groff believes himself to have recognized in the London and Leyden Gnostic Papyrus—in that part of it which he terms "a magician's formulary"—the names Jesus, Nazarene, John and Peter, as well as "father in heaven" and "prince of this world," or something corresponding thereto. The forms are, he holds, transcriptions from a Semitic language—an argument for Egypt's very early acquaintance with Christianity. That the authors of such texts drew upon still older sources is doubtless probable; whence the introduction of the names in question might have taken place in an extremely early time. Such discoveries, if substantiated, would certainly be of great interest.

There are many interesting points discussed in the review cited. As far back as the XIth Dynasty tattooing

was practiced, as Dr. Fouquet demonstrates and illustrates by a plate of figures. Lieblein draws attention to medical treatment by inhalation in the Ebers-Papyrus, and Schafer reports upon a magic formula against burns. One of the legal bits is that Mons. Capart thinks that he can prove beheading as a punishment in the early days from a scene in the tomb of Merruka at Sakkarah.

Mr. F. W. Green, a pupil of Dr. Petrie's, comes to the front as an explorer. How he did his work at Hierakonpolis is told by Dr. Petrie in that invaluable publication, the *Archæological Report*:

The main affair was an exhaustive clearing of the ground of the temple site, and much of the town enclosure around it. The raised mound on which the temple was built proved to be almost circular in plan; a mass of sand with chips of prehistoric pottery in it, held up by a revetment of rude steps of stone. It probably belongs to the earliest dynastic age. In the area was found a portion of a large stele of king Kha-sekhem; this is very valuable as proving the exact reading of the name, which has been before doubtful, owing to its roughness on the statues and great stone jars. This stele is the most monumental work of these early dynasties that we have yet seen, and links on to the style of the rock carving of the IVth Dynasty.

A piece of a great porphyry vase with the *ka*-name of king Kha-sekhemui was also found; and part of the base of a statue with apparently a double *ka*-name, which is, therefore, probably of the same king.

In the town was found another important piece. As yet we only know of the three Min statues of Koptos and the kneeling figure of Hierakonpolis as archaic carving on a large scale. Now a life-size figure has been found, of the same very archaic style, but dressed differently from any Egyptian figure, and recalling the early Babylonian style. A long robe reaches to below the knees; it is thrown over the left shoulder, and held by the left arm across the breast; the right arm hangs down the side, and the hand was pierced, like those of the Min statues. Unhappily, the head and feet are both lost, and the block has been often re-used for a threshold and door socket, down the left side.

A large quantity of flint tools and flakes were found in the town, some in the temple, and a few from the cemetery. They are of every quality, from finished knives to mere flakes, and include a great variety of tools. A large mass of minute wrought flakes, the so-called "midgets" of India and Europe, were found together in one place, some thirty pounds weight in all.

On the desert edge a long mass of prehistoric cemetery proved to have been almost entirely plundered by dealers. Some fine flint work and a good deal of pottery was recovered. But the main result here was the painted grave of the middle prehistoric age. The figures are of boats, men, and animals; scenes of both hunting and fighting are shown. It is the most important drawing yet known of the prehistoric age, it clenches for certain the meaning of the boats on the vases, and shows many details of the prehistoric life. The whole was very carefully copied full size in colors by Mr. Green; and he then spent much time and labor in removing the rotten mud coating bearing the drawings, and fixing it in sheets of plaster. Thus it traveled safely to the Cairo Museum. Mr. Green completed his work by a detailed plan and map of the temple and neighborhood.

The importance of training students practically as excavators cannot be overstated. There should be an Anglo-American School of Egyptian Studies and Excavation at Cairo. The *sine qua non* is an endowment. Who will begin it? We notice that Mr. James Loeb, of New York, has just

enriched the School at Athens by a gift whose assured income will be \$600 a year. Such generosity deserves to be followed by wealthy men in our country, who appreciate the great work yet to be done in Egypt to cast light upon the history of our race.

---

### ANTHROPOLOGICAL NOTES.

BY ALEXANDER F. CHAMBERLAIN

**SAMOA.** In the *Internationales Archiv für Ethnographie* (Vol. XIII., 1900, pp. 55-70), W. von Buelow continues his studies in Samoan ethnography. The author describes and figures a curious stone implement, new to him, although resident for some eighteen years in Samoa; nor does it seem to be familiar to the modern Samoans. The rest of the paper is devoted to the consideration of the peopling of the island of Savaii—native texts and translations are given of certain legends relating thereto, and many explanatory notes added. Not all of the Samoan islands seem to have been peopled from the west (as Savaii and a part of Upolu were), there being traces of a migration also from the eastward. The first inhabitants probably belonged to the same race as the vanguard of the great Malayan migration.

++ ++ ++

**GERMAN NEW GUINEA.** In the *Internationales Archiv für Ethnographie* (Vol. XIII., 1900, pp. 18-54, with eight plates), Mr. R. Parkinson writes of the ethnology, sociology, language, etc., of the Berlinhafen region of the New Guinea coast. The good qualities (and these savages incline to that side) are not few, and their friendliness and hospitality are marked. On the bad side, lying, theft, laziness, passion, cruelty, etc., are to be noted. The position of women and children is by no means of the lowest. The population, as a whole, appears to be slowly decreasing,—this is due to wars, disease, unhygienic methods of living, immorality of a sexual sort, etc. The enormous *frisures* of the men are in marked contrast with the shaved heads of the women. Ornaments for the hair are much in use, and old and young of both sexes are fond of wearing the red blossoms of the *Hibiscus*. Characteristic of this region is the *Parak* or "spirit-house," upon which the natives expend all they are capable of in building, decorating, painting, carving, and other arts. The author gives a detailed description of the *Parak*. Interesting, also, is the less carefully constructed *Alol* (village-house, council-house, bachelors' house), after which come the ordinary houses still less carefully built. In the mythology of these people figure: *Mokrakun* (a female deity), protective deities (*genii loci*) called *tapun*, and *Mohs*, an evil spirit. In this region of New Guinea, as on that island generally, langu-



ages and dialects fairly pullulate. According to Mr. Parkinson, "the little island of Tamara, containing only some 280 to 300 people, has its own language, divided into two dialects" (p. 48). So also have the islands of Ali, Seleu, and Angel, the languages of which differ from that of Tamara about as Dutch does from German. Other parts of the region in question also have their particular language. Consonantal interchange and euphonic addition are current to such an extent in Tumleo, the language spoken on Tamara, that the author assures us that the word for "speak," may be pronounced: Kapál, napál, tapál, rapál, mákapál, mánapál, mátapál, or márapál. The differences in the two dialects in use in Tamara consist in the use of a number of entirely different words, vocalic divergences, etc.

++ ++ ++

JAVANESE PUPPET-PLAY. In the Internationales Archiv für Ethnographie (Vol. XIII., 1900, pp. 4-17), Dr. H. H. Juynboll, of Leiden, describes (with ten plates) the *Wajang Kelitik*, a Javanese puppet-play of considerable antiquity. The name *wajang* is somewhat inaccurate, since it signifies not "puppet," but "shadow,"—*kelitik* seems to mean "small." The play, in which the figures are flat wooden dolls, deals with the heroic deeds of Damar Wulan, Sijung Wanara, and other personages of the Padjadjaian and Madjapahit periods, the last of which extends from 1216 A. D. to 1390 A. D. The author promises another (concluding) part of his very interesting study. In the *Wajang Kelitik* not the shadows of the dolls, but the figures themselves are used.

++ ++ ++

MALAY MAGIC. Mr. W. W. Skeat's "Malay Magic: being an Introduction to the Folk-Lore and Popular Religion of the Malay Peninsula" (London, 1900, pp. xiv., 685), is a well-written volume upon a topic which must be of considerable interest to Americans at the present time, as an excellent account of the mythological and religious life of a people now becoming profoundly modified by the influences of modern civilization. Mr. Skeat, as an English official in the federated Malay states for many years, writes as one having authority concerning the things that are passing away. For the Malay "magic" is the one thing in life, that can keep man safe amid the vicissitudes, troubles and accidents of the spirit-moved and spirit-haunted world. Consequently rites and ceremonies are legion in number, and the best part of the book is taken up with their description. Amid all the overlaying of Mohammedanism, Brahmanism, etc., the vastly older spirit-worship still survives in a quaint and curious fashion,—sorcery, witchcraft, demonology are oftentimes older than religion, and the sevenfold soul even more ancient still. The Malays have been very much influenced by Arabic and Hindu culture and literature,—more, probably, than has hitherto been recognized.

**BAMBOO MANNA.** In a brief communication to *Nature* (Vol. LXII., pp. 127-128) for June 7, 1900, Mr. David Hooper, of Calcutta, calls attention to "the recent occurrence of a sweet secretion on the stems of bamboos growing in the Central Provinces." It is at least curious, as the author notes, that "this is said to be the first time in the history of these forests (of Central and Southern India) that a sweet and gummy substance has been known to exude from the trees." As the present famine-scarcity is most keenly felt in the Central Provinces, this "bamboo manna" is being consumed as a food by the natives of the region in question. The fact suggests at least an effort of Nature to overcome the famine-evil. "Bamboo manna" is known of old time, as the Sanscrit name *tvak-kshira* ("bark-milk"), whence our medical term *tabashir*, indicates. The appearance of the "manna" in the Chanda district seems to have been reported last March, the forests concerned consisting of the male bamboo, *Dendrocalamus strictus*.

++ ++ ++

**IRANO-INDIAN ICONOGRAPHY AND ANTHROPOLOGY.** In *L'Anthropologie* (Vol. XI., 1900, pp. 23-56), M. Charles de Ujfalvy, whose previous studies have been noticed in an earlier issue of *THE AMERICAN ANTIQUARIAN* (Vol. XXII., p. 103), presents the first part of a detailed discussion of the iconographical anthropology of ancient Iran and India, a paper in which the importance of numismatic anthropology is again demonstrated. Among the topics treated are: The genealogical past of the Irano-Indians; the physical type of the ancient Persians; the monumental glyphs and other figures. The author, in passing, calls attention to the Hellenic type of Bagaraz (300 B. C.), king of Persepolis, and the Greeco-Macedonian mixture in the Bactrian king Eucratides (180 B. C.). With De la Lapouge, Ujfalvy believes in the anteriority of Iranian over Indian civilization, placing the separation of the Irano-Indian stock at somewhere between 2000 and 1500 B. C., an estimate which does some injustice to the Aryans of Hindustan. He also holds, with Fergusson, that there was (as the Greeco-Buddhistic sculptures indicate) an invasion of India from the region of Tibet, before the Aryan migration took place. The bas-relief of Behistun, the great sarcophagus of Sidon, the bas-reliefs of Darabguird and Shapur, the cameos, intaglios, medals, coins, etc., of the Achimenidæ and Sassanidæ, covering a period of some one thousand years, "enable us," M. Ujfalvy thinks, "to show the slow but constant transformation of the Iranian type."

++ ++ ++

**ORIGIN OF THE BRONZE-CULTURE.** In the *Correspondenzblatt der deutschen Anthropologischen Gesellschaft* (Vol. XXX., 1899, pp. 146-150), Prof. R. Virchow writes about the origin of the Bronze culture in connection with the German expedition to Armenia under Drs. Belck and Lehmann. Dr.

Virchow notes how the old chroniclers, poets, etc., have looked upon the land of the Chaldeans as the original home of the bronze-culture, while, later on it has been attributed to the "Caucasian race," in the formula of old Blumenbach. If an independent bronze-culture ever arose in the Caucasus, it must have been in the southern portion, the Transcaucasia of the Russians, and not in the region north of the mountains which have given their name to this part of Eurasia. According to Dr. Virchow there seems to be no connection between the "Caucasian" and "Assyrian" cultures, a fact rendered more important by the recent discoveries of Lehmann and Belck, as to the character of the Assyrian inscription in the Armenian country—a foreign language in the Assyrian script. The bilingual stele of Topsana examined by Dr. Belck is of the greatest possible interest to ethnologists.

++ ++ ++

NEOLITHIC PIGMIES. In the *Correspbl. der deutschen Anthropologischen Gesellschaft* (Vol. XXX., 1899, p. 145), Dr. J. Nuesch, of Schaffhausen, reports briefly on a new discovery of the remains of pigmies of the neolithic period at Dachsenbüel, near Herblingen, in the Canton of Schaffhausen. The new "station" lies between those of Kesslerloch and Schweizerbild, and seems to have been examined in 1874 by Dr. Franz von Mandach, and the skeleton remains deposited in the town museum of Schaffhausen. These skeletons, examined again by Dr. Nuesch in the spring of 1899, turned out to be pigmy remains strikingly like those of Schweizerbild. The author is about to publish a detailed account.

++ ++ ++

BRITISH ORIGINS. An interesting, if not altogether convincing book, is Mr. N. C. Macnamara's "Origin and Character of the British People" (London, 1900, p. 242), in which the author seeks to explain the peculiarities discoverable locally in British Isles, as hereditary phenomena due to the various races, which, from time to time, have settled in that part of the globe—Iberians (descendants of palæolithic man), Aryans (the Cro-Magnon race represents the first stream), Mongolians (represented by the tall brachycephalic folk of northern Europe in prehistoric times, and by the short brunette brachycephalic people of the Bronze Age, etc.).

++ ++ ++

ARYAN PHILOLOGY. One of the most interesting of the Temple Primers, published by J. M. Dent & Co., is Sweet's "The History of Language" (London, 1900), a book well-worth reading by all students of comparative philology. What is of most importance for us here, is the author's view of Aryan origins. According to Sweet, Scandinavia is the primitive home of the Aryans. There the "Ugrian" immigrants,

who conquered the aboriginal population, were absorbed by the latter, and the resulting mixture of tongues gave birth to the Aryan speech. Mr. Sweet's acquaintance with Finnish gives to his opinion added weight.

++ ++ ++

ESKIMO BRAIN. In the Proceedings of the American Medico-Psychological Association for 1899 (pp. 393-397), Dr. A. Hrdlicka publishes a very interesting account of an Eskimo brain. The brain is that of Kishu (aged about forty-five), one of the Peary Eskimos, who came to New York in 1896 from Smith Sound, dying afterwards of tuberculosis. Of this Eskimo group, four have died since their arrival in the country, one has been sent back to Smith Sound, and one—a boy—is living yet. Kishu appears to have been a sort of chief and intellectually superior to the two other men with him. Dr. Hrdlicka found the brain of Kishu (1,503 gr.) to be, as a whole, heavier and larger than the average brain of white men of his stature (1,640 mm.), and also found that "in external conformation, the Eskimo cerebrum exceeds that of an average white male in the number, extent and depth of the sulci and complexity gyrations." As a consequence, it may be inferred that the Eskimo cerebrum had "attained a very fair degree of development and differentiation not inferior to the average white." Dr. Hrdlicka considers that "the zoological inferiority" of Kishu's cerebrum is "compensated for by the advanced evolution of the cortex." The two hemispheres of the brain of Kishu seem to differ widely; the development of Broca's speech-center is noteworthy; the centers of sight, hearing and smell are "largely developed," and, except sight, "more developed in the right hemisphere." The details of Dr. Hrdlicka's examinations are very valuable, and the promised account of the other three Eskimo brains will be awaited with great interest.

++ ++ ++

BABY ATAVISMS. Under the title "Human Babies: What They Teach," Mr. S. S. Buckman writes in *Nature* (Vol. LXII., pp. 226-228) for July 5, 1900, of the "quasi-quadrupedal" gait of early childhood (due to the necessity of unlearning the quadrupedal before acquiring the bipedal gait of man); the "semi-clasped position of the hands" (reminiscent of bough-grasping); the "inability to fully extend the fingers" (also suggestive of bough-grasping ancestors); the child's way of grasping a flower-pot, of clinging to a rope, of turning the soles of the feet, its "climbing instinct"; the "monkey habit" of bird-nesting in later years. Mr. Buckman also calls attention to facial expression (mandril-like, sometimes, conventionalized as pleasureable symptoms),—tattooing and face-coloration among savages may find, in part, its explanation here. Pain-expressions (the peculiar square mouth, the tight

closing of the eyes,—seen also in certain animals, *e. g.* the cat) reveal the past history of the race. Mr. Buckman's brief but interesting article is illustrated by three figures from photographs. A somewhat detailed, and, at times, rather fanciful discussion of "monkey traits in man" will be found in Dr. J. Quantz's paper on "Dendro-Psychoses," in the American Journal of Psychology, Vol. IX., pp. 449-506.

++ ++ ++  
++ ++ ++

NATURE FEELING. Under the title "Primitive Nature Study" the writer of these notes contributes to the Semi-Centennial Memorial Volume (1849-1899), of the Canadian Institute (Trans., Vol. VI., pp. 313-344), an essay on the feeling towards nature of savage and barbaric peoples. Evidence of interest in and love for nature is derived from consideration of their songs and dances; their folk-lore and proverbs; their priestly rites and ceremonies; their prayers and other religious literature; their games and the songs therewith connected; their secret societies and their *modus operandi*: the nomenclature of the plant and animal world,—the botanical and zoological knowledge of primitive peoples; their arts and art products; their inventions and industries; their calendar-systems and other records,—names of the seasons, months, points of the compass, etc.; their agricultural operations, so closely related to primitive religion. Like other ideas of savage and barbarous peoples their nature-feeling indicates "a knowledge of the immanence of God and a hope of the permanence of man."

++ ++ ++  
++ ++ ++

LANGUAGE AND RELIGION. In the same volume (pp. 273-284), Rev. John Maclean writes of "Language and Religion." For the author "language is the handmaid of religion," and some conception of the religious ideas and ceremonies of a tribe or a nation may be obtained by the study of words and forms of expression. Dr. Maclean points out that the study of Indian languages amply reveals the fact that the different stocks had different religious beliefs; also that not a few of the words for God now in use are the result of missionary teachings. He notes also the arrest of language due to political influence, and the development of national unity through kinship of speech. Dr. Maclean seems to look with favor on Horatio Hale's theory of the origin of linguistic variety by reason of the language-making instinct of children. A very interesting fact is noted: "The Blackfeet, Blood and Piegans, speaking the same language, when separated give different names to the same things introduced by the whites" (p. 281).

## EDITORIAL.

### CHINA AND THE CHINESE.

The so-called "Celestial Empire" is receiving at present much attention from the "Civilized World." The terms *celestial* and *civilized*, however, express a contrast which is worthy of our attention. China is called the Celestial Empire because of the conceit that has long held sway there, that the Emperor reigns as representative of the celestial world, and occupies the very centre of terrestrial and celestial kingdoms. The very throne on which the Emperor sits is covered with celestial banners, and the tower, which is representative of its government, is surrounded by terraced circles, which are symbols of the nine worlds, or spheres. The tower itself is a great

cone, which suggests a pivot on which the heavens revolve, and is divided into three stories, to represent the celestial, terrestrial, and human sovereigns.

This conceit somewhat resembles that which formerly existed among some of the aborigines of America, especially among the Zunis and Pueblos. Their conception is that



THE TEMPLE OF HEAVEN.

there were six points of the compass—east, west, north, south, zenith, and nadir—and both the sky and the earth are divided into six parts. Various animal divinities rule over each; but the centre, which made the seventh or thirteenth point, is the place where the gods and men meet together, though with that people there is no man, either chief or emperor, king or priest, who occupies the centre, but everyone, who is properly initiated and is friendly with the gods.

In China, the centre was occupied by the Emperor, and he ruled in the name of the gods. The throne was an imaginary centre, and most of the Chinese temples were built so as to express this thought. It was an ancient belief of Chinese writers that there had existed a period of 2,267,000 years between the time when the powers of heaven and earth first united to produce man, as the possessor of the soil of China, and the time of Confucius.

It was necessary for the early historians to invent long lines of dynasties to fill up the gap between the Creation and the historical period. There were dynasties in which appeared certain inventions, which resembled those spoken of by Sanchoniatho, the Phoenician historian. In one of these dynasties, the people were taught to make huts of the boughs of trees; in another, the use of fire; in a third, the making of knots on thongs, by which events were recorded; next comes the discovery of iron.

In 2852 B. C., Fuh-he and his seven successors arose, who separated the people into tribes and invented the eight diagrams, the ninth point being the centre of the empire, the foundation of the Yiaking. His successor invented the plough and introduced civilization, such as it was.

In the year 2356 B. C., Chinese history emerged from the mist, 2,000 years later than the beginning of Babylonian history under the Accadians. About this time Yaou established marts and fairs throughout the land, and canals to drain off the water of the flood. In 936 B. C., the Tartars are for the first time heard of, when they made predatory excursions into the territory.

Confucius was born in 551 B. C. and devoted his life to the promulgation of virtues and the right principles of government, but died in retirement, a neglected and disappointed man.

In 255 B. C., the empire extended from the 33rd to the 38th parallel of latitude, and from the 106th to the 119th degree of longitude; and the first universal emperor appeared, who built a magnificent palace at Se-gan Foo, and led 300,000 men against the Tartars.

In 65 A. D., Buddhism was introduced from India into China. About 220 A. D., three usurpers divided the empire between them, and established the "Three Kingdoms." This period of disorder was brought to a close by the establishment of the Suy dynasty in 590, under Yang Keen, who added 5,000 volumes to the Imperial Library, making the number 15,000. The Tartars and Coreans were defeated and the frontier was extended as far as eastern Persia and the Caspian Sea. In 635, a Nestorian priest established a Nestorian church. In 643, ambassadors came from Persia, Rome, Nepaul and Magadha. The Tang dynasty in 841 abolished all temples, closed the monasteries and nunneries, and subjected foreign priests to the same repressive legislation, including Christians, Buddhists and Magi; but Buddhism very soon revived.

The Mongols began to acquire power in Eastern Asia about the beginning of the Twelfth century, and under Genghiz Khan invaded the Chinese provinces and destroyed over ninety cities. He sent 300,000 men to ravage the country bordering on the Caspian Sea; 600,000 men to subdue the power of Sung. In the reign of Kublai Khan, Marco Polo visited China. In 1436, Cochin-China rebelled and gained her independence. In 1542, a Japanese fleet appeared off the coast,



THE BRITISH LEGATION.



THE SUMMER PALACE.



ONE OF THE GATEWAYS AT PEKIN.



invaded Corea, defeated the Chinese army and destroyed the Chinese fleet.

In 1620, the Manchu Tartars led an army into China, gained a victory over the Chinese, and introduced the Manchu dynasty. This dynasty cut through the dykes of the Yellow River ("China's Sorrow"), flooded the whole country, and 200,000 inhabitants perished in the flood.

In 1721, Thibet was added to the empire, which extended from the Siberian frontier to Cochin-China and from the China Sea to Turkestan.

The principal religions of China are Buddhism, Taouism, and Confucianism, to which may be added Mohammedanism, Christianity having been introduced during the last century. The old religion of China was a sort of spirit worship and magic, which might be called *geomancy*, corresponding with the system of necromancy; as it was supposed that the earth (*geo*) was possessed by a subtle influence, which shoots through the



OFFICIAL RESIDENCE IN PEKIN.

air in straight lines, and must not be interrupted by buildings or any other obstruction. The doors of the houses must be arranged so that it can pass through. Combined with this is the old system of dragon or serpent worship and the common system of ancestor worship.

The ideas and customs of the Chinese are just contrary to ours. The needle of their compass points toward the south, and every house in China faces the same way, as well as the state seats in all reception rooms. The left of the host is the place of honor. In 1860, attempts were made to introduce railways and telegraphs, but, until foreign powers took possession, were resisted, because they disturbed the sleep of their ancestors.

The Chinese village life has been described by Rev. Arthur Smith, a missionary from the Congregational Church. He says the Chinese village is the empire in miniature, and many of the capitals are merely large villages with government

bureaus. Nearly every village is surrounded by a wall and has a street, and, perhaps, a net-work of them, but no two are parallel and no one of them is straight.

The architecture of the Chinese has been not inaccurately described as consisting essentially of two sticks placed upright with a third laid across them at the top. The shape of Chinese roofs suggests the tent as the prime model. Owing to the national reluctance to erect high buildings, almost all Chinese cities present an appearance of monotonous uniformity, greatly in contrast with views of large cities to be seen in other lands. The houses are generally built on the north end of a court-yard, so as to face the south; if the premises are large, the front wall of the court-yard is formed by another house similar to the one in the rear, and, like it, having side buildings. The houses are built in divisions of small rooms, which can be conveniently covered by timbers of one length, owing to the scarcity of long timbers. No division of a house will exceed ten or twelve feet in length. There is no ceiling, and the



THE WALL ABOUT PEKIN.

roof, which is not lofty, is in full view. The dwellings are cold in winter, hot in summer, and smoky all the year round.

The city of Peking has been the capital since 1282, when the country was conquered by the Mongols, under Kublai Khan. It consists of two parts: the Chinese city, covering an area of fifteen square miles, and the Tartar city, with an area of twelve square miles. Both are inclosed by a wall thirty feet high, twenty-five feet wide at the base, and twelve feet at the top. Square towers project forty or fifty feet from the outside at distances of about sixty yards, and outside the walls there are ditches, which are crossed by bridges at intervals. The principal relief from the monotony of the dead wall, is the watch towers over the gates, the flagstaves over official residences, and a few pagodas. The gates are formed by arches, each surmounted by a wooden tower, generally five stories high, with embrasures upon which are painted bull's eyes, which have the appearance of guns.

The Tartar city consists of three inclosures, one within another, each surrounded by its own wall. The innermost con-

tains the imperial palace and its surrounding buildings; the second is occupied by the several officers appertaining to the government, and by many private residents, who receive especial permission to reside within its limits; and the outer one, for the most part, consists of dwelling houses, with shops in the larger avenues.

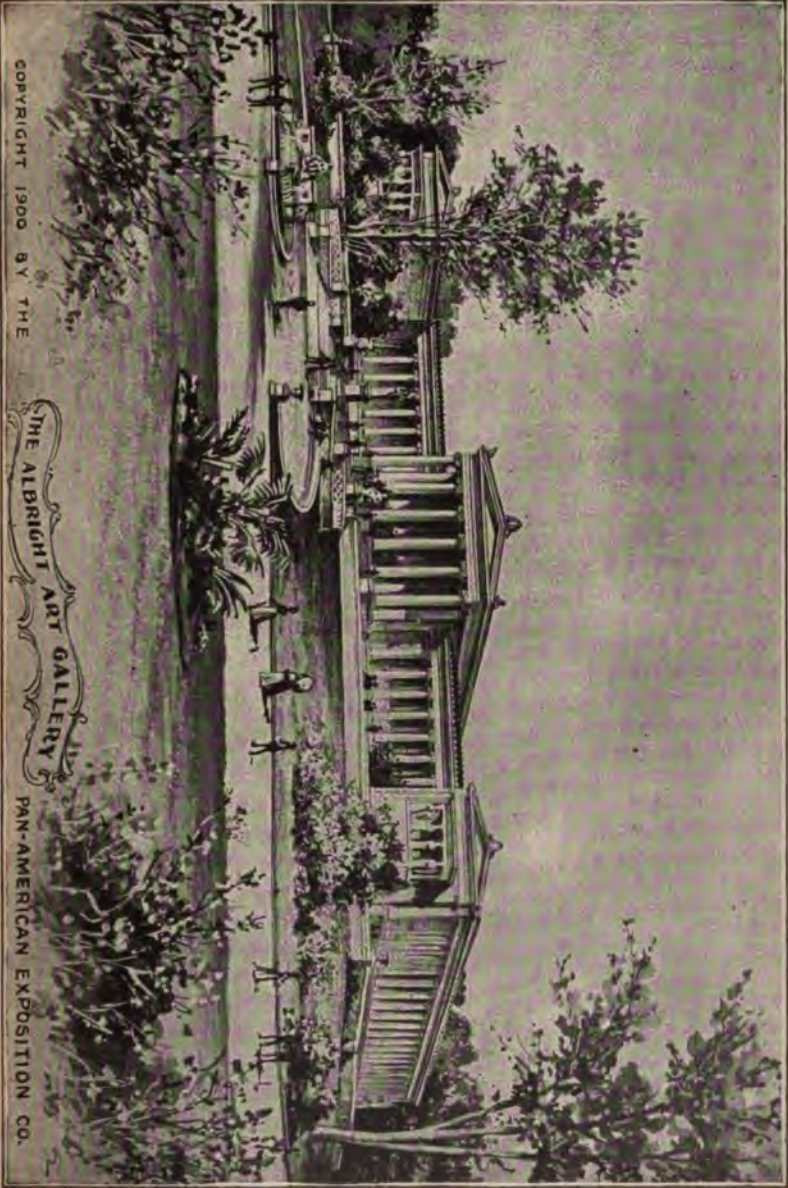
The present uprising under the Boxers is the result, in part, of the usurpation of the government by the Empress Dowager, who is an unprincipled woman and has risen to her position by poisoning all her rivals, and imprisoning the Emperor himself.

These Boxers are a secret society, the members of which go through a drill, in which they invoke certain spirits by incantations, and then beat their bodies with bricks to harden them, so that they can endure the pounding of knives without injury. They call themselves "The Society of United Boxers," and are supposed to have an incantation consisting of nineteen characters. Those who know eight can fight 10,000 men, and those acquainted with sixteen or seventeen characters can pull down foreign houses as easily as they can move a tea box. The name "Boxer" in Chinese is "I Ho Chuan," or "Righteous Harmony Fists." The poem or incantation which is the source of their inspiration runs as follows:

God assist the Boxers,  
 The patriotic, harmonious corps;  
 It is because the foreign devils disturb the Middle Kingdom,  
 Urging people to join their religion,  
 To turn their backs on heaven.  
 Venerate not the gods and forget the ancestors.  
 The earth is getting dry,  
 This is because the Churches stop the Heaven.  
 The gods are angry,  
 The genii are vexed;  
 Both are come down from the mountains to deliver the doctrine.  
 This is not hearsay.  
 The practice will not be in vain  
 To recite incantations and pronounce magic words.  
 Burn up the yellow written prayers;  
 Light incense sticks;  
 To invite the gods and genii of all the grottoes;  
 The gods will come out of the grottoes,  
 The genii will come down from the mountains,  
 And support the human bodies to practice the boxing.

This poetry shows the constitutional defects of the Chinese; there is no poetry in their nature, and scarcely any music, for their theaters are places where the most hideous noises are made, and their literature is a mass of rubbish. As to what the future of the nation will be, it is difficult to prophesy. There are certain inventions and material works of art which show plodding industry and the type of their education, which consists in plodding, and is attended with unbounded conceit.

The missionaries have come in contact with all this, and the world has lately come to see what inane and senseless superstitions still prevail. There is no hope that the Chinese will



COPYRIGHT 1900 BY THE

THE ALBRIGHT ART GALLERY

PAN-AMERICAN EXPOSITION CO.

rise to any higher civilization until the introduction of modern ideas, and the supplanting of old customs and superstitions by the advance, education and religion of the more civilized nations.

STATE RELIGION OF CHINA.

In the "Journal of the American Oriental Society" (Vol. XX., 1st half), there is a most interesting article on the "Worship of Heaven and Earth by the Emperor of China," by Henry Blodget, D. D. He says the state worship of the earlier kings of Egypt, Greece, Rome, Phoenicia, Assyria, Babylonia, and India, no longer exists in real life; but we have the ancient worship of China preserved in the living form to the present time. The "Altar to Heaven" is located in the southern suburb of Peking, three miles from the Palace; the "Altar to Earth," in the northern suburb, two miles from the Palace. This is in accord with the dual principles, Yin and Yang, the latter meaning light and heat, the former cold and darkness; the first at the south, the last at the north. The "Altar to the Sun" is on the east side; the "Altar to the Moon," on the west. Each of these four altars is situated in a large park. In the southern part of the enclosure is an altar for prayer, crowned by a dome-shaped pavilion, with three successive roofs, covered with azure tiles; the two lower roofs extend out in widening circles around the dome, the upper roof covers the dome and is surmounted by a gilt ball; the whole is designed to represent the vault of heaven.

The Altar to Heaven is built of white marble and stands under the open sky. The structure is in three circular terraces, rising one above another, surrounded by a marble balustrade. The upper terrace is paved with white marble slabs, arranged so as to form nine concentric circles, with a circular stone in the centre, upon which the Emperor kneels for worship. The innermost circle has nine slabs, and each receding circle has a multiple of nine, the outermost having the square of nine. The altar is round and represents the circle of heaven. The ascent to the altar is by three separate flights of steps, on each side—that is north, east, south, and west,—each flight having nine steps.

Answering to the Altar to Heaven is one to Earth. This altar is square and is made of dark-colored marble, to represent the dark principle—*Yin*. The top of the altar is paved with slabs laid in squares, around a central square; each of the squares consists of successive multiples of eight, instead of nine. The altar is encompassed by a trench filled with water. There are four bridges across the trench, connecting with four flights of steps at the cardinal points. The altar is separated from the street by four walls, which are covered with yellow tiles, to represent the color of the earth.

The worship of heaven comes at the winter solstice; of earth, at the summer solstice. The day previous to the sum-

mer solstice, the Emperor comes forth in magnificent state, prostrates himself before the tablets to earth and to his ancestors, and burns incense; he remains while the tablets are removed with great ceremony from the sacred building, and placed upon the square altar. He then ascends the altar in his robes of yellow satin, the color of the earth, and amid profound silence, interrupted only by the swelling strains of music, with his numerous cortège about him, worships the earth and his ancestors. After this, the square jade stone, the symbol of the earth, and the tablets to the ancestors are all returned to their places for safe keeping.

This solstitial worship is the most ancient and the most sacred among the Chinese; no one but the Emperor is allowed to perform it. The religious feelings are deeply moved in performing these sacred rites. There is a certain elevation of mind, and grandeur, and awe, which attaches to the worship of the vast heaven and broad earth, symbols of the dual system; and as performed by the monarch of so many millions of human beings it is imposing. This worship of heaven and earth stands at the head of the Chinese Pantheon. It includes the powers of nature, deceased emperors, sages, heroes, warriors, statesmen, inventors of useful arts, and the under world. It is attended with the belief that when the dual principles—*Yang* and *Yin*—unite, they produce water, fire, wood, metal, and earth; and when these five forces operate in harmony, the four seasons come to pass; the five elements combine, the heaven becomes male, the earth female, and all things are produced and reproduced without end. This is in strong contrast to the religion of the Boxers, which is a mere superstition with reference to *geomancy*.

---

#### THE ART MUSEUM AT BUFFALO.

The city of Buffalo is soon to have a Public Art Gallery, the cost of which is \$350,000. The building, which is to be one of the most beautiful in the interior, is the gift of J. J. Albright, who is a citizen of Buffalo and a liberal patron of art. The building will be used as the Art Palace of the Pan-American Exposition. It is just within the limits of Delaware Park, and overlooks the beautiful park lake. It will be 250 feet long, 150 feet wide, and will stand upon a broad terrace 35 feet above the level of the lake. The style of architecture chosen is the classic Ionic Greek, both the eastern and western façades showing rows of rich, graceful columns. A semi-circular colonnade forms the centre, and it has broad wings at the north and south, terminated by porches, which will be reproductions of famous architectural works of ancient Greece. The portico of the Erectheum, one of the most interesting of the ruins of the Acropolis, which dates back to the Persian invasion, 400 B. C., will be reproduced.

Entering the building, one comes first to the hall of statuary, which is 100 by 70 feet. Directly west of this is the hemicycle, an audience room furnished with seats and a rostrum, capable of holding several hundred people. North of Statuary Hall will be a gallery 35 by 58 feet. On either side of the corridor are the library and board rooms; beyond will be seven studio rooms. In the western part of the building are two ante-rooms and four large galleries.

### THE STREET OF NATIONS.

The most interesting feature of the Paris Exposition is the Street of Nations. This is supposed to represent the architecture which prevails among the nations, and yet so many of the buildings have been finished up in a very tawdry manner



THE STREET OF NATIONS.

that it is difficult to trace the styles which are distinctive. We have, however, given in the frontispiece several cuts, which are familiar, but which at the same time are suggestive. The Chinese Pavilion, the Belgian and Norwegian Buildings, the Austrian and Swiss Buildings represent the architecture of those countries very well. The Italian seems a mixture of Mohammedan and Gothic; the Mexican and American are both failures as regards representing characteristic styles—neither are impressive. The question is whether anything is more distinctly American than the old Colonial style. The cuts which represent these buildings, as well as those which give us a view of Peking, its walls and buildings, have been kindly loaned us by Mr. Carter, Editor of *The Locomotive Fireman's Magazine*.

### EDITORIAL NOTES.

---

PROF. DOERPFELD, director of the German School at Athens, is following up the explorations of Schliemann, and hopes to discover the palace of Odysseus, as he is a firm believer in the reliability of Homer as a delineator of the times.

---

THE American School for Oriental Research in Palestine is to open next October, headquarters in Jerusalem. The director will be Prof. T. Cutler Torrey, formerly of Andover Seminary, now of Yale. Twenty leading American colleges have pledged their support.

---

### EGYPTIAN ANTIQUITIES.

Under the above title a very useful pamphlet, with illustrations, has just been published by the Rev. Dr. William Copley Winslow, of Boston. A portion of it appeared in THE AMERICAN ANTIQUARIAN for July-August. Anyone sending five cents to the Egypt Exploration Fund, 59 Temple Street, Boston, can secure a copy.

---

### RECENT DISCOVERIES IN THE EAST.

IT was stated in the last issue of THE AMERICAN ANTIQUARIAN that Messrs. Grenfell & Hunt had transferred their allegiance to the University of California. They are still in charge of the Græco-Roman Branch of the Egypt Exploration Fund, but they did some work for the University of California last winter.

Mr. George St. Clair claims to have discovered a key to the interpretation of the ancient Egyptian mythology. The key is nothing more nor less than the regulation of the calendar. This is in the right direction, for the calendar was of more importance to ancient Egypt than to any other country; but the key was hidden away by the priests and scribes, and it is unreasonable to suppose that Mr. St. Clair has discovered it. There may have been an astro-religion to Egyptian mythology, but there was no continuous tradition or historical development, for different dynasties were frequently established and different nations introduced, which overthrew all that was before extant.

The discoveries in Crete continue. Some superb Phœnician bronzes and specimens of armor, suggestive of Egyptian and Babylonian origin, have been uncovered. Prof. Arthur Evans, son of Sir John Evans, laid bare a large building on the site of the ancient Cnosus, belonging to the Mycænic period—1500 to 1000 B. C. Tablets bearing Cretan script much older than the Greek alphabet, others with Babylonian characteristics, have been discovered. These finds show that the Mycænic civilization and Babylonian alphabet anti-dated the Phœnician alphabet, and that it was an ancient civilization with its centre, perhaps, in Crete, and which afterwards spread throughout the Grecian Archipelago. The age is commonly believed to be the one sung in Homeric poetry. Scholars are disposed to believe that Prof. Evans' discovery is of greater moment than any made by Schliemann, who uncovered the tomb of Agamemnon at Mycæne, the site of Homeric Troy at Hissarlik, and the house and gate of Priam.

Prof. H. V. Hilprecht of the University of Pennsylvania, now exploring the ruins of Babylon, reports the discovery of the great temple library at Nippur. About 2,500 tablets were found near the temple of Bel, during its first exploration; the number now reaches about 21,000. A series of rooms is exposed, which presents no less than 16,000 cuneiform documents forming part of the temple library during the latter half of the third millennium,



or 2500-2250 B. C. The tablets were lying in long rows on edges of unbaked clay, which served as shelves for these old Babylonian records. It is supposed that 100,000 to 150,000 tablets were in this ancient library which was destroyed by the invading Elamites, about the time of Abraham's emigration.

The chief discovery is a well-built wall, two stories high, which represents the southern façade of a large pre-Sargonic palace, which was about 4,000 years old. The rooms had small windows near the ceilings, and were paved with excellent bricks. A solidly-constructed well and a large vase with rope pattern were found in the western wing, and a characteristic drain in the eastern wing.

---

#### THE FINNS AND FINNISH FOLKLORE.

The Finns constitute one of the oldest and most interesting populations of the globe. They are situated in the north of Europe, between Sweden and Russia, and have held their autonomy until now. The probability is that they will be merged into the Russian empire and yield to Russian influences, and so end that distinctive nationality, which has continued for many thousand years. Thus a region of 144,000 square miles, inhabited by some 2,000,000 people, the last remnants of a race driven back from the East at a very early day, but allied to the old Accadian race of Mesopotamia, loses its separate existence.

They began earlier than any other European nation to collect their ancient folklore; but it was after the introduction of the Bronze Age. They have one of the most sonorous and flexible languages, which is very similar to the Hungarian, and belongs to the Ugrian stock of ag-glutinative languages. It abounds with diminutives and words of endearment. The religion of the Finns was nature-worship. The sun, moon, stars, earth, air, and sea were living beings; every deity rules in his own sphere. The polar star governs an insignificant spot, but on this spot he knows no master. Ukko is the supreme sky-god. The gods are in pairs, yet every element, whether clouds, hills, mountains, sacred rivers, waves, lakes, forests, gold, silver, iron, game, has its guardian divinity. The glory of Finland is that wonderful poem called the Kalevala, a poem which is supposed by some to be 3,000 years old, and which really resembles MacPherson's "Ossian," and may not be much older than it. It has been translated into Swedish by John Alexander Castren, and done into English by John Martin Crawford; it is a veritable Finnic poem which has come down to us from the early days, but is so simple, that Longfellow chose its metre and style for his "Hiawatha." The mythology of the Iroquois and the Finns resembled one another in many respects.

---

#### HUNTING SCENES AND TOTEMS IN EGYPT.

In the Proceedings of the Society of Biblical Archæology (Vol. XXII., Thirtieth Session) there is an article on "The Carved Slates from Hieracopolis," by F. Legge, with several full-page plates. These carved slates are now in the Gizeh Museum and belong to the First dynasty; they represent divinities with mitres and caps, also captives and headless bodies slain in battle; symbolic animals with lion's claws and heads, but with enormously long necks; hunting scenes, in which antelopes, lions, and foxes mingle with hunters. On two of the plates, these symbolic animals are represented along with ibexes, antelopes, cameleopards, and monkeys, and on one of them, goats and asses, and walled towns on the reverse side.

One of the slates (Plate II.) represents a race of bearded warriors engaged in hunting; they wear kilts with a fox-tail hanging from the belt, also greaves, but have no helmet; a few having plumes. They are armed with spears of an early type, javelins, double-headed axes with metal blades, bows, and crescent-headed arrows with feathers on both sides of the shaft, also boomerangs; two have lassos, which are throwing at antelopes; three bear standards surmounted by bawks; four wear shields that are slung behind them. This illustrates the style of weapons which were

in use at the time of the opening of history in Egypt; and is very interesting on that account.

Another plate has a primitive hut, built of reeds with a domed roof of matting, like the modern Bisharin huts. This is probably the earliest extant representation of a hut or house, though there are sculptured monuments in which houses are represented. Another interesting fact brought out by the slates, is that the walled towns all have certain animal figures surmounting them: above the owl-city is perched a hawk; above the reed-city are two hawks on standards; above the ka-city is a lion, each one wielding a pick, with which he is breaking into the city. Other cities contain scarabaeus, ibis, and owls, suggesting the idea that they were totems for the clans and for the cities in Egypt in prehistoric times.

---

### LITERARY NOTES.

---

#### THE AMERICAN ANTHROPOLOGIST.

The *American Anthropologist*, No 1, January-March, and No. 2, April-June, contains many valuable articles. The most interesting are, as follows: "The Lessons of Folk-Lore," by T. W. Powell; "Aboriginal Quarries and Shops at Mill Creek, Illinois," by W. A. Phillips; "Mayan Time Systems and Time Symbols," by Cyrus Thomas; "Linguistic Families of Mexico," by Otis T. Mason; "Oriental Influences in Mexico," by Walter Hough; "New Fire Ceremony at Walpi," by T. Walter Fewkes; "Oraibi Marriage Customs," by H. P. Voth; "Basketry Designs of the Maidu Indians of California," by Roland B. Dixon; "A Remarkable Counterfeiter," by A. E. Jenks; "Preliminary Notes on Explorations Among the Amoor Tribes," by Berthold Laufer, and "In Memoriam—Frank Hamilton Cushing."

---

#### TRANSACTIONS OF THE FOLK-LORE SOCIETY, OF LONDON, ENGLAND, VOL. X., NO. 1.

This number contains a discussion of "The Australian God," by Andrew Lang and E. Sidney Hartland, which is really a review of the position taken by Andrew Lang that there is a belief in a supreme being, even among the most degraded peoples, a position which will need more facts and less logomachy, before it can be fully established.

This is followed by the address by the President of the Society on the "Folk-Lore of Great Britain," and by the review of a book by Gen. Pitt Rivers, which represents the excavations made on his estate. These excavations have brought to light the contents of a neolithic tumulus with a number of Bronze Age instruments. Among the problems: one was whether urns containing ashes of cremated burials were in common use; another was whether empty barrows were cenotaphs, memorials of persons who died at a distance. On these points, the mounds of America may perhaps throw some light, for there are a great many empty barrows here, but very few vases which contain the ashes of the cremated bodies. The latter is a custom common among the classic races, and was almost unknown among the savage or barbaric races. Cremation was common, but the ashes were left on the altar or deposited in pits.

## BOOK REVIEWS.

DAS BLUT IM GLAUBEN UND ABERGLAUBEN DER MENSCHEN. MIT  
CESONDERER BERUECKSICHTIGUNG DER "VOLKSMEDIZIN" UND DES  
"JUDISCHEN BLUTRITUS. Herman I. Strack. 8° pp. 206. Oskar  
Beck. Munchen: 1900.

This interesting book by the learned professor of the University of Berlin, is a strong defence of the Jews against the accusation, frequently made by the ignorant peasantry of Europe, that Jews kill Christian children that they may use their blood in ceremonial rites. The book is the seventh edition of a work of which many thousands of copies have been sold: the present editions, however, have been much expanded and contain much new and recent matter. Dr. Strack first makes a study of human sacrifices, of the use of blood in ceremonials, of the ideas held regarding blood, and of the superstitious use of blood in "folk-medicine." This study is of non-Jewish peoples generally, but is particularly full in regard to European peasants. Our author next carefully examines Jewish ideas and rituals, to see what probability exists for the ritual use of human blood in Judaism. Their horror of eating blood and their carefully-defined regulation of the killing and bleeding of animals to be used for food, and their rigid prohibition of murder, suggest strong unlikeliness that Jews would use human blood in ceremonial and superstitious practices.

Dr. Strack finally reviews the long and ghastly list of accusations, prosecutions, tortures, and persecutions Jews have suffered in this matter. He examines each case carefully. In some cases the accusations have been actually false and no murder had been committed; sometimes the murder has been by non-Jews and due to superstitious ideas of treating disease; in some cases where the unfortunate victims of accusation have confessed with much detail to most frightful practices, it is clear that they have done so in hope of suffering speedy death rather than endure further tortures; in some cases Jews, like their Christian neighbors and influenced by *their* superstitions, have killed to secure a remedy for disease; in a few cases insane Jews have simply murdered Christians, as—alas too often—insane Christians have murdered Jews. Dr. Strack's serious and scholarly investigation appears to demonstrate the absolute falsity of the claim that Jews have ever really used human blood in religious ritual. (F.S.)

\* \* \*

KATALOG NO. I. VERZEICHNISS EINER ETHNOGRAPHISCHEN SAMMLUNG  
AUS DER SUDSEE. 4° pp. 30. Plates viii. Leiden: 1897.

CATALOGUE NO. II. DESCRIPTION OF AN ETHNOGRAPHICAL COLLEC-  
TION FROM EQUATORIAL AFRICA. 4° pp. 14. Plates v. Leiden:  
1900.

The Illustrated Catalogue of Ethnographic objects has come to stay. Those issued at regular intervals by W. D. Webster at Bicester, England, are notably beautiful and have become an actual necessity to the museum worker. Mr. Webster's example has been followed by continental parties, and the latest received are two sent out by E. J. Brill of Leiden, Holland. The first (printed in German) describes and illustrates a collection of objects from Melanesia, Polynesia, and Australia; the second (in English) similarly represents a collection from the French Congo. Both have been prepared by Dr. C. M. Pleyte and contain information and suggestion. The expense of preparing such illustrated catalogues prevents their gratuitous distribution, but their practical value to the curator is much beyond their nominal price. (F. S.)

DER URMENSCH: KRITISCHE STUDIE. J. Beck. 8° pp.62. Adolf Geering. Basel: 1899.

This is an admirable summary of present knowledge regarding primitive man from the conservative German point of view. Man's origin, antiquity, earliest known art relics and oldest remains are critically investigated. The author is a little inclined to doubt French finds and views, and to accept too easily German finds and views. On debated questions he always takes refuge in the *dicta* of Virchow. While to a certain extent this anti-French and pro-German attitude is a weakness, it leads to a strong presentation of the German, Austrian and Russian finds, which are far less known in this country than the French. The work may be commended as a highly suggestive presentation of recent thought in its field. (F. S.)

\* \* \*

OSTEOLOGIE. (*Anthropologie Mexicaine.*) Leopold Batres. 8° pp. 25. Mexico: 1900.

The Inspector of National Monuments of Mexico, Señor Leopoldo Batres, has just published a small pamphlet in which he studies the osteology of the Mexican Indian. The paper, which is in French, was read at the Pan-American Medical Congress at Mexico in 1896. Dr. Batres claims that the Mexican Indian skull differs in every bone from the European. He emphasizes the notable asymmetry of the Indian skull, and claims that a marked degree of asymmetry characterizes also the other bones of the skeleton. These differences and asymmetries he enumerates in detail. (F. S.)

#### BOOKS AND PERIODICALS RECEIVED.

- Bibliography of Fine Art. By R. Sturgis and H. E. Erebbiel.  
 The Dwarf Tribe of the Upper Amazon. By D. G. Brinton, M. D.  
 Peoples of the Philippines. By D. G. Brinton, M. D.  
 Plates Illustrating Report on the British Collection of Antiquities from Central Asia.  
 Missionary Review, Vol. XIII., No 7.  
 Ohio Archæological and Historical Quarterly, Vol. IX., No. 1.  
 American Historical Review, Vol. V., No. 4.  
 Washington Historian. Vol. I., No. 3.  
 American Journal of Psychology, Vol. XI., No. 3.  
 Proceedings of the Boston Society of Natural History, Vol. XXIX.  
 Popular Science Monthly.  
 The Open Court, Vol. XIV., No. 7.  
 Cumulative Book Index, Vol. II., No. 7.  
 Land of Sunshine.  
 Appleton's Popular Science Monthly.  
 Education.  
 American Journal of Semitic Languages and Literature.  
 Biblia.  
 Proceedings of the Academy of Natural Sciences, Part I.  
 Methodist Magazine and Review, Vol. LII., No. 2.  
 Iowa Historical Record  
 Journal of Geology, Vol VII., No. 3.  
 Bulletin of the American Geographical Society, Vol. XXXII.



The famous Polan Bridge, near Amoy.



Foo Chow, China, with a population of one million, thousands of whom live in house-boats.



The Grand Canal, near Shanghai.

THE  
*American Antiquarian*

---

VOL. XXII.      NOVEMBER AND DECEMBER, 1900.      No. 6.

---

THE DE SOTO EXPEDITION THROUGH FLORIDA.

BY T. H. LEWIS.

[PREFATORY NOTE.—There have been three accounts of this expedition published in the English language, and there yet remains, in the original Spanish, another, of which John G. Shea writes:

“Still another account of the expedition is the official report which Rodrigo Ranjel, the secretary of Soto, based upon his diary kept on the march. It was written after reaching Mexico, whence he transmitted it to the Spanish government. It remained unpublished in that part of Oviedo's History which was preserved in manuscript till Amador de los Rios issued his edition of Oviedo in 1851. Oviedo seems to have begun to give the text of Ranjel as he found it; but later in the progress of the story he abridged it greatly, and two chapters at least are missing, which must have given the wanderings of Soto from Autiamque, with his death, and the adventures of the survivors under Moscoso. The original text of Ranjel is not known.”]

**T**HE following is an abridged translation, giving the ethnology, topography, and itinerary of the narrative:

Sunday, May 18th, 1539, De Soto and his army left Havana with a fine fleet of nine ships,—five full rigged, two caravels, and two vergantines. On the 25th day of the same month, which was the day of Pasque of the Espiritu Sancto, they came in sight of land on the northern coast of the province of Florida, and the fleet came to anchor, two leagues from land, in four fathoms depth, or less. The governor, with Anasco, and the principal pilot, Alonso Martin, departed in a vergantine in order to find out what land it was; being in doubt as to the location and identity of the port. Not being able to satisfy themselves on the matter, and seeing night was approaching, they desired to return to the ships; but the contrary winds prevented them. They, therefore, anchored close to land, leaped upon it, and discovered signs of many Indians; also a large building and some smaller ones. They afterwards learned that it was Oçita. The port was now examined, and the governor ordered the vergantine and the caravel to lie opposite each other in the channel as signals, so the other ships could pass

between. The latter, which were four or five leagues off, began to set sail, and it was necessary for the governor to show them the way, as the chief pilot was in the vergantine, and because there were many inlets; and yet with all that two ships touched bottom, but as it was sandy they received no damage. The ships entered the port, sounding line in hand, and some touched bottom, and, as it was mud, passed on ahead. Thus they went on for five days without landing, except that some of the force scrambled to land to get water and grass for the horses. But the bays did not cease until the loaded ships arrived at where the town<sup>2</sup> stood, and they anchored four leagues beyond. And it came to pass it was on May 30th that they began to land the horses. The country where they landed is ten leagues to the west of the bay of Johan Ponce, and the cacique or lord of it is called Oçita. Sunday, June 1st, of the same year, the army journeyed inward by land towards the town. Having trouble with the interpreters, the governor went ahead with some cavalry. They went twelve leagues to opposite the town, "having the bay between, in such a way that they could not double it." During the week the ships proceeded to the town, and little by little, were unloaded by means of boats of all the goods and provisions they contained. Tuesday, June 3rd, the governor took possession of the country. The next day he sent Gallegos to look for some people, town, or house in the direction of the setting sun, and on this occasion they met Juan Ortiz. On Friday, June 20th, Gallegos was sent to Orriparagi with 80 cavalry and 100 footmen. And he also sent on the same day Anasco in the ships' boats by the seacoast, with a number of footmen, to disperse, if necessary, a rumored assembly of Indians, and with whom upon their arrival they had a skirmish on an island.

The army left the town and port of Spiritu Sancto Tuesday, July 15th, 1539, and slept the same day at the river of Mocoço, and built two bridges to cross the river. The next day they came to the Laguna of Conejo, which they called from a rabbit that had started up in the camp and stampeded their horses. After recovering their horses, they reached on the next day the Lake of San Johan, and the next day, under a scorching sun, came to a savanna. On the next day they came to the cabin of Guaçoco, where they got some green corn. The next day, early, they came to Luca, a pretty good town, and here Gallegos' forces came up, and the governor sent a messenger to Urriparacoxi; but no reply came. On Wednesday, July 23rd, the governor and army left, and came to Viçela, and went to sleep beyond. On Wednesday they slept at another pueblo, called Tocaste,<sup>3</sup> which was on an island in a great lake. The same day the governor, with 26 cavalry, went ahead on the road to Ocale, and ordered 30 cavalry to follow, and sent Ranjel back for them. The next day, Friday, the camp was moved on the track of the governor, but word was received to turn back to the camp again. The next day, Saturday, the



governor found the roads broader, and a good lay of the land, and sent word for the army to move up in his rear, and for 30 more cavalry, who were sent under Tovar, as ordered. The governor, with his 26 cavalry, arrived on the day of Sancta Ana (July 26) at the river or marsh of Cale,<sup>4</sup> which was broad and had a swift current, and crossed it with much difficulty. Nuño de Tovar and his 30 cavalry crossed it the following Sunday; the governor and his people having arrived at the first town in the province of Ocale, which was called Uqueten, and they had not arrived in a bad time, because they found an abundance of provisions, and sent some back to those behind at the swamp. The following Tuesday all the rest of the army came up to where the governor was, and they all went to Ocale, a town with a good supply of maize; then for subsistence to Acuera.<sup>5</sup>

On August 11th the governor left Ocale, with 50 cavalry and 100 footmen, to hunt for Apalache, which was said to be very populous. Moscoso remained behind with the rest, to see how the advance force would succeed. They arrived that day at Itaraholata, a good town with plenty of maize. The next day they came to Potano, and the next day, Wednesday, to Utinamo-chara, and then to the town of Mala Paz (ill place), so named by them. The next day they came to a pretty good town,<sup>6</sup> where there were plenty of provisions. Then they came to a river they called Río de las Discordias (river of the disputes), and the next day made a pine bridge, as many trees grew there, and the day after, Sunday, crossed the river with as much or more trouble than that of Ocale. On the next day, Monday, they arrived at Aguacaleyquen.<sup>7</sup> On August 22nd they met many Indians and a well-provisioned country, so the governor sent word to Moscoso to bring up the army from Ocale; and it arrived on September 4th. On September 9th they left Aguacaleyquen and made a pine bridge with which to cross the river of Aguacaleyquen, and slept at a small town. On the next day, Friday (sic), they came to Uriutina,<sup>8</sup> a large town of cheerful appearance and well provisioned. There was in the center of it a great lodge, in the center of which was a large court. On Friday, September 12th, they arrived at a town which they called Muchas Aguas, because it rained so that they could not stir out on Saturday or Sunday, and were only able to leave the following Monday, the 15th. After leaving Aguacaleyquen a messenger came from Uçachile. They left Muchas Aguas, Monday, the 15th, and came across a bad swamp, and all the roads were very bad; and they slept at Napituca,<sup>9</sup> which was a cheerful town, on a pleasant site, and well provisioned. (Next comes the battle by the savanna and the two lakes.)

Tuesday, September 23rd, they left Napituca, and arrived at the Río de los Venados (deer river), so called by them. To cross it they made a bridge of three great pines in length, and four in breadth, and crossed on the 25th. The same day they passed two small towns and one very big one called Apalu, and

arrived to sleep at Uçachile. They left there the following Monday, the 29th, and, having passed through a great forest, slept in a pine grove. The next day, Tuesday, September 30th, they came to Agile, subject to Apalache. Wednesday, October 1st, they left there, and came to the swamp or river of Ivitachuco, and made a bridge, and finished crossing over it on the following Friday at noon, and slept at Ivitachuco, which they found on fire. Sunday, October 5th, they came to Calahuchi,<sup>10</sup> and on the next day to Iviahica.<sup>11</sup> It was eight leagues to the place where Narvaez had embarked.<sup>12</sup> The province of Apalache is very fertile and abounds in supplies,—maize, French beans, pumpkins, divers fruits, plenty of deer, a great variety of birds, and near the sea there are plenty of good fish. This is a fine country in spite of its swamps, which, however, are hard because they lie over sand.

The departure from Iviahica, to go to Capachequi, took place Wednesday, March 3rd, 1540, and they camped at the river of Guaçuca,<sup>13</sup> and from thence to the river of Capachequi,<sup>14</sup> which they reached early next Friday. They made a pirogue to cross it, using chains. On Wednesday, March 9th (sic), they had all crossed over, and set out, and slept in a pine grove that night. The next day, Thursday, they reached the first town in the province of Capachequi, which was well supplied with food, and had many groves around it. There was another town beyond it. They struck a bad swamp close to the town, with a strong current, and before reaching it they had to pass through a great stretch of water, the men clinging to the girths and pummels of the saddles; but they could not succeed that day in getting all the force over. On March 17th they left Capachequi, and slept at the Fuente Blanca (white fountain).<sup>15</sup> This is a very handsome spring, and has a very copious flow of good water, with fish in it. The following day they slept at the river of Toa.<sup>16</sup> They twice made a bridge of pines, but the strong current carried them away, and they made another one in a peculiar form which Nuno de Tova advised. It served the purpose well, and the whole camp had crossed over by Monday, and they went and slept in a pine grove, though badly scattered and disorganized. On Tuesday, early, they arrived at Toa, a large town. Wednesday night of the 23rd and 24th the governor left Toa secretly, and travelled all the next day till nighttime, when they reached a bad crossing of deep water; but, notwithstanding it was night, they got safely over, having travelled that day twelve leagues from Toa. Next day, which was Holy Thursday (the 26th) of the supper, in the morning, they reached the territory of Chisi, and crossed the arm<sup>17</sup> of a very broad and great river safely on foot, and quite a part by swimming, and came to a town which was situated on an island of the river, where they found people and got something to eat. They proceeded to other towns and had a bad time crossing a swamp of running water, where one of their men fell off a beam that crossed the current, and was drowned. That day

they arrived at a town when there came leading men, ambassadors from Ichisi. On Monday, March 29th, they left there for Ichisi. It rained so hard, and a little river swelled so much, that, if they had not crossed in a hurry, they would all have been lost. That day they came to a town of a cacique subject to Ichisi, which was a pretty good town and sufficiently provisioned. They rested there Tuesday, and on Wednesday, the last of March, the governor and his army came to the Rio Grande,<sup>18</sup> where they found many canoes, in which they crossed the river, and arrived at the town of the lord that was one-eyed, who supplied their wants. They stayed here Thursday, April 1st, and set up a cross on a hill of the town, and sermonized the natives. On Friday, April 2nd, they left, and slept in a field; and the next day they came to a nice river, where they found deserted cabins, and here messengers arrived from Altamaha, who took them to a town where they found plenty to eat. The next day they crossed the river easily in canoes. The cacique Camumo sent word that he was continually under arms, as it was the frontier of another cacique called Cofitachequi, his enemy, and he could not come without his arms. This Camumo and the others were subjects of a great cacique called Ocute. Then word was sent to Ocute, who came there to see De Soto. The governor placed a cross in Altamaha, and was well received. The next day, Thursday, April 8th, the governor and his army left there, and slept at some huts; and the next day, Friday, they arrived at the town of Ocute, where they set up another cross. Monday, April 11th, they left Ocute, and came to Cofaqui. Here the cacique Tatofa and another leading man came to see them. On Thursday, the 15th, Perico, the guide, went crazy, so Tatofa gave them guides to go to Cofitachequi, through an unpeopled country of nine or ten days' travel. On Friday, the 16th, they slept at a small river road in Cofitachiqui, and the next day they crossed a very great river, which was divided into two arms, but broader than an arquebus shot, had many bad fords, and a very strong current, so that no cavalryman dared to take up a foot soldier behind him. They got over, and slept in the woods beyond it. The next day, Sunday, they again halted in the woods, and the next day, Monday, they travelled without any track, and crossed another very great river, and on Tuesday slept by a rivulet, and on Wednesday they came to another very great river,<sup>19</sup> which was divided into two arms, difficult to enter and worse to get out. They crossed this river with very much trouble, and arrived at some camping places of fishermen or hunters. In perplexity as to their best way now, on Friday, April 23rd, the governor sent out to search for roads or towns in this way: Gallegos was sent along the river in the direction of the northwest; Anasco along the river to the southeast. Each party took with them ten horses and ten days' provisions. On Saturday he sent Lobillo, with four horses, to the north, with rations, also, for ten days. On Sunday, April 25th, Anasco came and said he

had found a town and provisions. Having left written instructions, on Monday, April 26th, they all left for the ford and provisions that Anasco reported he had found. On the same day the governor, with a few cavalry, arrived at the town, which was called Hymahi, and the army stayed two leagues behind; the horses being worn out. On the next day the main body came up. On account of all the good things they found there they called this town Socorro. On the next day Captain Romo came in and brought some natives, but no other news. On the next day, Wednesday, Gallegos came with some more natives. On the next day Lobillo returned with news of roads. On Friday, the last of April, the governor, with some of the best rested horses and the Indian woman guide Gallegos had brought, set out for Cofitachequi,<sup>20</sup> and slept near a wide and deep river. He sent Anasco to hunt canoes and interpreters to cross with; and the next day the governor came to the passage opposite the town where the lady caciqua lived, and they crossed over in the canoes. Monday, May 3rd, all the rest of the force came up, and part crossed over that day, and finished the next day,—Tuesday.

---

NOTES ON THE ITINERARY.

<sup>1</sup> The landing place is generally accepted as being at Tampa Bay, but the depth and numerous inlets as described do not conform thereto. Ponce de Leon Bay is now believed to have been in Monroe county, on the west side of the southern point of Florida, and "ten leagues west" (really north) would make the location among the Thousand Islands. Probably the real location was Charlotte Harbor; they having entered it from the south end of San Carlos Bay. Miakka river (Macaco on the old maps) enters the north-west arm of the harbor, and is probably the river of Mocoço. It will also be noted that twenty or twenty-five leagues of swamps and rivers were traversed before reaching the higher country, which would be in the southern part of Polk county.

<sup>2</sup> There seem to have been two towns on this bay,—one on the point near the sea, and the other some four leagues above, which the Inca calls Hirrihigua. The caciques in this vicinity, and not named in the other narratives, are Neguarete, Capaloey, and Orriygua.

<sup>3</sup> Tocaste was on the island in the marsh at the first crossing of the "great marsh," so graphically described by the Inca.

<sup>4</sup> The river or marsh of Cale is the Inca's second crossing of the great marsh.

<sup>5</sup> Evidently only a minor expedition was sent, as the army remained at Ocale, from which point the governor advanced towards Apalache.

<sup>6</sup> This was Cholupaha, according to the Knight of Elvas.

<sup>7</sup> Caliquen, of the Elvas.

<sup>8</sup> Ochile, according to the Inca.

<sup>9</sup> The Inca states that the battle of Napituca occurred at Vitachuco.

<sup>10</sup> This name is also spelled Calahuci, and is the town of Uzela, of the Elvas; and the modern name may be Chattahooche.

<sup>11</sup> The Creek tradition is that the camp (or town) was at a place known to them as "Spanna Wakka," which was near Ochese, on the Apalachicola river. Their name for De Soto was "Tustanugga Hutke," meaning white warrior.

<sup>12</sup> The bay where Narvaez built his brigantines was known to the Spaniards as Bahia de Caballos, or Horse Bay, from the remains of the horses there slaughtered for food. The modern name on the maps is Bay Ocklockonee. According to Elvas it was eight leagues from Iviahica (or Apalache) to Ochete, the Aute of the Inca.

<sup>13</sup> Probably the Ocklockonee river. .

<sup>14</sup> This was probably the Flint river.

<sup>15</sup> Blue Spring, four miles south of Albany, Dougherty county, is the only one in southern Georgia that corresponds to the White Fountain, so far as I can learn.

<sup>16</sup> This may have been the second crossing of the Flint river, for it is a well-known fact that different parts of a river sometimes have different names given them by the Indians.

<sup>17</sup> The Ocmulgee river, the Creek name for which is "Ochisi-hatchi." Biedma says: "Here we found a river that had a course, not southerly, like the rest we had passed, but eastwardly to the sea."

<sup>18</sup> The Rio Grande is probably the Altamaha, or it may have been the Ocmulgee or the Oconee, near the junction of the two streams. The Elvas gives the former name as Altamaca, and Biedma and the Inca as Altapaha. According to the Elvas they went up this river.

<sup>19</sup> Between Altamaha and Tatofa no river was crossed, but after leaving the latter place they crossed three great rivers and stopped on the east bank of the last one. I take the two great rivers to be the Cannouchee and Ogeechee, and the third the Savannah.

<sup>20</sup> Evidently Cofitachequi is located too far up the Savannah river by the commentators, although it could be placed well up, provided the army turned northward after crossing the Altamaha (Rio Grande), and then turned eastward from the Oconee. It is also doubtful on which side of the river the town was on, for, if they crossed at Hymahi (which seems evident from the wording of the narrative), it would have been on the eastern side, otherwise on the western side. The Creek tradition is that the Spaniards did not go east of the Oconee river.

[To be Continued.]

*St. Paul, Minn., September, 1900.*

## CIVILIZATION AND THE ETHICAL STANDARD.

BY CHARLES W. SUPER.

**W**HEN one looks upon the remains of ancient civilization as they lie scattered over the plains of Mesopotamia, or along the Nile, and tries to interpret their meaning, he can scarcely prevent his mind from harboring melancholy reflections. No wonder that Professor Huxley felt constrained to say, "I know no study which is so unutterably saddening as the evolution of humanity, as set forth in the annals of history. Out of the darkness of prehistoric ages man emerges with the marks of his lowly origin upon him. He is a brute, only more intelligent than other brutes; a blind prey to impulses, which so often lead him to destruction; a victim to endless illusions which make his mental existence a terror and a burden and fill his physical life with barren toil and battle. He attains a certain degree of comfort and develops a more or less workable theory of life in such favorable situations as the plains of Mesopotamia, or of Egypt, and then for thousands of years struggles with varying fortunes, attended by infinite wickedness, bloodshed, and misery, to maintain himself at this point against the greed and ambition of his fellow-men."

Mephistophiles in Faust is less compassionate, and adopts a more flippant tone, but his verdict is not more favorable:

"Better he might have fared, poor wight,  
Had'st thou not given him a gleam of heavenly light,  
Reason he names it, and doth so  
Use it, than brutes more brutish still to grow.  
With deference to your grace, he seems to me  
Like any long legged grasshopper to be  
Which ever flies, and flying springs,  
And in the grass its ancient ditty sings.  
Would he but always in the grass repose!  
In every heap of dung he thrusts his nose."

In striking contrast to this sentiment are the words of Hamlet: "What a piece of work is man! how noble in reason! how infinite in faculties! in form and moving, how expressive and admirable! in action, how like an angel! in apprehension, how like a god! the beauty of the world! the paragon of animals!"

With all his shortcomings; in spite of his fearful lapses from a standard of virtuous living; notwithstanding his flippant disregard of what is highest and holiest, I can not but hold man as an inherently ethical being. In this he differs from all other creatures. The mere fact of his living in communities does not make him what he is not by nature. Communal life may strengthen his moral qualities; it can not engender them. Of the sub-animals, many exhibit a relatively high degree of intelli-

gence, but they do not develop moral traits. They make no progress. A study of their nature and habits throws but little light on the early history of man. It is probable that under unfavorable conditions he has degenerated. We see many instances of this in the case of individuals. Again, under the influence of great men, who have sporadically appeared, certain peoples have made remarkable and unexampled progress. The great moral teachers of mankind belong to this class: they have left on record lessons, the validity of which time does not impair. They are beacons, pillars of fire, in the dim distance toward which the best men have been ever looking and striving. The canons of prudence as deduced from experience have great weight, it is true. Such a dictum as, "Honesty is the best policy," must be traced to this source. No great moralist ever maintained, or even admitted that he who lived an upright life would be the loser by it. "Godliness is profitable to all things." If we assume that our moral powers are nothing more than a congeries of psychic energies having a material origin, it is hard to see how men ever came to acknowledge the binding force of an obligation, the fulfillment of which will deprive them of all that men are wont to hold dear, except the approval of a good conscience.

The strongest evidence for the inherent nobility of man, is the almost universal detestation of the hypocrite. Hypocrisy is the homage vice pays to virtue. Nobody willingly has dealings with the man who says one thing when he means another who professes to be one thing when he is something else. It is more natural to take a man at his word, than to distrust him. This trait of human nature is strikingly exemplified in the credulity of children. The honest man never voluntarily degrades himself to the level of a disreputable environment; the rogue often raises himself to the moral elevation of those about him, under the stimulus of his diviner part—his better nature is momentarily victorious over his baser. Does the man act more in accordance with human nature who, when thrown among thieves and liars, steals and lies, than he who peremptorily and persistently refuses to tell an intentional untruth or take what is not his own, no matter how great the temptation? Is the *homo improbus* more nearly the natural man, or man in a state of nature, than the *probus homo*?

Unless I have read the recent literature of evolution to little purpose, a superhuman element in the constitution of man is more generally recognized to-day, than it was half a score of years ago. Or, if superhuman be too strong a word, we may substitute super-material, without changing the force of the admission. The pendulum of human thought is slowly swinging nearer the view-point of Plato and Berkeley than that of Moleschott and Buechner. Some significant utterances are found in the recent work of a radical evolutionist: "A First Book in Organic Evolution," by Dr. Shute. He says: "The mind is conscious of its personality; conscious of the external

world through the innumerable perceptions which reach it through the nervous system; conscious of its power to build its percepts into concepts, and to reason about them; conscious of its power of choice and of causing motion; and conscious of itself, therefore, as a cause in producing effect; and, finally, it is conscious of its power to adapt means to an end,—in short, it knows that it has the power to design." Again, "Well may we say with Matthew Arnold, that there is immanent in the cosmos an eternal soul, not ourselves, that makes for righteousness. This double assertion, that there is a soul in the universe outside of ourselves, and that this soul makes for right conduct, is the basis of fundamental importance in all religions. There are many religions in the world, and many creeds of the one great religion of christendom. They differ in many of the transcendental doctrines that they teach, and in many of the rules of conduct that they prescribe for their adherents; but they all contain as their most fundamental and vitally important basis the double assertion that there is a soul of the universe, and that this soul makes for right conduct. The assertion may be thickly overlaid with superstitions and petty rites by the untrained and dull intelligence of low races, as in the Eskimos; or it may attain a high degree of development, as among the Jews. The refinement and beauty of the double conception is more enhanced with social evolution. Just in proportion as civilization advances, and men come to reason more carefully and entertain wider views of life, just to that extent do they come to value more highly the essential truths of religion, while they attach less importance to many superficial details."

Perhaps the most remarkable social phenomenon to be observed in many communities, is what we may call psychic stagnation. There is clearly traceable progress up to a certain point, then the ruling class begins to set itself against all change, looks only toward the past and directs its energies toward the maintenance of the *status quo*. All innovation is discouraged, and in time all desire for it in the body politic is extinguished. It is as if a man settled in the wilderness, cleared a small plat of ground, built himself a hut, then tried to be as comfortable as he could, but refused peremptorily and persistently to clear more land, or to construct a better dwelling. We find persons thus disposed in every community, but it is hard for us to conceive how a whole nation can be brought or get into a state of stable equilibrium. Such seems to have been the fate of China and Turkey, to name but two contemporary examples out of many that might be adduced. It is doubtful if Europe made any progress for nearly a thousand years after the fall of the Western Empire. There is hardly a doubt that Rome was morally worse in the time of Christ, and perhaps for nearly a century afterward, than it was in the time of the Punic wars. We are amazed at the ruthlessness of the proscriptions and the abject servility of the optimates. We seem at times to be reading the annals of the king of Dahomey. We wonder



how it is possible for human nature to sink so low. Yet it can hardly be said of the Roman imperators that they took a merely fiendish pleasure in putting their enemies to death for the sake of seeing blood flow. The worst of them was not a ferocious beast, like Genghis Khan or Tamerlane. Several of them, after their authority was firmly established, became mild and benignant rulers.

In India, the caste system has confined every one so closely within the limits of the sphere within which he was born, that it is almost useless for him to attempt to break his fetters. We say this is the result of the caste system, but the mere statement of the fact does not explain how such a system comes in time to hold such unquestioned sway. We see more or less of this tendency to stagnation in all communities; but the expansive energy is usually stronger than the repressive force, and the bonds of conservatism are continually being broken, now here, now there. With this stratification of social relations there generally goes hand in hand a stratification of the recognition of moral obligations. The member of one class or caste acknowledges duties toward his fellows in the same class, but not to members of another.

The ancient Jews were in a large measure helpful to each other. When, however, Christ held friendly converse with the woman at the well and commended the example of the good Samaritan, even his friends were horrified at his utter disregard of their cherished traditions. The average ante-bellum Southerner prided himself on being a gentleman. And he was—within certain limits. But toward the negro he was worse than a brute; and to the white man who took the negro's part, a bully or an assassin. In such cases we have a recrudescence produced by peculiar conditions, of the savagery that is a leading trait of the lowest races, and which in its extreme manifestation impels them to death or enslave all who are not of real or supposed kin.

W. D. Babington, the author of that somewhat iconoclastic volume, "Fallacies of Race Theories," contends that no people is intrinsically and by its very nature unprogressive. He says among other things:

Let us strive to imagine what would have happened in England, if the examination system of official selection had been introduced in its entirety—not, of course, twelve centuries ago, as in China, for Europe was too barbarous at that remote epoch to possess sufficient knowledge, at least outside of theology; but let us say that the reform which occurred under the Tang dynasty in China had been effected under the Stuarts in England. The first Stuart, somewhat of a scholar himself, actually made a little step toward Chinese notions by admitting university representatives—a recognition of learning which survives as an anomaly in our representative system, much deplored by advanced radicals. Suppose, then, that instead of merely introducing a few learned representatives into Parliament, James I. and his line had succeeded in changing the national assembly into a Wittenagemot of the learned men of the country, and that he then placed the whole administration of England in the hands of a vast corporation trained in the knowledge of the ancients, like the "Forest of Pencils," as the Chinese

call their body of graduates—can we doubt that a stationary condition would have ensued? Is it not almost certain that the march of progress would have been arrested, and that we should be all now engaged in laboriously marking time to the stately old music of Plato and Aristotle?

We shall never be able to discover the ultimate cause of national immobility. For some inscrutable reason an entire nation becomes like a bevy of birds in a cage—lively enough within certain limits, but powerless to get beyond their barriers.

The most interesting fact about Chinese civilization is the high moral plane to which their sages had attained. Here there was no progress because there could be none. The highest had been attained. Compare the following doctrines preached by Lao-tse twenty-five hundred years ago, not only with those of Socrates but even with those proclaimed by Christ. We can not but be struck with their similarity: "Man should be like a child. He ought to free himself from the narrow world of his own intelligence and repose in Lao alone. For he who holds fast to his own views can not be enlightened. He should cultivate interior calm. The virtuous man free from passions ought not to keep any view before him; he ought to be content with his lot, but advance with a constant fear of falling. He ought to deny himself, to govern his body and his appetites. His body ought to weigh upon him as an unfortunate encumbrance. The other particular virtues are humility and simplicity, moderation, purity, justice, kindness, generosity, beneficence, gentleness, clemency, the absence of all particular and personal affection, economy, the instruction of others, and efforts to make others better. All these are prescribed alike, but these last ought to be done by examples and not by argument. Even if a man knows himself to be strong, enlightened and celebrated, he ought to act as though he were weak, ignorant, obscure, and never seek to gain authority. He ought to be beneficent without seeking his own interest, charitable without considering those upon whom he bestows his alms, and who are under an obligation to him. In doing good he ought not to favor any, but do good for its own sake. He should pay back injuries by benefits." And more of the same sort. When we compare Chinese philosophy with Chinese practice, it is hard to decide whether the two are farther apart than Christianity and the conduct of many professed Christians.

In Egypt, at even a much earlier period, we find the same sentiments promulgated. Indeed, except under a few of the most ambitious kings, the people of this country seem to have enjoyed a relatively large measure of public welfare. So far as we can judge they were generally less wretched than the subjects of Philip II. or of Ferdinand VII. of Spain, or of Louis XIV. of France, or of many other ambitious or bigoted despots who might be named. No wonder that Buckle concluded that morals have no influence upon the progress of a nation.

The unity of the human race is now generally conceded. The appearance of man upon the earth was an event of such

an exceptional character; with all his shortcomings, he differs so widely from the sub-animals; in his lowest estate he is so vastly superior to the highest of them, that his first appearance can have occurred but once. Assuming that primitive man was unique, and without predicting anything as to the cause or manner or place of his appearance, how shall we account for the vast differences now prevailing in the human species? There is always danger that an analogy may be pressed too far, but as we have, in this case, nothing better than analogy to guide us, to what conclusion do the facts lead us, which it puts into our hands? Leaving out of the question physical characteristics, as irrelevant here, are the mental differences between the lowest and highest types greater than those we find in the career of families whose history we can trace for several generations? I think not. If, then, we find such remarkable divergences in a comparatively short period, we are not doing violence to the conditions if we assume that in the course of many generations, one type would merely hold its own; another would make some advance; a third a greater, and so on. A brief quotation from Dugdale's "Jukes" is here in place. The author, speaking of the ancestor of a family whose descendants he had traced for nearly 150 years, says: "He is represented as 'a descendant of the early Dutch settlers, and lived much as the backwoodsmen upon our frontiers now do.' He was a hunter and fisher, a hard drinker, jolly and companionable, working hard by spurts and idling by turns, becoming blind in his old age, and entailing his blindness upon his children and grandchildren." This man was the progenitor of numerous criminals, paupers and other imbeciles. Yet the surroundings amid which he lived were not different from those of many other pioneers, and there was certainly no cogent reason why his descendants should turn out worse than those of most of his neighbors, or other persons similarly situated. Here was evidently a "primary twist" that successive generations did not have the moral strength to straighten out, and the result was that more than half the "breed" were disreputable. But they were not all of this stripe. Some of the family repudiated the inheritance of shame into which they had been born and became respectable citizens. I have recently taken the trouble to trace the history of several families which afford a striking contrast to that of the Jukes, though the environment of the original ancestor on American soil was no more favorable. Some of our best citizens, as well as some of our most talented men, have had an equally lowly origin. Not a few instances have occurred where a single member of a family attained prominence and even eminence, while all the rest never rose above mediocrity. The conditions of the anthropological problem require that we derive nations or peoples through various intermediate stages from individuals.

Every reader of history is familiar with the vitalizing and energizing influence of great men. He knows equally well that a bigot, whether religious or political, may bring an entire

nation into a state of torpor or hurl it over the brink of destruction. Virgil has well shown the power of the influential citizen, when he represents Eolus stilling the tempest—

"As when oft in some vast throng hath risen  
A tumult, and the base herd waxeth mad,  
And brands and stones, wrath-furnished weapons, fly,  
Then if some hero chance upon their sight,  
Of weight for worth or exploit, they are hushed  
And stand all ear to listen; with his words  
He sways their passions, soothes their ruffled breasts."

Every group of men, no matter how large or how small, has its "boss" or its leader, the man who commands for his own ends, or who guides for the good of the group.

When we consider the extraordinary power of mind over mind as exhibited in its highest potency in the influence of supremely great men, we can hardly escape the conclusion that the future always depends more or less upon the "living present." For what the greatest men can do in a large way, others less great can do in a more circumscribed sphere. The civilized world is becoming more and more convinced of the value of right and universal instruction: in other words, men can ultimately be made to be what they ought to be. The rising generation must be made to feel ethically before the reasoning powers are sufficiently developed to weigh the material profits of right and wrong conduct. The intellect has not much influence on man's moral development. The late Dr. Brinton has well said,\* "To apprehend what is noblest in a nation one must oneself be noble. Knowledge of facts and an unbiased judgment need to be accompanied by a certain development of personal character, which enables one to be in sympathy with the finest tissue of human nature, from the fiber of which are formed heroes and martyrs, patriots and saints, enthusiasts and devotees. To appreciate these, something of the same stuff must be in the mental constitution of the observer." This is only another way of saying, "If any man will eth to do his will, he shall know of the teaching, whether it be of God, or whether I speak from myself."

All the problems growing out of conduct ultimately converge in the question of free will. If the human will is not free, it is impossible for any one but a casuist to see how conduct can be either good or bad,—in short, have any moral quality whatever. Right becomes synonymous with prudence, and wrong with imprudence. Man is placed on a level with the rat that refuses to be allured by the bait in the trap, or the bird that keeps out of range of the fowler's gun. No amount of argument can definitively settle this question. The last word was probably spoken more than a thousand years ago, and we moderns can only repeat. Yet every man feels that

---

\*"An Ethnologist's View of History."

when two courses of conduct are open before him, it is his privilege to choose either. Nor are the motives which influence him wholly or even chiefly external, but within himself.

If the contention of the materialists is well founded, and mind is but a subtle emanation from particles of matter in certain combinations, the case for ethics is no stronger. It is true that many who hold this view vehemently repudiate the charge of materialism, but they succeed in persuading few persons except themselves. They attach a meaning of their own to the term materialism. If the human body is the master and governor of the mind, how shall we explain the conduct of a man, who from youth to old age pursues a noble ideal, the pursuit of which often entails upon him sorrow and suffering? The man who lays down his life for his country, or who brings misery and death upon himself for adherence to principle is simply making a fool of himself. The really wise men are those who follow the example of the notorious vicar of Bray. The good of the race or of the community often requires the sacrifice of the individual. When this sacrifice is voluntary, men call it noble, heroic. Such are the most cherished names among every people.

Fortunately for the world, men had learned to be moral long before they were metaphysical. Problems of conduct are rarely decided by processes of intricate reasoning. He who deliberates long, when a line of action is to be decided, is likely to adopt the course that is prudent from his individual point of view, but the chances are against its being the right course. Common sense is usually a far better guide in morals than extraordinary intellectual acumen. It can not be successfully maintained that the most intelligent people are the most moral, as a class. An intelligent Englishman said to the writer some years ago, "In my country there are two classes that are morally rotten,—the very rich and the very poor." The utterance was probably too strong, but all observation proves that there was much truth in it. One is here reminded of the prayer of Agar—

" Remove far from me vanity and lies;  
Give me neither poverty nor riches;  
Feed me with food that is needful for me;  
Lest I be full and deny thee, and say, Who is the Lord?  
Or lest I be poor and steal,  
And use profanely the name of my God."

He who wishes to be regarded as a true prophet will not venture to predict that the present civilization can never be overthrown. The destructive forces which it contains within itself are terrible to contemplate. We find one class advocating war for the extension of commerce, rightly or wrongly; another, for the purpose of redressing the grievances of the oppressed; still another, in order to make room for the surplus population of over-peopled lands; and so on. Besides these,

men may be counted by millions who stand ready to welcome any upheaval that will give them an opportunity to seize and appropriate the possessions of their neighbors. They declare that whatever may come, it can not be worse than the present order—or disorder.

The strong nations of the earth may for a time prey upon the weaker; but there will be a limit. What then? Will they turn against each other, and all go down in one common ruin? Will national debts continue to grow until they can no longer be borne, and then be repudiated, bringing upon the world one terrific financial cataclysm. Signs are not wanting that point in this direction.

The occurrences pointed out here are neither impossible nor improbable. But, one thing is certain—they are not inevitable. There is no law of nature that will bring them about. Whether men go to destruction as individuals or in groups, they do so by their own choice.

*Athens, Ohio, September, 1900.*

---

## THE MEMOIRS OF THE AMERICAN MUSEUM OF NATURAL HISTORY.

BY CHAS. HILL-TOUT.

The American Museum of Natural History has recently issued the fourth part of the second volume of the series. It treats exclusively of the Ntlakamug or Thompson Indians of British Columbia, a tribe of the wide-spread Salish stock. The notes were collected by Mr. James Teit of Spencer's Bridge, B. C., and edited by Franz Boas, and they form a very valuable addition to our knowledge of this division. They deal chiefly with the customs, habits, clothing, dwelling-houses, arts, manufactures, and social organization of the tribe. The memoir is richly illustrated and contains a practically exhaustive account of this interesting people, which, from the fact that Mr. Teit has lived in close and familiar intercourse with them for many years may be regarded as reliable and authoritative. In consequence of the tribe being divided into several groups, more or less distant and separated from each other, it is not always quite clear if the customs or practices recorded characterize the whole tribe, or only the upper group amongst which Mr. Teit chiefly resided. From my own personal knowledge of them, the customs prevailing in one group did not always in another, or, if so, were more or less modified. Another point of importance, is the omission on Mr. Teit's part to state whether the puberty customs, which he gives with much detail, were practiced winter and summer alike.

## ARCHITECTURE IN THE STONE AGE.

BY STEPHEN D. PEET.

The division of the prehistoric period into three ages was accomplished at a very early period in the history of modern archæology. This division came about from the study of the monuments, rather than of the relics. It is owing to the explorations of certain Scandinavian archæologists, among the monuments which so abound in that country, that it came into vogue. They ascertained that the barrows which cover the surface contained bodies which were buried with the knees drawn up and with stone relics by their side, and other signs indicating a low grade of civilization. They found certain sepulchral chambers, formed of huge boulders, in which the dead were deposited without being burned, and in these were stone implements without any traces of metal. This furnished them with the data for the first period, which they called the Stone Age.

They also found bronze weapons in certain graves which contained no bodies, but the ashes of the dead, showing that the bodies had been burned instead of buried. This gave to them the name Bronze Age.

They, with others, discovered that other monuments were marked by a new system of burial; the body was laid in the grave, stretched to its full length, and in the grave were specimens of iron and silver, traces of alphabetic inscription, and articles of peculiar style of ornament, all of which showed that they belonged to the early historic or proto-historic age. They accordingly gave the name Iron Age to this period.

Professor Nilsson compared the flint implements found in the barrows with those of savages, and recognized the social condition of the people by this means. Professor Steenstrup discovered a striking analogy between the ancient graves and chambered tombs of Sweden, and the modern huts of the Greenlanders and Eskimos, and concluded that the abodes of the dead were imitations of the dwellings of the living; especially as the chambered tombs had long passages leading to them, resembling the entrance to the hut of the Eskimo. This thought was seized upon by those who were exploring the monuments of Great Britain and the north of France, and found to be very useful in explaining their uses, as well as age.

There are, to be sure, many monuments in Great Britain which cannot be ascribed to any particular age, the use of which is still a matter of uncertainty. We refer now to the cromlechs, or circles of standing stones, and especially to the allignments which are so common in these countries. The fact, however, that these are associated with dolmens would

indicate that they belonged to the Stone Age, and that the circles were used for religious ceremonies, and the allignments, perhaps, for gravestones, or monuments to mark the place of a fierce battle.

Closer study has brought out the resemblance of the chambered tombs of Great Britain, and especially of the dolmens of France, to the houses, and has shown that there were elements of rude architecture embodied in them, which must have been first utilized in the houses of the living, and afterward in the abodes of the dead. Confirmation of this classification came in



STONE AGE TUMULUS: OHIO.

the discovery of the lake dwellings in Switzerland. These were placed upon platforms supported by piles, which had been driven into the bottom of the lake at some distance from the shore, thus giving an isolation to the homes and people, which of itself insured safety from the attack of wild animals and of their enemies. Examination of the relics which were found beneath them, showed that the people had reached the agricultural state, and gained their subsistence from cultivated fields, as well as from the fish of the lake and animals of the forests, as grain and fruit were found mingled

with the bones of animals and various articles of domestic use.



LAKE DWELLINGS OF BRONZE AGE:  
SWITZERLAND.

Following up the clue, Professor Anderson and other Scotch archæologists entered into the study of the monuments found in Scotland. They discovered that in that country the people of the Bronze Age buried their dead in large pottery vases, which showed considerable progress in art. With the vases were deposited specimens of bronze. Dr. Monroe discovered a number of crannogs, or artificial islands, in the midst of the Scotch lakes, and beneath the surface a large number of iron relics; the relics and the structure both showing considerable mechanical skill.

Thus, it was from the study of the monuments, that the



division of the prehistoric period into three ages occurred, and that a system was adopted by which both the relics and the monuments could be classified. This is a division which does not belong to any one country, nor to any one period of time; for it is just as applicable to the ancient regions of the East, as to the more modern countries of Europe and to America, although bronze was very little in evidence here, and iron was not introduced until the time of the Discovery, as the isolation of the continent prevented those metals from being introduced. The same system has been recognized in Africa and northern Asia, and it is probable that it will prove applicable to the islands of the sea.

I. This gives rise to the idea that there were in all these countries successive periods of development during the pre-



IRON AGE TOMB: EGYPT.

historic period. The order of progress and the law of social development may be recognized as clearly by the study of the structures, as by that of the relics; for these furnish a means of comparison with the structures occupied by the ruder, uncivilized races known to history, which, in turn, present a vivid picture of the social status which formerly prevailed.

The most interesting fact about this classification or division into ages, is that it is proving applicable to the ancient historic countries—Egypt, Babylonia, Greece, Asia Minor, Cyprus, and possibly to Syria. In Babylonia, the remains of the Stone and Metal Ages date back to remote times, and ante-date the Christian era several thousand years. They are supposed to belong to a race concerning which very little is at present known, namely, the ancient Accadians. It has been often assumed that in these historic lands man began his history in

an advanced state, that there was no prehistoric period; and that tokens of the Stone Age would never be discovered, though it has been granted that bronze was early in use, and afterward was succeeded by iron.

Late discoveries are proving that there were various cultural states which are marked by stone, bronze, and iron, and that the Stone Age preceded the Metal Age in all these historic lands. The question comes up as to the date at which the Stone Age ended and the Metal Age began. This question involves another: the endurance of the Stone Age; for in the beginning and ending of this age, we find the preparation for the Bronze Age. It is a point which it is difficult to determine, and yet it is probable that the Stone Age in Europe and Asia began far back in geological times; but it is to be divided into two parts, the old and the new—the paleolithic and neolithic. There are those who hold that the Paleolithic Age dates back to the tertiary period, and includes the time when man was associated with the now extinct animals. The remains of man in the gravel beds and in the caves indicate that in the first age he had more or less skill with tools, and was able to construct houses and boats. The Neolithic Age was the building era, for in it nearly all forms of constructed dwellings appeared. This age may, however, in southern regions, have begun at a much earlier date, than in the northern, and Babylonia may have had a period of development which ante-dated the historic period several thousand years. This would make the beginnings of architecture or house construction in Asia as far back as 10,000 years before Christ; for history, or tradition, is supposed to have begun as early as 6,000 years B. C., and we would naturally expect that it would take about 4,000 years for man to develop from the Paleolithic, through the Neolithic, to the Metal Age. Dr. Hilprecht says:

I do not hesitate to date the founding of the Temple of Bel and the first settlement at Nippur, somewhere between 6000 and 7000 B. C., and possibly earlier.\*

Dr. J. P. Peters says:

We discovered written records no less than 6,000 years old, and proved that writing and civilization were by no means in their infancy. Further than that, our explorations have shown that Nippur possessed a history extending backward of the earliest written documents found by us at least 2,000 years.†

As to the races among whom this civilization began, much information has been brought out, though no general consensus has been reached. The early cuneiform texts show that the languages had strong affinities with the Ugro-Finnish or Ural-Altaic. Rev. J. C. Black maintains that it was allied to the Chinese. The Accadians, among whom the civilization first ap-

---

\* See "Academy," 1898.

† See "Narrative of the Expedition to Babylonia, 1888-1896."

peared, belonged to the so-called Turanian stock, rather than to the Semitic.

This brings up the question: why should the Mongolic, or the Ugric people have continued so long in a savage or semi-civilized condition; while their kindred in Babylonia should have made so early and so rapid progress? The answer to this is found "in the highly developed agricultural system, which formed the foundation of their greatness, and was maintained in a rainless climate by a stupendous system of irrigation works. Such works were carried out on a prodigious scale by the ancient Babylonians, six or eight thousand years ago. The plains of the Lower Euphrates and Tigris, since rendered desolate by Turkish misrule, are intersected by the remains of an intricate network of canalisation, covering all the space between the two rivers, and are strewn with the ruins of many great cities, whose inhabitants, numbering scores of thousands, were supported by the product of a highly-cultivated region, which is now an arid waste, varied only by crumbling mounds, stagnant waters, and the camping-grounds of a few Arab tent-dwellers.

"The Mongolic people have scarcely anywhere advanced beyond the hunting, fishing, or pastoral states, and still remain tented nomads, on the dry, central Asiatic steppe, which yields little but herbage, and is suitable for tillage in only a few more favored districts. Here, cut off from the arable lands of South Siberia by the Altai Ranges, and to some extent denied access to the rich fluvial valleys of the Middle Kingdom, by the barriers of the great wall, they have for ages led a pastoral life in the inhabitable tracts and oases of the Gobi wilderness. They continued to occupy the original-camping grounds, as changeless and uniform in their physical appearance, mental character, and social usages as the Arab Bedouins and all other inhabitants of monotonous, undiversified steppe-lands."\*

Another explanation may be found in the geography of Asia. For we have only to suppose that there was a prehistoric migration in neolithic times of the proto-Mongolic or Turanian tribes around the west end of the Thibetan range from Eurasia to the North and East, and a migration of the same tribes to the South and East into the valley of the Tigris, and ultimately into the valley of the Indus and the Ganges, a migration which was followed by the Aryan race, and there resulted in a high state of civilization.

If this is not accepted, then we have, according to tradition, two other starting points, one of them in the Iranian plateau, where the Aryan and Turanian languages began to separate, and the other in Babylonia, where many are inclined to locate the Garden of Eden. The rise of the Bronze Age has been attributed to the ancient Asiatic people, but the transmission of bronze to the Mediterranean coast and into Europe was late in the Stone Age, as late as 3000 B. C., and, perhaps; much later. Mr. Keane says:

---

\* See "Man: Past and Present," by A. H. Keane; p. 282.

With the progress of archæological research, it becomes daily more evident that the whole of the North Mongol domain, from Finland to Japan, has passed through the Stone and Metal Ages, like most other habitable parts of the globe.

Herr Hans Leder came upon countless prehistoric tokens—kurgans (barrows), stone circles, cromlechs, and megalithic monuments (dolmens) of various types. In West Siberia, the barrows, which consist solely of earth without any stone-work, are by the present inhabitants called "Chudish Graves," though the term *Chude* resembles the word "Toltecs" in Central America, as all ancient monuments are attributed to them as a vanished, unknown race. There are reasons, however, for thinking that the Chudes may represent an earlier race,—the men of the Stone Age, who, migrating from North Europe eastwards, had reached the Tom valley (which drains to the Obi) before the extinction of the mammoth, and later spread over the whole of northern Asia, leaving everywhere evidence of their presence in the megalithic monuments now being daily brought to light in East Siberia, Mongolia, Korea, and Japan. \* \* \* Continuing his investigations in Mongolia proper, Herr Leder here also discovered earthen kurgans, which, however, differed from those of Siberia by being for the most part surmounted either with circular or rectangular stone structures, or else with monoliths.\*

The discoveries of the three ages are not confined to Europe and Asia; for there are monuments in Central and Southern Africa which can be compared with those which are well known, and which can be identified as belonging to these separate ages. A reference to the recent discoveries will be appropriate here: Mr. George Leith found in Cape Colony, on the south coast of Africa, caves, rock shelters, shell mounds, kitchen midden, mines, and special implements which make a complete record of man's progress from the Paleolithic to the Neolithic and Bronze Ages; while the discoveries which were made by Mr. J. A. Bent in Mashonaland have brought to light structures which belong to a very early historic period, and so to the Iron Age. These have been described and seem to contain all the elements of an advanced architecture which prevail among the civilized race.

The evidence in South Africa is that there was an intruded culture,—the gold mines, which have attracted so much attention in recent times, were known to the ancients and were worked by a people who were allied perhaps to the Phœnicians. We find in the Scriptures allusion to "the gold ophyr," and learn that King Solomon sent ships down the west coast of Africa, which brought back to Jerusalem four hundred and twenty talents of gold, almug trees, and precious stones.

The picture which is presented is that of a monarch, who introduced into his capital the wealth of the world, and surrounded himself with all the specimens of art and architecture which could be borrowed from the nations of the East—the Phœnicians, the Assyrians, and the Babylonians. A similar picture is presented to us by the tombs of the Mycænæan kings and the ruins at Tyrins and Hissarlik, the ancient Troy.

The recent explorations in the mounds of many cities have revealed many stages of architecture, some earlier, some later.

\* See "Man: Past and Present," p. 260.

The most ancient record is that which is found at Nippur, near the site of the Ur of the Chaldees. The opinion of most of the archæologists now is that this civilization of Babylonia was very ancient, dating back at least 4,000 years B. C. The supposition is that these various palaces and pyramids were preceded by rude villages which grew up on the banks of the Tigris and Euphrates, and that the Stone Age had continued for an indefinite length of time throughout central Asia and the north of Africa.

While speaking of the three ages, it is well to notice that in America there is in reality only one age, viz.: the Stone Age, though it can be divided into three parts; the first marked by the presence of earth mounds; the second, by framed slab houses; the third, by cliff houses and pueblos; the grades of progress being indicated more by the architecture than by the art; the material which was used in constructing houses and defending villages proving a better index than the material of which the relics are composed. There is in America a geographical division which gives emphasis to this point, for we find that the houses of the Eskimos were constructed out of bone and bark



COPPER AGE HOUSE ON THE NORTHWEST COAST.

and were occupied by fishermen. The houses of the hunter-tribes were constructed out of poles and covered with bark, a rude framework giving shape to the houses. The houses of the people of the Northwest coast were built of heavy timber, and the walls made of plank, the entrance to them being through a hole which was guarded by some fabulous creatures carved upon the front of the house. The totem poles in front of the house furnish a genealogical tree for the family. These mark the different grades of progress which were reached by the Northern tribes, though the tools of some of them were made of shell, stone, wood, and even copper.

Farther south, especially in the Gulf States, there were many villages, around which were massive earth walls, and within were pyramids made of earth. The houses within were made of wood, or of wooden posts, set upright in the ground, but covered with thatched roofs; the material of which the relics were fabricated being stone, wood, and copper, as were those on the Northwest coast.

In the Great Plateau of the West, the houses were constructed of stone or adobe, and were built in terraces, or were

placed in the sides of the cliff; but the relics within the houses were mainly from stone, wood, shell, and pottery, very little copper being found among them. To the far Southwest, the houses were all arranged around quadrangles, and made of stone, which was carved into various shapes; all of them indicating a high grade of architecture; but the relics here are also made of stone, copper, gold, and silver; no bronze, bronze not having been discovered. The same is the case in Peru. Here the structures are made of stone, and the metals used were gold and silver; bronze not having been discovered. These latter people, viz.: those in Mexico, Central America, and Peru, had evidently reached the bronze stage of progress, but they were technically in the Stone Age, if we take the relics as the index of the age

II. This review of the monuments of the different ages—prehistoric and historic—gives to us a pretty clear idea of the



CLIFF-DWELLERS' HOUSE.

progress of architecture, and brings to light the character, as well as date of its beginnings. It was evidently during the Stone Age that the first steps were taken; but during this age very considerable progress was made.

It will be profitable to take up the study of the monuments and structures of the Stone Age, and to notice what architectural elements were embodied in them. The feature which is the most impressive, is the resemblance of the buried structures to the houses which are still found upon the surface, though in regions quite remote, and in a period much more recent. This may be owing to the survival of certain methods of construction, or to the transmission of the patterns or types; but is more likely to be the result of a law of cultural development, which seems to have been universal.

There are, indeed, varied types or forms of prehistoric monuments, which are scattered over almost the entire world.

Among these, we mention the tumuli, the menhirs or standing stones, the cromlechs or stone circles, the triliths, and especially the dolmens, which so resemble the habitations of the living.

It is interesting to observe, in this connection, the law of correspondence which prevails in the art and architecture which appeared in the different periods throughout the world, resulting in very similar types, as peculiar to the same stages of progress. So similar are these types that they suggest the idea of imitation, but in the absence of proof that there were any imitated or borrowed types, there arises the idea that they were the result of the common law. In the Old World, we find the Egyptians and Assyrians passing through the same stages as the Mexicans in the New. The evidence of progress in constructive and mechanical skill is given, however, no more in the sculptured images than in the shape of the structures.

In casting the eye over a Mexican manuscript or map, one is struck with the caricatures of the human figure. On closer inspection, it is observed that it is not so much a rude attempt to delineate nature, as a conventional symbol used to express the idea. Those parts of the figure which are most important are seized upon and made prominent. The last point mentioned is important, for the imitation of animal and human forms seems to have prevailed during the Stone Age, and formed one feature of the Stone Age architecture. This probably is owing to the mythology and religion of the Stone Age people, for the worship of animals and regard for ancestors prevailed extensively throughout the Stone Age. Mr. A. H. Keane says:

In eastern Siberia extensive tracts are strewn with kurgans, in which are great numbers of stone implements, objects made of bone, and mammoth tusks, besides carefully-worked copper-ware, betraying technical skill. And with the kurgans are associated monoliths, rough-hewn, in the form of human figures, which are called "stone women."\*

These remind us of the stone images which are found upon the Easter Islands, though they are there associated with dolmens, rather than with kurgans. They also remind us of the carved posts, so numerous on the Northwest coast, in front of the wooden houses, forming a prominent feature of the villages; all of which belong to the Stone Age. The abundance of copper relics found here, shows that it belongs to an advanced part of the Stone Age.

There were, to be sure, in the early part of the Stone Age certain chambered tombs, which were very rude, scarcely more than an open cist in which the body could be placed, the whole being covered with earth, though the relics deposited with the body show the regard for the dead, and at the same time show that there was a belief that the spirit of the dead would need these relics in the future state. There are other tumuli which

---

\*See "Man: Past and Present," p. 270.

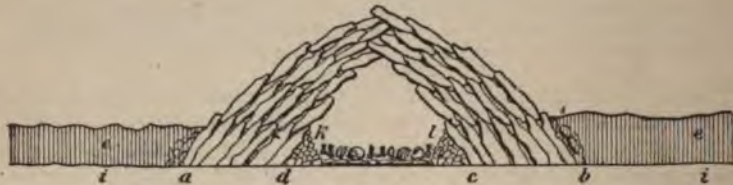
contain chambers built of stone in conical shape, which probably were in imitation of the wigwams, or huts, which were occupied at the time by the living, though constructed of wood; stone being used in the burial chambers, because it was more durable. In these we see the first attempts at house building, and learn from them that the material was not the essential feature; the convenience and ease of construction ruled with the people. It is remarkable, however, that the hearth was an important feature, with the people, for many of the buried mounds contain traces of fire-beds; sometimes the bodies of



CONICAL STONE MOUND IN NORTH CAROLINA.

children are buried beneath them, the mounds thus perpetuating the customs which prevailed, as well as serving as monuments for the dead.

There are stone graves in Tennessee which were placed around a circle and built up in tiers, the tiers drawing in toward the centre, thus forming a sort of conical structure, with a space in the centre; the whole covered with earth, but retaining the shape of the original hut, with the fire-bed in the centre.



STONE MOUND IN NORTH CAROLINA.

The superstition of the Indians is that the fire has never gone out. These stone-graves in Tennessee remind us of the slab-graves found in the lowest part of the excavations at Mycenæ.

There are stone-heaps, or rock-circles, in North Carolina which are very well built, but which retain the shape of a primitive hut. Dr. Thomas says:

They are placed upon the solid rock foundation, the earth having been removed, and a level space left, from ten to thirty feet in diameter. Centrally in this was placed a layer of flat stones, with the best edge inward, around a circle about three feet in diameter. Upon the outer edge of these, others were placed with their outer edge resting upon the prepared founda-



tion, running entirely around the circles, the stones of one layer breaking joints with those below. Outside of the inner row, with the edges resting on it, other circles were added, until a diameter ranging from twenty to fifty feet, and even more, was attained. The height of these piles was found to vary from four to eight feet, sometimes ten feet; but in all cases the circular space, or opening in the centre, continued to the top. These stone heaps were built at a point overlooking the Kanawha River, from which the valley could be distinctly seen for several miles. A somewhat different type of these heaps have a triangular cavity, and were undoubtedly burial places, and were not built up with as much care.\*

Dr. Thomas also speaks of conical stone chambers as



CONICAL STONE CHAMBER.

situated in North Carolina. They were located on the farm of Rev. T. F. Nelson, in Caldwell County, and were covered over with a mound, but were placed in a circular pit about thirty-eight feet in diameter, which had been excavated to the depth of three feet. The stones were built up around the bodies, which were found still standing, and they showed more or less evidence of fire, as did the skeletons.

Among the mounds of the state of Iowa has been found a



CHAMBERED MOUND IN ILLINOIS.

walled circular vault, built of flat stones and gradually lessened in diameter as it arose, the top being in the shape of an arch and covered by a single stone. It contained a single adult skeleton in a sitting posture, with which was a small earthen vase of the usual globular form.

Another chambered mound is in Illinois. The chamber was divided into three parts, and was covered with a roof of round timber. In the middle part of it were eight skeletons sitting in a circle, with a drinking cup made with much skill in the

\*See Annual Report of the Bureau of Ethnology, 1890-91.

centre.\* This vault reminds us of one which has been described by Nadaillac, in the island of Moen. He says:

It was surrounded by a tumulus 100 yards in circumference, twelve unhewn stones formed the walls, and five large blocks, the roof. In removing the earth from the tomb, the bones of several individuals were found, and a skeleton, doubtless that of the chief, lay stretched out in the middle of the chamber; while some bones of others were placed against the walls in either a sitting or crouching position.†

The barrows of Europe are supposed to contain the oldest or earliest of all the structures, and are on this account worthy of especial study. Some of these contain stone cists and chambered tombs which are connected with the exterior by long passageways; some of the corridors are forty to fifty feet in length.

The ancient inhabitants of Scandinavia, like the American aborigines, were unable to imagine a future separate from the present, and so buried the house with its owner, and the grave was literally the dwelling of the dead. When a great man died, he was placed in his favorite seat, food and drink were arranged before him, his weapons were placed by his side, his house was closed and the door covered up; sometimes, however, to be opened again, when his wife or children joined him in the land of spirits.

III. This description of the structures which appeared in Europe suggests the thought that there must have been great progress in the department of architecture during the Stone Age; a progress which has marked its different stages upon the monuments, as well as upon the relics. We have already alluded to this fact in giving the list of prehistoric works.

These structures, taken in their geographical distribution, may be supposed to begin in Europe with the cave-dwellings, and to have ended with the dolmens and megalithic structures, and to have embraced between them the kitchen-middens of Norway; the mounds, barrows, and tumuli of Great Britain; the lake-dwellings of Switzerland; the crannogs of Scotland; the cromlechs, and standing-stones of England; the menhirs, dolmens, and allignments of France, and the towers of Sardinia; all of which were erected during the Stone Age.

It will be understood, however, that there were many localities where a complete series may be found in close proximity. The record of progress is given in the monuments so clearly, that one can pass from the earliest to the latest in a single journey.

Still, in America, the structures were more widely distributed than in Europe, and yet they are supposed to follow the same order. The rudest and earliest are represented by the huts of the Eskimos; the highest and best by the ruined cities of Mexico and Central America; between these two ex-

\* See my work on "The Mound-Builders; Their Works and Relics," p. 224.

† See "Prehistoric Peoples," p. 191.

tremes are the huts or wigwams of the hunter Indians, the rude houses of the agricultural tribes, the great houses and pyramidal structures of the mound-builders, the terraced houses and communistic homes of the Pueblos, the cities built upon the mountain summits or in the midst of the lakes of Mexico, and the many palaces and pyramids of the Toltecs in Central America, as well as those of the Incas in Peru; all of these were erected during the Stone Age.

Some of these monuments are hardly worthy of the name of architecture, for they are mere heaps of earth; but it is supposed that there were on them at one time structures which contained in themselves the elements out of which architecture ultimately grew; and so, they may be placed under the head of architectural beginnings. The material out of which the structures were made, varied according to locality; that which was most abundant and most convenient to secure and easiest to be wrought into shape was generally used. Still the material may be taken as an index of progress, for the lowest races used brush and branches of trees, and the bones of animals, and blocks of snow for constructing their houses; the hunters used poles and bark for the frame-work, and covered their houses with thatched roofs; the agriculturalists made their houses of timbers, sometimes plastering them within and without, and covering them with thatched roofs; the Pueblos, who cultivated the soil by irrigation, built their great houses out of stone, which abounded in the region, or of adobe; the partially civilized in Mexico built theirs often two stories high, the first story of stone, the second of wood; but the civilized tribes of Central America and Peru built theirs of stone, which was wrought into many shapes and highly ornamented by the use of stone tools.

That different stages of architecture were represented by these structures is evident from the fact that there is an order of progress apparent in them; for the menhirs, or standing stones are very rude, mere pillars or slabs, which are undressed and bear the same shape as when taken from the quarry; they were inserted into the ground and served as mere monuments, though without inscription or even tool marks. Next to these, in the order of progress, would be the cromlechs, or stone-circles, some of which are composed of the same kind of stone slabs or posts, but placed in a circle, without a ditch either inside or outside of it, but inclosing a level area, which may have been occupied as a place of worship or of assembly. The majority of these cromlechs are, however, composed of stones, which are surrounded by a ditch and earth-wall, with avenues leading from them. They probably mark the sites of some open-air temple. Next, in the order of progress, are the triliths. These are composed of three rude slabs, which stand in some prominent position above the ground, and are covered with a massive slab which forms a quasi roof; the ground inclosed having been used as a place of interment. The roof itself was used as

an altar, or possibly as a place for funeral or signal fires. They are very rude, and it required but very little skill to erect them. Fourth in order would be the dolmens. These are in the shape of houses, for their sides are perpendicular and inclose a square room, the roof sometimes being perfectly flat, formed from a massive slab; sometimes the roof is made of a number of thick slabs, and so resembles in shape the sloping roof of an ordinary house.

III. The method of construction which prevailed during the Stone Age is interesting, for it suggests many things in reference to the Beginnings of Architecture. This varied according to circumstances of time and place. The rudest method was that which was practiced by the North American Indians and by the various tribes in South Africa. It consists in twisting or bending slim poles over a circular space, and covering them over with matting of reeds, or thatching them with grass. Such huts may have been common in Europe and Asia at an early date, but they must have soon perished. There



HOLED DOLMEN.

are, however, huts in Greenland and among the Eskimos which are made of blocks of ice, or whale and walrus bones, laid in tiers, and placed upon a foundation of stone, which show considerable skill in the art of constructing houses, and probably shows the style which was used by the neolithic people of Europe. There are long passages to these huts, which remind us of the passageways to the dolmens of France, which are among the earliest neolithic structures.

There were also huts in Florida which were made by placing in the ground wooden posts around a circle, so as to form a sort of small stockade, and then covering these with a roof or dome made of bent poles, and thatched with grass and reeds, leaving the space in the centre for the fire and the sleeping apartments. Houses similar to these are common among the Pimas of Arizona, and among the poorer classes of Mexico. Rev. J. G. Woods speaks of the houses of the Bechuanas, which are formed by posts placed in a circle and firmly fixed and connected with beams fastened at the top, and rafters on the posts; the roof, made of reeds, is placed upon the rafters, but extends beyond the outer circle of posts. This makes two compartments, the family living in the central and the servants inhabiting the outer portion, and the roof projecting far enough to make a veranda. Around the house is a high paling, made of posts and thorns, within which cattle are kept. The space between



DOLMEN IN FRANCE.

the inner chamber and the outer wall extends all around the hut, and the walls are clay plastered on poles.

There are dolmens in France which have the shape of a perfect house with flat roof, upright sides, square angles, perpendicular doors, with stone piers and lintel. The walls within are covered with scroll ornaments or other symbols. These show conclusively that the dolmens were designed to represent the house of the dead.

There are triliths in Europe, North Africa, and India, which remind us of the chambered tombs. They are made altogether of stone, arranged so as to leave an open space between them, and are covered also with a large stone slab. In some of these, there is an opening which resembles a door, conveying the idea that the chamber within was a dwelling place for the dead, and this was the door for the spirit to go in and out.

There are dolmens in France which are constructed out of stone slabs, and have within them a square chamber with a sloping roof; the doorway is also made of stone slabs, which form regular door posts and door caps.

We have spoken of the pile-dwellings of Switzerland. These are quite numerous, and show very considerable con-



ROOFED DOLMEN.



CLIFF-DWELLING WITH BALCONIES.

structive skill. They form a connecting link between the mounds and tombs of Great Britain and Sweden and the Nurhags, or stone towers. They are situated geographically between them, and belong to a part of the Stone Age which joined hard upon the Bronze Age. These form an interesting part of the series which began very early in the Stone Age and continued to the historic times. The nurhags follow these, but it is uncertain whether they belong to the Stone or Bronze Age.

These abound in Sardinia, and have awakened a great deal of curiosity. Mr. Nadaillac says:

They are conical towers with very thick walls, made of huge stones, some hewn, others in their natural state, arranged in regular courses, without mortar. On entering one of them, we find ourselves in a vaulted room, which looks exactly like one-half of an egg in shape. In the upper stories are two, and sometimes three rooms, one above the other, to which access is gained by steps cut in the walls. The whole structure is crowned by a terrace. We must add that the entrance to the nurhag is through an opening on a level with the ground, and so low that one can only go in by crawling on the stomach.\*



CLIFF PALACE, CLIFF CAÑON, COLORADO.

There are cliff-houses in America which contain even more architectural features than these, for they exhibit perpendicular walls, laid up in regular masonry, two or three stories in height, and have peculiar T-shaped doors, and traces of balconies, some of them being reached by stone stairways. These belong to the Stone Age, and show the stage of architectural development which was reached by the Cliff Dwellers.

The best specimen is the one which is represented in the cut. It shows the Cliff Palace in Cliff Cañon, Colorado. The so-called palace was in reality a cliff-village, which contained houses two- or three-stories high, a central tower—barrel-shaped, estufas, streets, courts, store-houses, and all the other conveniences of a village; all situated on the ledge of the cliff, in the sides of the great cañon, the walls, doors, balconies and courts, showing a high stage of architectural skill.

\* See "Prehistoric Peoples," p. 167.

## NOTES ON ASSYRIOLOGY.

BY REV. J. N. FRADENBURGH.

**T**HE researches of M. de Morgan in the smaller but loftier mound of ancient Susa have been gratifying in their results. The mound was pierced by a series of tunnels, so as to reveal the several strata, and the first stratum showed evidences of civilization at the level of forty feet above the plain. Flint teeth of sickles were found in the next stratum, forty-six feet above the base. Cereals were cultivated at a very early age—possibly before their cultivation in Egypt. The evidence does not seem to be sufficient to determine the latter point. The stratum above furnished many sickles, the teeth of which had been worn by usage. Sixty-eight feet above the base line, burnt wood and traces of buildings appeared; and thirteen feet higher, the remains of the Susa of modern times. Still higher is the Elamite citadel destroyed by Assurbanipal; and then in succession, remains of the Persian, Arabian, and Greco-Persian periods. Several discoveries of archæological importance are worthy of special mention: fragments of enamelled brick with inscriptions and decorative patterns, the work of Elamite rulers of the eighth century, lessons for later Achaemenian artists; a large inscribed *stèle* of yellow limestone, with a picture elaborately and skillfully sculptured, erected by Naram-Sin to commemorate his great campaign of about 3750 B. C., and a granite obelisk, covered by a long inscription of some twelve hundred lines in archaic characters.

++ ++ ++

THE room for Babylonian and Assyrian antiquities in the British Museum has been newly arranged and opened to the public. An unclassified collection is interesting—curiosities are always interesting—but has little value for purposes of systematic study. It marks a substantial advance, when the archæological treasures of these old empires, long buried under the dust of ages, are made available for the investigation of the increasing number of earnest students.

The objects cover a period reaching from 500 A. D. to at least 4500 B. C.; and the writing is from the most ancient Sumerian and Babylonian to the comparatively modern Persian and Hebrew. The room measures sixty by thirty-five feet. The west side is occupied by inscribed bricks, gate sockets, and other heavy objects. A set of boundary stones fills the centres of the wall cases 9-11. They are sculptured with mythological and other figures, and contain inscriptions concerning transfer of property and other similar transactions. The writer in the

*London Times* says: "Of special interest in the group is the stone of Ritti-Marduk (No. 98) (about 1100 B. C.), who, in return for certain assistance which he rendered to his king, Nebuchadnezzar I., in his war against the Elamites, was granted several privileges: no tax was to be levied by the local overlord, the King of Namar, on Ritti-Marduk's stallions, mares, and other animals, and incense trees; no plantation or date grove was to be cut down or road made or bridge built in his territory without his consent; no recruits were to be drawn from Ritti-Marduk's city, and he and his family were exempted from military service forever."

There is also a fine exhibition of bricks of the Second Nebuchadnezzar, called "the Great." They show that this great builder carried on his work in almost all the ancient cities of Babylonia. He provided Babylon with its mighty protecting walls. Indeed, modern discoveries have abundantly proved the justness of his boast: "Is not this great Babylon, that I have built?" This great king was equally eminent as a conqueror and for his religious devotion. The bronze door step (No. 180) from the stairway leading to the temple of E-Zida is a large casting. The Babylonians had already acquired considerable skill in the art.

Sir Henry Rawlinson made paper squeezes of the tri-lingual inscription of Darius—520 B. C. to 485 B. C.—engraved on the rock of Behistun in the Persian, Scythic, and Babylonian languages. From this a series of casts were made. Both the original squeezes and the casts are now on exhibition. The decipherment of the royal names in these inscriptions furnished the key to the whole field of Babylonian and Assyrian literature. It is fortunate that the instrument used in these patient and brilliant studies may now be inspected by the public.

On the east side of the room is arranged a series of collections of objects in bronze, marble, alabaster, glass, and other material. There are also much pottery and glazed porcelain of various periods. Among these is the valuable collection of bronze antiquities of Van. The bronze lion weights and vessels of glass are of great interest. The coffins of pottery show one of the methods of disposition of the dead; in some may still be seen burnt human remains. The series of inscribed bowls, with their magic texts—many not yet interpreted—preach their lesson of superstition. They were thought to impart to a draught of water rare medicinal virtue, if patient or magician, or both, but chanted the text. Many date back to the time of the captivity of the Jews.

The tables that line the aisle through the centre of the room are covered by objects of surpassing importance. Ninety-four "envelope" tablets (table case A) are inscribed with deeds, leases, loans, dissolution of partnerships, adoption of children, marriages and divorces, and other business documents. They belong to the period of Sulula-ilu, Zabum, and other Kings of Babylon, about 2300 B. C. These tablets are the most interest-



ing of all. The writing of an "envelope" tablet was first stamped upon the prepared surface. The tablet was then baked, and after being covered by a clay coating and impressed with the seals of the contracting parties, baked a second time. It was then ready to be laid away. This would guard against any possible change in the legal instrument or other writing, and preserve it in duplicate. Of the same period are the "bun" tablets (table case B), inscribed with lists of fields and statistics to serve as a basis for assessment of taxes during the reign of Bur-Sin, King of Ur. In the same case is a series of letters from Khammurabi to Sin idinam. They date at the same period with the former tablets. They show Khammurabi to have been a great administrator, with large capacity for business details. He seems to have looked after everything: the felling of timber and length of cuts for smelting purposes, the care of canals, the calander, as well as the administration of justice and great national questions. It may be opportune to call attention to the publication of the Khammurabi letters, with an English translation, by Luzac & Co., of London. Certain letters of other kings of the first dynasty are added.

++ ++ ++

THE antiquarian is not a modern production. The interest of Nabonidus, King of Babylon, in these subjects is familiar. And now we have an old priest of the time of Belshazzar, who made a collection of tablets containing historic data concerning kings and conquerors who lived from 4000 B. C. to 600 B. C. The discovery of this rare collection is one of the triumphs of Professor H. V. Hilprecht; the place, the city of Nippur; the museum, an earthen pot. There are tablets of the first Sargon, about 3750 B. C.: one of Ur-Gur, referring to the rebuilding of the temple wall of E-Kur; one tablet states that there were forty different shrines in Nippur, each dedicated to a distinct divinity; a text by Ashur-etil-ilane; and an important text of Sin-shar-ishkun, the last King of Assyria. Other tablets are dated in the reigns of kings hitherto unknown. This new material will assist in filling a gap in the history of Calneh in the land Shinar.

How much this suggests as to the triumphs of future explorations! What literary stores await discovery! How startling the stories told by clay tablet and inscribed cylinder! Do not we owe it to our age to push our conquests? What may we not expect when the mounds of Babylon, Nippur, Eridu, and "Ur of the Chaldees" shall have given up all their secrets! Truly, the harvest is ready, but the laborers are few.

++ ++ ++

"RESEARCHES into the Origin of the Primitive Constellations of the Greeks, Phœnicians and Babylonians" by Robert Brown, in two volumes, xvi., 361, xx., and 261 pages, has just been issued from the press of Williams & Norgate, London.

The title well expresses the scope of the work. "Such an inquiry is no mere matter of musty antiquarian speculation; it constitutes an important study of the mind of the man of by-gone ages. It introduces us alike to the history of great centres of civilization, and to the triumphs and achievements of individual genius. It makes us ponder on some of those first steps upon the path of knowledge, which were so hard to take, but which form the foundation of our present vast acquisitions. It reveals to us the religious ideas in many variant and most interesting phases. And by the light of cuneiform decipherment, we are enabled to exchange crude conjecture and arbitrary fancies for general certainty and harmonious historical transmission and development." At the close of the second volume, the author says: "I claim to have demonstrated that the Euphrates valley was the main source whence were derived the primitive constellations of the Greeks. I claim, further, to have shown the natural line of ideas which produced the constellation-figures; and although the research of the future will doubtless greatly add to the mass of material available for the further elucidation of the subject, and will enable us to correct many errors in detail and to explain many circumstances and incidents now obscure and perplexing, yet I am not afraid that the principle maintained in this work and the general conclusions now arrived at, will be unable to stand the influx of more light from the East." With this brief note, I must dismiss this work of vast learning for the present, promising a more adequate review in a future number of THE AMERICAN ANTIQUARIAN.

++ ++ ++

THE mounds of Nippur have furnished a large number of magic bowls. During March and April one hundred and seventeen, most of which were in a fine state of preservation, were brought to light. Usually one or more demons are pictured at the centre, frequently chained by their ankles. When placed upside down, they confine the demons beneath. Sometimes two are fastened together at their rims, and the demons are thus safely confined in this magic prison. Sympathetic magic has certainly taken a deep hold on the human mind.

Another important find, is a silver vase containing "several hundred well-preserved Cufic silver coins." Considerable gold and silver jewelry were gathered from the slipper-shaped coffins. A wooden coffin taken from a brick vault of the Roman period contained the remains of a man of the higher class. Professor Hilprecht says in the *Sunday School Times*: "Partly on his bones, partly scattered on the floor of the mortuary chamber, we discovered two diamond-shaped gold plates, each about four inches long; two gold frontlets; two heavy gold buckles, representing a lion's head, and inlaid with precious stones; six gold rosettes; one gold earring, and a string of heavy gold beads. In the northeast city fortifications were

found baked clay balls, spear heads, stone maces, and arrows." These show what were the chief weapons of the time—the early Sumerian period.

The discovery of over three thousand gold pieces, coined by the successors of Harûn-ar-Raschid, has also been chronicled. A boatman of Bagdad exposed a terra-cotta vase in an ancient embankment, striking the spot with his punting pole. The upper part of the vase was broken off and a stream of gold fell into the Tigris. The boatman secured what remained in the lower part of the vase, but aroused suspicion and was arrested and compelled to reveal the secret. A search by Bedry Bey, who is an official of the Ottoman Museum of Constantinople, was rewarded by the recovery of the great horde from the stream.

---

## ANTHROPOLOGICAL NOTES.

BY ALEXANDER F. CHAMBERLAIN

SEQUENCES IN PREHISTORIC REMAINS. To the *Journal of the Anthropological Institute* (Vol. XXIX., pp. 295-301, with plates 31-33) for November-December, 1899. Professor W. M. Flinders Petrie contributes a suggestive paper under this title. The discussion of the question, whether in dealing with ages before any written record of years, reference to time or dates is possible; whether the prehistoric ages can be reduced to an historic sequence, is one which the author is specially qualified to enter upon, by reason of his Egyptian researches, from which the data for the present argument is taken. By means of a card-catalogue of Egyptian graves (900 slips being selected, as representing the best graves out of some 4,000), Prof. Petrie arrives at a sequence-classification of pottery first, then weapons, tools, works of art, etc., which is fairly reliable. To use his own words: "This chaos of over 900 types of pottery, hundreds of stone vases, weapons and tools of flint and of copper, ivory work, and beads, extending over many centuries, perhaps one or two thousand years, has now been reduced by this system to an orderly series, in which we can not only state exactly the relative order of the objects, but also the degree of uncertainty and the extent of range which belongs to each object." Thus, prehistoric archæology "has made another step toward becoming an exact science." It is worth noting that in the arrangement of the pottery of seven successive stages, the degradation of the wavy-handled type was "the best clue to the order of the whole period." In the history of the slate palettes it appears that the rhomb is the earliest type, while line borders come last. Another order is quadrupeds, fishes, turtles, and birds. The study of the pottery specimens reveals, also, the fact that "form is more important than material."

PREHISTORIC BOVIDÆ. In L'Anthropologie (Vol. XI., 1900, pp. 129-158), Dr. J. Ulrich Duerst publishes the first part of an interesting illustrated account of "Some Prehistoric Bovidæ." According to the author, the species of *bubalus* represented on the Algerian rock-carvings is identical with that on the Chaldean cylinders,—this species (*bubalus antiquus* or *B. palæindicus*) having spread from India, where it lived in the pleistocene epoch, to Mesopotamia, and then to northern Africa. It may also, as some cranial remains from the diluvium of Dantzic seem to indicate, have spread over parts of western Europe also. This animal, which Assurbanipal hunted, was driven back by the progress of civilization toward India, where its descendants still survive in the Arni (*bubalus Arni*). The oldest representative of the genus is the *Bubalus sivalensis*, whose remains are met with in the Miocene of the Siwalik Hills. The literature concerning fossil oxen is very large, the fluvial deposits, bogs, lake-dwellings, cave-dwellings, etc., furnishing abundant specimens. Dr. Duerst holds that the *Bos primigenius*, the typical prehistoric ox, has the same geographic distribution as the *Bubalus palæindicus*, and that the region of its origin is the same as that of the latter. Indeed, in the Siwalik Pliocene skulls of oxen have been found, belonging to two species: *Bos primigenius* being one of them. The *Bos primigenius* must, therefore, be traced back to India. This species had been domesticated in Greece in the Mycænian epoch, according to Keller, whose opinion, however, has been disputed by Krause and others. It was certainly domesticated long before the rise of the Babylonian empires; but whether the Babylonians had domesticated it themselves, or received it from alien sources is uncertain. If we believe Nehring, all the short-horned breeds of cattle in Europe are descended from the *Bos primigenius*. Dr. Duerst, however, recognizes two races of primitive oxen, the second species finding its modern representatives to-day in Syria and Mesopotamia. This second race is "the cattle of the lake-dwellings of central Europe, the oldest cattle in the world."

++ ++ ++

SEXUAL CHARACTERS OF ANCIENT SKULLS. In L'Anthropologie (Vol. XI., 1900, pp. 179-192), Dr. E. Pitard presents the results of a detailed comparison of some fifty male and fifty female crania from ossuaries (of various dates, chiefly prior to the twelfth century, A. D.) in Valais, the valley of the Rhone. The chief conclusions arrived at are: the female skull, is, as compared with the male skull, of the so-called "frontal" type, and of relatively greater cranial capacity (as already shown by Manouvrier); the weight of the male skull is absolutely greater, and the various segments of the skull (according to the curves) are greater in male skulls; the principal diameter of the cerebral cranium are (relative to the cranial capacity) relatively greater in female skulls; in female skulls the width of the forehead is relatively larger than the width of the face, and the forehead more vertical.

MODERN 'EUROPEAN IMPLEMENTS OF STONE. Under the title "Some Stone Implements Recently, or at Present, in Use in Europe," Dr. E. H. Giglioli describes (with figures) in the *Archivio per l'Antropologia* (Vol. XXIX., pp. 229-238) the stone hammers of Iceland, a stone pestle from Italy, a calendering stone from the Isle of Wight, stone polishers (for metal objects) from various parts of Italy, stone plow-protectors and plow-shares from various parts of Europe. These survivals of the Stone Age are of great interest alike to the historian of human culture and to the archæologist *vom Fach*.

ETHNOLOGY OF THE AMOOR<sup>++</sup> TRIBES. In the *American Anthropologist* (Vol. II., N. S., pp. 297-338) for April-June, 1900, Bertheld Laufer, under the title "Preliminary Notes on Exploration Among the Amoor Tribes," gives an account of investigations carried on in 1898-9, for the Jesup North Pacific Expedition among the Ainu of southwestern Saghalin; the Gilyak of northern Saghalin, the lowlands of the Amoor, and the coast of the Liman; the Olcha and Tungus of the Okhotsk coast, the Poronai Valley and Patience Bay (Saghalin); the Tungus of the Amgun and the Gold of the Chabarovsk-Sophisk region of the Amoor. The peoples in question are all fishing and hunting tribes, and their culture has grown up on a basis of Yakut (and other Siberians), Chinese-Japanese, and Russian influence, in the order given. The Yakuts gave them the iron industry, their art shows many Sino-Japanese points of contact; while "the Gilyak in the environs of Nikolayevsk now build Russian houses and make stoves, wear Russian clothing, use Russian utensils, work together with Russians in their fisheries, and bow to the images of Russian saints." The author notes that among the Gold and the Gilyak "animals such as the bear, the sable, the otter, the sturgeon, the salmon, which predominate in the household economy and are favorite subjects in the traditions, do not appear in their [decorative] art, whereas their ornaments are filled with Chinese mythologic monsters which they but imperfectly understand." The Amoor people "do not reproduce the objects of nature, but copy foreign samples." Of the Ainu, we are informed that "their ornaments cannot be compared with those of the other tribes," and, while they do resemble the neighboring Gilyaks, "many inventions and ideas are met with which are their own, and are not found in any other tribes,"—such, *e. g.*, are the *ikuni* or moustache-sticks. The Olcha, of Saghalin, are noteworthy on account of "a strange kind of amulet, cut out of reindeer or salmon skin," the art of making which is ancient and open to all, even women. The author also notes the striking fact that "nearly all institutions, customs, and manners, as described in the tales of the Gold, bear a marked resemblance to the outlines of culture as sketched in the epic literature of the Mongol and Turkish nations." The paper ends with a specimen of Gold folklore.

**BURIAL CUSTOMS.** In the *Journal of Anthropological Institute* (Vol. XXIX., [pp. 271-294] for November-December, 1899, Mr. W. Crooke writes about "Primitive Rites of Disposal of the Dead, with Special Reference to India,"—the appendix to the paper deals with "Sepulchral Urns in Southern India," being a note by the late Dr. Caldwell, Bishop of Tinnevely, author of a grammar of the Dravidian languages. Among the topics discussed more or less at length by Mr. Moore are: Mummification (known in the Deccan, Bengal, Assam, etc., in various forms); platform burial (seemingly confined in India to the Nāgas of Assam); mountain-burial (prevailing largely along the Himalaya); inhumation and cremation (found together in the Vedas),—in India earth-burial probably preceded cremation; mound-burial, dome or vault burial; crouched burial; disinterring and bone-cleaning—surviving in modern Hinduism of the higher type in the Asthi-Sancaya, or bone-collecting ceremony"; jar and urn burial (in Southern India). Very interesting are Mr. Moore's references to the evidence in Indian thought and folklore to burial customs long ago abandoned, and the taboos of burial.

++ ++ ++

**IRANO-INDIAN ICONOGRAPHICAL ANTHROPOLOGY.**—In *L'Anthropologie* (Vol. XI., 1900, pp. 193-224) Charles de Ujfalvy continues and concludes his discussion of "Irano-Indian Iconography and Anthropology." The subjects treated of are: The cameos, intaglios, and coins of the Sassanidæ; the craniological type of the ancient Persians; the anthropological type of the dynasties of the Arsacidæ; métissage between Persians, Semites, and Turanians; résumé of the works of various authorities,—Khanikoff, Herodotus, Justin, Ammias Marcellinus, Bogdanoff, Duhoussett, Houssay, etc. Among the general conclusions of the author are the following: The type of the Persians of the time of the Achæmenidæ seems to have been very like that of the Macedonians of the time of Alexander. At this period also, the influence of the Semitic environment is very discernible. The transformation which begins in the period of the Achæmenidæ has been accomplished by the epoch of the Sassanidæ,—the princes of that dynasty presenting a fine type, but one far removed from that of the Achæmenidæ. When, at the end of the epoch of the Sassanidæ, the Arabs intermix with the Persian Aryans, the race possesses but "feeble atavistic traces of their Achæmenidean ancestors." The result of this Arab intermixture was to reinforce the Semitic element. Neither the Farsis nor the Doris of western Persia, nor the Tadjiks of Afghanistan, ancient Bactria, and Sogdiana, represent the type of the Persian Achæmenidæ, all being far removed from it. The Afghans are a race intermediate between the Iranians and the Hindoos, and the primitive type of the Iranians may possibly persist in the Tadjiks of Kohistan. Very interesting are the results of M. Houssay's

study, his "anthropological law" concerning the intermixture of Aryans with Mongolian, or with Mongoloid peoples: The latter lose their facial characters—flattening of the nose, prominence of cheek-bones, absence or rarity of beard, but, on the other hand, the former receive from the latter the form of their cerebral cranium. While one cannot agree with all the author's ideas, his paper is very useful.

++ ++ ++

JINNS. Prof. E. Westermarck contributes to the Journal of the Anthropological Institute (Vol. XXIX., pp. 252-269) a valuable paper on "The Nature of the Arab Jinn, Illustrated by the Present Beliefs of the People of Morocco." The data upon which the essay is based are the result of personal investigation in various regions of Morocco, with the assistance of natives. Belief in the *jinn*s forms today "a very important part in the actual creed of the Mahammedan population of Morocco, Arab and Berber alike." Those who do not practically believe in them are very few, if any. According to Prof. Westermarck the Moroccan belief, "in all its essentials, and in a great many of its details, is identical with that of the Eastern Arabs, and may be said, in the main, to represent part of the old Arab religion, in spite of the great mixture of race, which has taken place on African soil. Prof. Westermarck is also of opinion that "the application of the totem theory to the Arabic *jinn* involves a radical misunderstanding of their nature." The conception of the *jinn*s "implies a generalization on a much larger scale" than totemism. In the discussion on the paper Mr. Crooke and Dr. Taylor spoke against the identification with totem-belief.

++ ++ ++

ARMORICAN ARCHAEOLOGY. In L'Anthropologie (Vol. XI., pp. 159-178), A. Martin discusses "Armorican Burial Places Where Fine-pointed Flint Arrow-heads are found." Of the burial places in question, some fourteen have been discovered in Armorican Brittany (Finistère ten, Côtes-du-Nord three, Morbihan one). Of these, five have been the subject of detailed description, with plans, cuts, figures, etc.—those of Cruguel (in Morbihan), Kerné-bras (in Finistère), Porz-ar-Soaz (in Côtes-du-Nord), Kergouregon (in Côtes-du-Nord), Tossen-Maharit (in Côtes-du-Nord). The nine other burial places, all in Finistère,—Keruzoret, Cosmaner, Fao-youen, Kerguévarec, Kervini (2), Goarillac'h, Plouvorn, Kergourna-dec,—have not been investigated with the same care and detail. Common to all fourteen burial places are: Wooden-burial-boards (on which the remains or the ashes of the dead were placed with his arms); absence of pottery; presence of a number (sometimes as high as fifty) of delicate fine-pointed flint arrow-heads, of perfect design and execution; presence of peculiar bronze pointards, and hatchets of bronze. From this

general agreement the author concludes that "from Scorff to the bay of Iffyniac, along the contour of the horn of Armotica, there existed, at a certain period of the Bronze Age, a homogeneous population, industrious, and gifted with a real sense of art, the treasures of which offer themselves for our study in these tombs" (p. 164). During this age, too, the art of making flint arrow-heads reached its apogee.

++ ++ ++

ARCHÆOLOGY OF THOMPSON RIVER, B. C. As No. VI. (May, 1900, pp. 401-453; figs. 331-380, plates xxiv.-xxvi.) of Vol. II. (Anthropology I.) of the "Memoirs of the American Museum of Natural History," New York, Dr. Harlan I. Smith publishes an interesting and valuable paper on the "Archæology of the Thompson River Region, British Columbia," embodying the results of investigations carried on under the auspices of the Jesup North Pacific Expedition in the country between Spence's Bridge and Kamloops. The investigations were made in May 1897, May 1898, May 1899 and October 1899. Among the rubrics discussed are: Resources, hunting and fishing, root-digging, food-preparation, habitations, tools, war, dress and ornaments, games and amusements, narcotics, art, burials, etc. These investigations corroborate the conclusions drawn by Dr. Smith from the previous researches carried on by him in the Lytton region. According to Dr. Smith, "the ancient culture of the whole of the southern interior of British Columbia was quite uniform, and resembled in all essential points the culture of the present inhabitants of this area, as described by James Teit in his monograph on the Thompson River Indians." Moreover, "the physical type of the people of the interior is quite uniform, and a preliminary examination of the skeletons of the prehistoric people does not suggest that any change of type has taken place." It may be concluded also, from both culture and physical type, that "the peoples of the coast and those of the interior developed on distinct lines, and that points of resemblance are due to later contact." Among the arrow-points figured in the text are "four beautifully chipped complex forms," possibly used in surgical operations. Certain slate arrow-points, some sea-shell and bone-of-whale objects indicate coast influence. Fish-knives (of the Lytton sort) are rare at Kamloops, and no shell spoons were found. Wedges of elk-antler were numerous; so, also, green stone celts, and beaver teeth, the last probably as cutting or chipping implements. The carving of the war-clubs suggests again, the influence of the coast-peoples. There appears to be "no evidence that mountain goat wool and dog-hair were spun and woven." Copper pendants and similar objects of personal adornment were very common; also beaver-teeth dice. Dr. Smith's paper is an admirable companion to his study of the "Archæology of Lytton" and well deserves the fine dress in which these "Memoirs" all appear.



## PHILIPPINE STUDIES.

### I. PLACE-NAMES.

BY ALEXANDER F. CHAMBERLAIN.

**T**HE study of place-names is of interest not merely from the philological, but also from the sociological point of view.

In the Philippine Archipelago there are said to be nearly 2,000 islands and islets, from Luzon (about the size of Ohio), Mindanao (rather larger than Indiana), down to uninhabited rocky ledges, the name of which alone allies them to mankind. These islands are peopled by some 8,000,000 individuals of more or less pure Malayan stock, perhaps 10,000 Negritos, and several thousand Europeans (chiefly Spanish), Chinese, Japanese, etc. The basis and core of the chief ethnic phenomena in the Archipelago to-day, in spite of all foreign influences at various stages of their history,—Indian, Chinese, Japanese, Spanish, English, and American,—is still Malay. This is clearly revealed by an investigation of the place-names of the Archipelago, the results of which prove how little, after the first predominance of the Malays over the earlier Negritos, the successive foreign elements have modified the essentially Malayan character of the linguistic topography. The following study is offered as a first attempt at the elucidation of some of the interesting place-names of this important region of the globe:

1. APO. The name of this volcano in southern Mindanao coincides with *apo*, the term for "grandparent" in several Philippine languages. This would be an appropriate explanation, considering the place occupied by volcanoes in the native mythology. And it is, perhaps, a more satisfactory derivation than that which connects the word with *apui*, the term for "fire" in many Malay tongues. There is an *Apo* island off the west coast of Mindoro.

2. BABUYAN, "place of pigs,"—from *babuy*, "pig" (in the Tagal and related tongues), and the locative suffix *-an*. *Babuy* is the same word as the first component of the *babiroussa* of our dictionaries, the Malay name (*babi*, "pig," *rusa*, "deer") of the curious "deer hog" of Celebes. The pig plays a very important rôle in Malay countries, and places named after it are very common. From *babuy* the village of Babuyan on the island of Palawan, the Babuyanes (the *es* is the Spanish plural-sign) Islands, situated to the north of Luzon, etc., get their names. The Babuyanes were long noted for the pigs found in great numbers upon them.

3. BACOR, "circle." This word seems to belong to the language of the Negritos of Luzon. Spelled in various ways *Bacoor*, *Bacor*, *Bakur*, etc., it was formerly the name of a bay on the western coast of Luzon.

4. BALAYAN, "house place," from *balay* (in several dialects—Tagal *bahay*), "house," and locative suffix *-an*. This is the name of several places in the Archipelago: a gulf and town in the district of Batangas, south-western Luzon, etc.

5. BANGA-BANGA, "skull" (in several languages of Luzon and other islands closely allied to the Tagal-Ilocan, etc.). This name is very suggestive in relation to the former head-hunting propensities of many of the Malay peoples. The word also signifies, in some dialects, "the shell of a fruit," "gourd." There is a village called Banga-banga in south-eastern Mindanao.

6. BANTAYAN, "mountain place," from *bantay* (in several Luzon dialects, Ilocan, etc.) "mountain," and the locative suffix *-an*. This is the name of a small island, situated to the west of the extreme northern part of Cebu.

7. BASHEE, "fermented juice of the sugar-cane." The group of small islands north of the Babuyanes, towards Formosa, received this name (figuring most on English maps,—they are otherwise known as the Batanes) from the members of Dampier's expedition in 1687. Dampier's account of the voyage informs us that they were "unanimously named after the liquor,"—*bashee* (*bashi*),—which the natives sold "very cheap," and the sailors "drank plentifully every day." This *bashi* or *basi*, as it is termed in various Philippine dialects, is an intoxicating drink made from crushed sugar-cane, which is made much of on social occasions and during the religious festivities of some of the ruder tribes.

8. BATO, BATU, BATÓ, "stone," in various Philippine dialects (Tagal, etc.). There are many places in the Archipelago thus named. A derivative *Batuan* or *Batoan*, "place of stones," "rocky place." There is a Bató in the island Leyte.

9. BAI, BAY, BAY-BAY. In several languages of the Archipelago *bai*, or *bai-bai* signifies "a body of water, sea, lagoon, etc." Hence the well-known Laguna de *Bay* near Manila, in south-western Luzon, gets its name; also the town on its southern shore (some of the earlier maps and writings spell the word *Bahi*.) Bay and Bay-bay are not infrequent elsewhere in the Philippines. There is a town, *e. g.* of Bay-bay, in Leyte (the northern portion of the island was formerly called Bay-bay).

10. BOAAN, "place of the boa, bonga, or betel-palm." Some of the places (islands, etc.) called Boaan seem to have taken their name from the bonga or boa tree, the palm which furnishes the famous betel-nut, *Areca catechu*.

11. **BOAYAN.** This island, off the the northern coast of Palawan, bears a name seemingly the same as that discussed under No. 13.

12. **BONTOC,** "mountain." In Tagal and some of the related dialects, *bontoc* or *bondoc* signifies "mountain," and the district and town of Bontoc in northern Luzon have thus received their name. *Bondog*, the name of a cape, mountain and town in southeastern Luzon is probably the same word.

13. **BUHAYAN, BUHAYEN,** "place of life," from *buhay* (in several Philippine dialects), "life," and the locative suffix *-an* or *en*. In Mindanao a mountain, a lake, a river, a town, and a district are named *Buhayan* (*Buhayen, Boayan*). The mountain, a volcano, may have been the first recipient of the name, since "place of life" is a very appropriate denomination for such a phenomenon. See No. 11.

14. **BULALACAO,** "rainbow" (in several Philippine dialects, some of the vocabularies give the same word for "comet"! ) This word occurs frequently as a place-name: A gulf and town in south-eastern Mindoro; a small island to the east of the island of Calamian, etc.

15. **BULAN,** "moon" (in several dialects; *buyan* in the Negrito of Luzon, *buan* in Tagal). There is a town of *Bulan* in extreme southeastern Luzon.

16. **BUTUAN,** "place of bones," from *butu* or *botó* (in several Philippine languages.—Tagal, etc.). In Mindanao there are a river, bay, town, and district of this name.

17. **BUYO,** "betel" (in several Philippine dialects, including Tagal, etc.). Several places seem to have been named after this favorite chewing-substance of the Malays. There is a town of *Buyo* in Central Luzon.

18. **CAMÓTES,** "sweet potatoes." The *Camotes* group of islands, between Leyte and Cebu have been named from the Spanish *camote* (plural *camotes*), the ultimate source of which is the Nahuatl (Aztec) *camotl*, "sweet potato," one of the many links connecting the Philippine Archipelago with the Spanish vice-royalty of Mexico, from which they were so long governed.

19. **CARABAO,** "buffalo." The little island of this name, between the northwestern point of Panay and Tablas, is called after *carabao*, or native buffalo of the Philippines, known as the "water buffalo." The most wide-spread name for this animal among the Philippine languages is "unang" or "aunang," the other term "carabao" being doubtfully of native origin. The smaller species of buffalo, found only on the island of Mindoro, is called "timaran."

20. **CATUBIG.** This name of a river and town in the island of Sámar is derived from *tubig* (in several dialects, Tagal, etc.,)

"water," and the prefix *ca* (*ka*), which indicates that the thing expressed by the root exists in abundance or perfection.

21. DALIGAN. The reference in the place-names Daligan (the suffix is the locative *-an*) may be to dalig (in several dialects of Luzon, etc.,) "root," or "Dalig," one of the secondary deities of the Igorrotes, mountain-tribes of northern Luzon. Daligan is one of the settlements of the Apayaos in northern Luzon.

22. DINAGAT. Some of the place-names belonging here may be derived in the characteristic fashion of the Tagal and some closely related dialects, from dagat, "sea," with the infix *-in* (signifying "like, resembling the thing denoted by the stem-word"), thus *d-in-agat*, "sea-like," "in the sea." There is an island (with one of its towns) called Dinagat, off the north-eastern coast of Mindanao.

23. GUBAT, "forest" (in Tagal and several other dialects). There is a town of Gubat in the extreme southeastern portion of Luzon.

24. ILÓCAN, "river place, on the river," from *ilog* (in Tagal and several other related languages) "river," and the locative suffix *-an*. The Ilócanos (to give them their Spanish name) or Ilocans, are an important people of northern Luzon, whose name is borne also by part of their habitat, the Provinces of North and South Ilócos. The Ilocans are thus "river people."

25. LAUAG or LAOAG. The name of the chief town of North Ilócos may be the same as "lauag" "field," in the language of the Luzon Negritos, "laoag," "country," in certain other dialects (*e. g.* Bontoc). There is also in Ilocan the word "laoag," "brightness."

26. LINAO. The name of several places in the Archipelago: A bay in southern Mindanao, a town in the extreme north of Luzon, etc. See No. 28.

27. LUZÓN. The origin of the present name of this the largest island of the Philippine Archipelago, is very uncertain. One of the etymologies suggested derives "Luzon" (of which the Latinizing chroniclers of the sixteenth and seventeenth centuries made "Luconia") from "lusong," "luzong," "losong," "wooden mortar for pounding rice," a word belonging to several dialects of the island (Tagal, etc.). The story goes that when the Spanish discoverers began to question the natives as to the name of their country, the latter answered "lusong," supposing that the new-comers were inquiring about the mortars, as conspicuous then as now, at the doors of their cabins, in some portions of the island. This, however, is probably a case of "folk-etymology." It is rather against the story that the accent runs "lúsong," and "Luzón."

28. MALINAO, "bright, clear," in Tagal and some related dialects. There are a number of places thus named through-

out the Archipelago: A lake in Mindanao, a town in Luzon, etc. The radical of the word is "linao,"—the *ma-* is adjective prefix. "Linao" is probably the same place-name.

29. MANOC or MANUC, "bird," a wide-spread Malay word appearing in Tagal and many other Philippine dialects. There are several Manoc islands in the Archipelago, one very small one *e. g.*, between Masbate and Cebu. There is also a Mamanuc Island in the Sulu group.

30. MANUCAN, "bird place," from "manuc," "bird," and the locative suffix *-an*. There is a Manucan Island in the Cayagan group, situated to the west of the southern part of Negros, and a Manuc-manucan Island to the southeast of Balabac in the Sulu Sea.

31. MINDANAO, "lake country." An older form of the name of the second largest island in the Philippines, "Magindanao," reveals the etymology of the word. "Magindanao" is derived from "danao" (in many Philippine dialects, Tagal, etc.), "lake," and the prefix *magin-*, which contains the idea "becoming or containing what is indicated by the root-word." There are a number of rivers and lakes, some of them quite large, which makes the name peculiarly appropriate. One of these, also called Boayan, bears still the name Maguindanao, the first location of the term, perhaps.

32. MINDORO. By some the name of this large island, situated immediately south of the western portion of Luzon, is said to be a corruption of the Spanish *mina de oro*, "gold mine," in reference to the gold-deposits said to exist there. An earlier native name of the island was "Mait," related, perhaps, to "maitim," "black," in Tagal, and referring to former dark-skinned inhabitants. It is possible that "aeta, ita," and "eta," the name by which the Negritos of the Philippines are known is identical with the radical of "maitim," *ma-* being the common adjective prefix, so frequently occurring in color-names.

35. NEGROS. This large island, lying between Panay and Cebu, received its present name on account of the "black people, *negroes* (in this case, Negritos)," who seem to have been in former times its chief inhabitants, and who still survive in small numbers in certain parts of the Cordillera region. An earlier name was Isla de los Negros, then Isla de Negros, and finally Negros. Purchas, in his "Pilgrimage," in 1613, speaks of it as "an Island of Negro's inhabited with black people."

34. PANAY. The name of this large island, which lies between Mindoro and Negros, seems to have once belonged to the northern portion of it only, now called Capiz. An older name of the island was "Oton, otong, otong." The significance of Panay is uncertain. In some dialects of the Archipelago "panay" means "plate," but there may be no connection here. There is also a small island called Panay off the

northeast coast of the island of Catanduanes. On the large island of Panay is a river and town of the same name.

35. PANGASINAN, "place of salt." This word, which occurs frequently as a place-name in the Archipelago, is derived from asin, "salt" (in several dialects), with the locative suffix *-an*, and the prefix *pang-*, relating to "action." Pangasinán is, therefore, "a place where salt abounds, or is made." The name is borne by an island in the Sulu group, a district and tribe in Luzon, etc.

36. PASIG, "sand," in several dialects, Tagal, etc. This is quite a common place-name. There are a Pasig island, or shoal-bank, northeast of Palawan; a Pasig river and town in Luzon, near Manila, etc.

37. PULANGLUPA, "red earth," from Tagal "pula," "red," and "lupa," "earth." The name of a town in southwestern Luzon. The word "lupa" appears also in the place-names Masalupa, Muntinlupa, etc.

38. SAMAR. The origin of the name of this large island, which lies southeast of the extreme southeastern point of Luzon, is uncertain. "Sámar" or "Sámal" seems to have been originally applied only to the western coast of this island, which has had several other and older names. The whole Visayan group, to which it belongs, was earlier known as the "Islas de los Pintados," or "Islands of Painted (tattooed) Men." It has been sought to explain the present name of the island from "samar," a Malay word meaning "disguised," in the sense of "tattooed" or "painted."

39. SUBAN, "river place," "on the river," from "suba," "river" (in some of the southern dialects) and the locative suffix *-an*. There is a town called Suban in northern Mindoro. In the extreme southwestern peninsula of Mindanao dwell the Subanos, who, as their name signifies, are "river-dwellers," "river-people."

40. TAGALOG. This name of the most prominent people of the whole Archipelago is said to be derived from *ilog*, "river," and the prefix *taga-*, relating to action, origin, and signifies "people of the river," "river-dwellers." A fuller form of the word is Tagailog, the *nom de plume* of Luna, the Filipino man of letters.

41. TAMBAGAAN, "place of bronze," from "tambaga," "bronze," and the locative suffix *-an*. This is the name of a small island off the coast of Tawi-Tawi in the Sulu group. "Tambaga, tombago, tembaga" (in the various dialects) signifies in Tagal also an alloy of gold and silver of which jewels are made. This Malay word has travelled far from the East Indies,—it is seen in the Spanish "tumbaga," "pinchbeck," Italian "tombacco," Portuguese "tambaca," French "tombac," etc. The word has even crept into English in the form of the

Anglo-Indian "tombak," "a kind of brass." It is a very curious fact, however, that this far-traveled Malay term is itself of Aryan origin, its ultimate source being seen from the Sanscrit "tamraka," "copper."

42. TUBIG, "water" (in Tagal and some related dialects). With the suffix *-an* is formed the derivative "tubigan," "place of water," a term applied, on the one hand, as a river-name, and on the other, in the sense of "rich land," to a well-watered meadow. There is a Tubigan Island in the Sulu group.

The early Spanish discoverers, conquerors, and adventurers have not been forgotten in the new names added by the Castilian immigrants. Villalabos, Legazpi, Urdaneta, etc., are remembered in town-names, etc. A few names, too, have drifted in from Spanish-Mexico, and elsewhere; while some few others hark back to old Spain. But, taken altogether, these form but a very small fraction of the many thousands of names dotted here and there over this vast Archipelago.

A fact worth noting, is the sprinkling of English names to be found around the coast of the long, narrow island of Palawan, proximity to Borneo accounting no doubt for some of them, and the East Indian trade for more. To the west of Palawan are three Pennsylvania reefs, remembrancers doubtless of some vessel bearing that American name.

The history of the general name of the Archipelago is a curious one. Magellan styled the islands, when discovered by him in 1521, "Islas de S. Lazaro," a name which did not meet with general acceptance. For a long time after the discovery they were known to the Spaniards, who approached them from the west, as "Islas de Poniente," and to the Portuguese, who reached them from the East, as "Islas del Oriente." Villalabos (1542-3) sought to make them bear the general name of "Neuva Castilla,"—another failure. But their present name hails from him, too. In honor of the Infante Don Felipe, he named the island of Samar *Filipinz*, and ultimately, while Samar lost the specific name, Las Filipinas came to be the appellation of the whole Archipelago. The substitution was very slow, however.

## CORRESPONDENCE.

### CLIFF-DWELLERS' RUINS.

TO THE EDITOR OF THE AMERICAN ANTIQUARIAN:

*Dear Sir.*—I have thought many times of my promise to write to you, but have waited to obtain further information regarding the Cliff-Dwellers' ruins of this vicinity.

When I first came here I was able to learn but very little, except that this whole region abounds in ruins and remains of various kinds. My first exploration was made on the Mesa Verde, within a few miles of my home at Navajo Springs Indian Agency. This was on January 9, and all I found was the foundation of a ruined house. I have since found houses, more or less perfect, in three other places, and all within six or seven miles of the Agency. None of these have been visited by white men more than two or three times. The smallest one contains several ruined rooms, and one still perfect; while the largest has twelve rooms in perfect condition, and eleven or more ruined.

There appears to be two distinct classes of masonry, both occurring in the same buildings; in one case in separate portions of the house, and in the other instance the walls seem to have been begun by one class of workmen and finished by another.

One of the houses appears to have been destroyed purposely and maliciously by human beings. I base this conclusion on the fact that there are many fragments of pottery scattered about, but not a whole dish can be found. There are also broken stone implements. I found pieces of two stone axes and one hammer, which I believe were purposely broken. I believe in this case that the inhabitants were driven out and their belongings destroyed.

Another house has been totally demolished, except one room. This was caused by a fall of rock from above, as was also the case, but in a lesser degree, with still another house in the same vicinity. At this latter place there are great cracks in immense masses of rock overhanging the house, which could only have been made by an earthquake. In the first house mentioned, the walls have been thrown down almost intact. I do not believe this could have been done by any force of nature without causing the rock to fall from above, where it still remains solid and begrimed with smoke.

What really interests me most is the burial places, which, so far as I can learn, are all located down on the plain; while the houses mentioned are probably a thousand feet above them, built in the sides of the cañon walls, near the top.



Dotted comparatively thickly over the valleys below the mesa are heaps of ruins, which must have been originally stone buildings, varying in size from one small room to immense structures, covering an acre or more of ground. In the larger of these are still to be seen walls ten feet high, while others are simply a mass of broken stone without form.

It is near the smaller and isolated ruins that the graves are found. Invariably they are located from fifty to sixty feet southeast of the piles of stone, and are to be distinguished by a slight mound of earth covered with broken pottery. Some graves are shallow, while others are from four to six feet deep. The skeletons show that the bodies were buried in a sitting posture, with the knees drawn up under the chin. Surrounding the skeletons are dishes of various patterns; some glazed; some rough; some decorated and some plain, but there are many graves which contain no pottery at all.

Many of these smaller mounds are in two parts, the northern one being always the larger. In one of these double mounds, which I excavated slightly, I found quite a quantity of charred ears of corn. First was a layer of earth and debris about a foot thick; then came a layer of slag, such as might have been the product of a blast furnace. This slag was about eight inches in thickness and completely covered the corn, of which there must have been several bushels. It is now charred and amalgamated into a compact mass, although the ears still retain their form and the kernels can be separated from the cobs. It is certain that the corn could not have been there when the slag was in a molten condition, and the only explanation I can suggest is that this was the inside of a large furnace, or possibly a pottery kiln, and that after it had ceased to serve its original purpose, for some reason—possibly sacrifice—the corn was burned there, and the walls afterward fell inward.

Climatic conditions must have been far different then, for all the cliff-houses I have seen contain corn cobs and husks, many of the former being imbedded in the walls. It would now be impossible to grow corn within twenty miles of these houses, as the nearest water supply for irrigation is that distance away. Neither does it seem possible that they could have transported water sufficient for the erection of their buildings and to supply the number of people who must have inhabited them.

The more I study the ruins and their location the more intricate the problem becomes, until it seems as if I *must* solve the mystery of this lost people.

Very respectfully,

C. N. CROTSENBURG.

*Corley, Colorado, April 6, 1900.*

## EDITORIAL.

### THE GEOGRAPHY AND HISTORY OF CHINA.

The attention of the world has been directed toward China and the strange people who dwell in that ancient land, and who call their government the "Celestial Empire," a name which seems to be at the present time a travesty and a burlesque. There is no denying the importance of this nation among the nations of the earth, for it is, perhaps, the largest and most numerous in the world, and, unlike other nations, is contained in one solid body, without a range of mountains, or a sea, or any other geographical feature to separate the different parts.

There are two other nations which, like the Chinese, are gathered into a solid body—the Russians, and the people of the United States; but the Altai Mountains separate the eastern from the western portion of Russia, as the Rocky Mountains separate the eastern from the western part of the United States, the capitals of the three great nations having been all situated at the extreme side of the country.

There have been several dynasties previous to the present; the earliest having a date as ancient as either Egypt, or Assyria, or India, and much earlier than either Persia, Greece, or Rome. The following are the dates, according to Bancroft's recent book: the Dynasty of Hia, 2205-1766 B. C.; of Shang, 1766-1122 B. C., and of Chow, 1122-255 B. C. Then came Chanchi, who built the wall. The dynasty of Ching, whence the name China came, began 255 B. C. and continued until A. D. 149; that of Han, A. D. 149-618, covering 469 years, the period when Buddhism found its entrance. During the Tang dynasty (A. D. 618-905) poetry and the drama arose. With the Sung dynasty (A. D. 960-1278), philosophy. The Mongol dynasty (A. D. 1200-1341) marks the coming of Kublai-Khan, by whom the Grand Canal, 700 miles in length, was completed. Next was the Ming dynasty, extending down to 1644, during which the Manchus, a Tartar tribe, formerly dwelling northeast of the great wall, came down. The Manchus form the present dynasty, and the present emperor is the seventh one of this line.

China first came into notice through the travels of Marco Polo, who made known the "marvels of Cathay," and his book led Columbus to plan his voyage to this land, which led to the discovery of America. Previous to Marco Polo, was the Buddhist missionary, whose travels in 399-414 A. D., are described in *THE AMERICAN ANTIQUARIAN* for January-February, 1899.

The journeys which followed Marco Polo are too familiar to need mention here, so we will merely give the dates: Sir John Mandeville and the Moor, nicknamed the "Traveller."

1325; Friar Oderic, 1330; Portuguese Raphael, 1516. The voyages that took place after the discovery of America were made first by the Portuguese, next by the Spanish, who conquered the Philippines in 1543, and made an attempt to enter China in 1575. Russia sent agents to Peking in 1567. The Dutch opened commerce in 1622. The first English vessel anchored off Macao in 1605. Commodore Anson arrived in 1742. Trade with Americans commenced in 1704. The Opium War occurred in 1840. Such, in brief, is the history of this remarkable country.

The geography is, however, worthy of especial study. There are three zones, which are separated by certain geographical lines, and are distinguished by certain products, as



The "Little Orphan" Island on the Yang-tse River.

well as by distinct peculiarities. The northern zone extends from the Great Wall seven hundred miles, over a plain which abounds with grass and is very fertile, as the soil is composed of the loess, which is very rich. Millet and barley grow abundantly. The central zone stretches from the Yellow River to 260° latitude. Here the climate is warm and the soil is rich. Wheat, rice, tea, oranges, and sugar cane are raised. Silk is also an article of commerce. The southern district is somewhat mountainous, and separated from the seacoast by a range of mountains, so that commerce must go south to Canton, or north to Peking.

The Grand Canal stretches from Peking to Canton, a distance of 1,200 miles. It is mainly a series of abandoned river

beds, lakes and marshes, connected with one another by cuttings. This canal is one of the antiquities of the world, and can be compared only to the Great Wall of China. It was built long before the thirteenth century, and was utilized by Kublai-Khan, who made it the "River of Transport." It connects Hong Chan with Tien-tsin, and, by the river Pei-Ho, with Tung-chau and Peking. The absence of cataracts, the cheapness of wages, and the small value of time, make it possible for the Chinese to employ this canal advantageously at present, though it is probable that if China should awake from her long sleep, railroads will be used instead of the canal, as there are portions of it which are already in need of repair and badly neglected.

The Yang-tse is the great water-course and artery for the Celestial Empire. It is navigable for 1,600 miles, 600 of them for large sea-going vessels, and 720 for light-draft vessels. The Ho-Hang-Ho, or the Yellow River, is called the "Chinese sorrow," for it is subject to overflow, and has once, at least, changed its channel for a length of 700 miles.

The population of China is supposed to be about 350,000,000. The population of the plain, in North China, 177,000,000. It is the most densely populated section of the whole world.

The roads in China are the worst in the world. Rough boulders were originally laid loosely beneath the soil, for a foundation, but these have been undermined by rain, carried off by the people and put into their houses, and so, great chasms are left and isolated fragments, over which it is almost impossible for a carriage to pass. Donkeys will drag the carts, coolies will carry sedan chairs, others will carry freight with poles; but freight has to be carried for 1,300 or 1,400 miles over such a road as this on the backs of men, or by beasts.

The government of China is the most remarkable on the face of the earth. It is supposed to be based upon the family system. The emperor is supposed to be the father of the nation, as well as the representative of the divinity. The government is really a theocracy, and the emperor is the great high priest. The groups of families constitute villages which are self-governing. Villages are clustered into towns under respective heads, which are responsible; but the official hierarchy begins with a district about the size of a county and is governed by a district magistrate. Next is a group of departments, or counties, which form a circuit, and is about as large as one of our territories. Each province administers its own affairs, and provides its own revenue and its own defense, but is under the rule of a governor, appointed from the capital.

As to the relative antiquity: it is supposed that the history of China began long before either that of Greece and Rome, and Asia Minor, and perhaps as early as that of Babylonia. Civilization existed here almost as early as it did in Egypt, though there has been very little progress.

In fact, several good authorities connect the Chinese with the old Accadians, a pre-Semitic people, who were the first inhabitants of Babylonia and were the earliest civilized people of the world. They are supposed to have given their civilization to the Semitics, and to have been the first to reach the art of writing. Their history, according to recent discoveries, may be said to have begun as early as 7000 B. C. The language of the Chinese is supposed by Rev. J. C. Black and others to have been derived from the Accadian.

The contrivances for cultivating the soil, for transporting freight, and reaching distant points of the empire are very primitive, though not any more so than are those which are seen in other lands of the East, especially in the Bible lands, for there are some attempts at making roads and bridges, while in Assyria and on the Tigris no such attempts are made.



Typical Chinese bridge, with steep approaches.

The people there are still plowing with a crooked stick and using inflated bags for their ferry boats. Buckets attached to poles are used for raising water.

The cut will show the character of the bridges, though it is really one of the best patterns found in the country. The bridges in the western part of China, near Thibet, are exceedingly rude,—made of logs,—and yet they present a combination of suspension, cantilever, and abutment bridge.

It is the most remarkable peculiarity of China that, at a very early date, inventions were made which, if they had been improved upon, would have made them one of the leading nations of the earth. Among these were the invention of gun-powder, the mariner's compass, types made of wood and of metal; cantilever and suspension, as well as abutment, bridges, and boats and balloons; but their unprogressive character is

shown in the fact that balloons are used to keep male babies from drowning, when they fall into the water; while female babies are not thought worth saving. Types are used only for ornamental "Editions de Luxe" for the upper classes. The bow and arrow practice and drill is still used in the forts, or was a few years ago. There are no steamboats, except those which belong to foreign nations; scarcely any wheel carriages; railroads and telegraphs are of late introduction; the printing press and the daily paper is of but little use to the common people, though they have been introduced by foreigners.

The best bridge in China, is the one at Amoy, which is the port of a large inland city. It is abreast with the island of Formosa. The native merchants carry on an extensive trade with Formosa, Manila, Malay Islands, and Siam. One would suppose that this bridge would be connected with railroads, or, at least, with good public roads and thoroughfares, but the most common means of propulsion is that which is furnished by the bodies of men, who become the beasts of burden, and railroads, steam, and modern inventions are withstood.

While others have taken these same inventions for constructing bridges, and have gone on to the highest feats of engineering and made these bridges connect the railroads which cross the continent, the Chinese are plodding in the same old way, and are behind even the old stage-coach method of traveling, to say nothing of the canal-boats. Whether this is owing to a radical defect of their mind, or to the government and religion which they have inherited, is uncertain.

The frontispiece will show the character of their canals and their shipping. The great canal, near Shanghai, with its wooden buildings, reminds us of the lake-dwellings of Switzerland, which were abandoned and forgotten long before the opening of history. They are scarcely any better than the pile-dwellings which abound off the coast of Africa and in Manila, and yet they are, perhaps, among the best buildings in this famous city of Shanghai.

The houseboats are the most remarkable proofs of the social condition of the people. These boats are twenty or thirty feet long and are used for freight-house, store-room, bedroom, and nursery, all in one, and sometimes contain a family of fifteen or twenty persons crowded into them, who eat and sleep, and fight for the opportunity to earn their scanty wages by day and night.

The population of China swarms like ants. It is packed into a bullock cart, huddled into a bamboo hut, is heaped upon one another in a mud-walled hovel, is crowded in the streets; but finds its climax in this life in the houseboats.

The great fault of China is that she will not improve upon her own inventions, but holds to the old customs and continues to worship ancestors, making that worship a seal which shall keep sacred the past, and will not permit anyone to break the seal. The war with China is, however, likely to break up this

bondage of old customs and to bring on an awakening of the people.

The literature of China is very interesting, though a very serious calamity has befallen it during the last few months. The siege of Peking by the Boxers, who are really the Harpies of the land, did more damage to the ancient literature than the looting of the capital did to the treasures, for it was during that siege that the great Library was burned. The fire was set to the building with the expectation that the missionaries and the legations would be burned and destroyed, but providentially the wind changed and swept along the wall on the outside, with the result that the compound was saved, but the Library was burned. It is at present uncertain what the Library contained, but it is well known that the "Book of Changes" is the oldest of the classics and was prepared as early as 1150 B. C.

This book gives an account of the creation of the world, according to the peculiar system of the Chinese, which is equivalent to a "sexual system," as the great male and female elements, Ying and Yang, were produced by Tai Kieh, or the first great cause: the heaven, the sun, day, etc., being the male; the earth, the moon, night, etc., the female. This system gave rise to the divination which was so common, and had such power that it resulted in saving a vast number of books, especially those on medicine, divination, and husbandry, from the fate which befell other books in the year 221 B. C.

It is sometimes supposed that Confucius was the author of letters, as well as a great philosopher; but the system of mythology and the religious books were nearly all produced before his day, and he only compiled the most important of them. The "Book of History," the "Book of Odes," the "Spring and Autumn Annals," the "Book of Rites," and the four books by the disciples of the Sage, were, to be sure, the beginnings of literature; but during the Tsin dynasty these books were destroyed by fire, as the emperor, the Hwong Li, for political reasons ordered their destruction. There were, however, many preserved in the roof and walls of the houses, and even buried in the beds of rivers, and it is said twenty-eight sections of the "Book of History" were taken down from the lips of a blind man, who had treasured them in his memory. The "Book of History" embraces the Chinese records from the twenty-fourth century B. C. to 721 B. C., or from the days of Noah and Abraham to the year of the building of Rome. These records, Confucius gathered and compiled into a series of volumes called the "Shu King." It contains the seeds of all things that are valuable in the estimation of the Chinese. It consists of conversations between the kings and their ministers in reference to the patriarchal principles of government. Virtue is the basis of good government, and this consists in procuring for the people the things necessary for subsistence—water, fire, metals, wood, and grain.

## THE BIBLE, HEATHENISM, AND THE CHINESE WAR.

There is one feature of the great contest which has been going on in China, which is very significant. The Chinese are perhaps the oldest nation now living, which have reached a stage of civilization, but are heathen and hold to the old systems which prevailed even before the days of Confucius; while all of the nations that have contended with them are, with the single exception of Japan, nominally Christian nations and hold to the Bible as their sacred book and are influenced by its teachings. The Bible is, to be sure, held in its different versions, as the Russians hold to the old Greek version and the Czar is at the head of the Greek church; the Germans hold to Luther's translation and the state church is the Lutheran; the French have a French translation, but also hold largely to the Roman Catholic church, who take the Latin vulgate as their version; the English still cling to the King James version, and the Americans take this version and the revised for their religious book.

It goes without saying that the nations which hold to the Bible in its different versions are the most progressive upon the face of the earth and are destined to have the lead in the work of civilizing the human race, as well as establishing and controlling the commerce of the world.

There are a few other nations which are nearly as old as the Chinese, who must be classed with them in more respects than one, especially in the fact that they are nominally heathen, though they have been influenced by Christianity and by nations who hold to the Bible. We refer now to the Hindoos, to the Mexicans, and to the various nations in South America. In western Asia are the Syrians and Armenians, who were held back by Mohammedans, who can be ranked, perhaps, with heathen nations and yet differs from them, in that they adopt the Koran, which contains many of the teachings of the Bible. The Japanese have been heathen, but have so far been influenced by missionaries that they are in full sympathy with the Christian nations with which they are in alliance at present.

The progressive nations, to be sure, are situated in the temperate zone and perhaps owe something of their vigor and progress to the effects of climate, but mind and body seem in this case to correspond, for they all have occidental ideas and type of mind, as well as the northern vigor of body; while the nations of which we have spoken,—Chinese and Hindoo,—are oriental and tropical in their ways and habits.

The spectacle which has been presented of the armies of the Christian nations of the world beleaguering the capital of this ancient empire, which calls itself the Celes-



tial Empire, and the result has been that the flight of the ruling powers from the capital where were the emblems of the ancient superstitions. It had been the stronghold of heathenism and full of the emblems of a system which is destined to pass away. In fact, as full as was the ancient city of Mexico, where Montezuma reigned so despotically and offered his human sacrifices to the sun.

We have spoken of the temples which stood and still stand in this celestial city, and which the treacherous, deceitful Empress claims has been desecrated by the presence of foreigners, and says that she will never return to it. The position of the German Emperor, of the English people, the Americans, and the French has been manly and noble and true to the principles of the past, and with less bloodshed than took place at the time of great Sepoy Rebellion in India,—a rebellion which was the result of a superstition about as foolish as that of the Boxers of the present day.

There are those who have been inclined to put the Christian religion on a level with Buddhism, Confucianism, and Mohammedanism, and would class Christ as among religious teachers, without any more divinity than either of those who have given their names to these systems, but a tree is known by its fruits, and it needs no argument to show that the influence of the Bible has been the cause of the progress of the world; while other sacred books, such as the Vedas, the Shastras, the Shu Kings, and the Koran, have all failed to produce the same effect. We do not place the teachings of Buddha, Confucius, and Zoroaster on a level with many heathen systems, nor would we place them even on a level with Mohammed, for their teachings were merciful and kindly and favorable to morals, but somehow the systems have not availed to lift the people to a very high level or to give progress. They have not even availed to remove the superstitions of the old nature-worship and devil-worship and geomancy which prevailed when they were savages, and before these teachers arose, and may be regarded as surviving from savagery. It is to be hoped this worst form of heathenism has had its day, and that the conflict which has arisen will result in the overthrow of such false systems.

It is a shame that the same nations could not have combined to prevent the terrible massacres among the Christian Armenians by the cruel Turks and Mohammedans.

We are to notice that the three grades of progress, savagery, barbarism, and civilization are represented, in a general way, by three systems of religion. Savagery, by the various systems of nature-worship, sun-worship, totemism, and fetichism; barbarism, by the various systems which originated with certain religious founders—Buddha, Zoroaster, Confucius, and Mohammed; civilization, by the Bible in its various versions,—Greek, Latin, German,

French, Syrian, and English. Whatever merits the sacred books of the East have, they have not brought the nations who hold them up to a higher level than that of barbarism.

It may be said that the nations who have adopted the Bible as their sacred book belong to the great Aryan or Indo-European race—a race which has always been the most vigorous and progressive—and the Semitic race, to which the Bible was given, has declined and nowhere has any national power. This is very significant, for the Old Testament without the New would have failed to bring the world to its best hope, as it has failed with the Jew. It is true that Christ was oriental by birth and race, but the most remarkable trait of his character was that he went directly counter to all those customs, habits, and views, which were and are peculiar to the oriental mind, and represented that which is dominant among the occidental minds. To some this is a proof of his divinity.

We may go back to the religious teachers, and philosophers, and great men of any nation, and see the effect of their influence upon the history and the destiny of the nation. But the difference between China and the various Christian nations, shows the effect of religion, as distinguished from philosophy.

Confucius has been revered for his great wisdom, but the testimony is that, while he was a man of great force of character, he was strangely devoid of imagination, and has done his countrymen an irreparable injury. The national mind is characterized by the want of originality, but the inflexible sterility of the early specimens of literature helped to perpetuate this trait throughout all generations. The multiplication of books has not increased the mental power of the people. The Chinese classics can no more be compared with the Greek classics, than can the bamboo hut be compared with the finest specimens of architecture, such as the Temple of Olympia, or the Parthenon.

The Mongolian race is confessedly obtuse nerved, and so insensible to suffering as to bear with stolidity what would rack the nerves of others.

The principle religions of China are Buddhism, Taoism, and Confucianism. The latter is par-excellence the religion of the learned. They assembled in temples, devoted to Confucius, and worship at the shrine of the throneless king. The recent atrocities are diametrically the opposite of the teachings of the two systems of religion—Buddhism and Confucianism. Both of which favor tranquility rather than progress. When a ruler ceases to be a minister for good and for peace, he forfeits the title by which he holds the throne. This is the lever which Christian nations have at present in their hands, if they have only the wisdom to use it.

## OUR EXCHANGES.

### THE MOST IMPORTANT ARTICLES.

*American Journal of Archæology*, Volume IV.—“Progress of American Archæology for Ten Years—1889-1899,” by Henry W. Haynes. “The Earliest Hellenic Art and Civilization,” and the “Argive Hereum,” by Chas. Waldstein; “Symmetry in Early Christian Relief Sculpture,” by C. L. Meader; “Report of Meeting at New Haven, December 1899”

*Bulletin American Geographical Society*, Volume XXII., No. 2.—“The Philippine Islands and Their People,” by Pres't. J. G. Schurman; “Notes on Anthropology,” by Roland B. Dixon.

*The International Monthly*, September 1900.—“The American School of Historians,” by Albert Bushnell Hart; “The Conflict in China” by Prof. Edmund Buckley.

*The Iowa Record* for July.—“Dubuque in 1820,” by Henry R. Schoolcraft; “Early Iowa Reminiscences,” by Gov. B. F. Gee.

*The Missionary Review* for September.—“The Anti-Foreign War,” by Harlan P. Beach; “China Past, Present, and Future,” Dr. Ashmore's paper at the Ecumenical Conference.

*The Journal of the Polynesian Society*, June 1900.—“Wars of the Northern Against the Southern Tribes of New Zealand,” by Percy Smith.

*The Indian Antiquary*, September 1900.—“The Thirty-Seven Spirits of the Burmese,” by R. C. Temple; “The Spirit Basis of Belief,” by Sir J. M. Campbell; “Phallic Worship in the Himalayas.”

*Bulletins de la Société de Anthropologie*, No. 6, 1899.—“Notes on the Dolmens of Prehistoric Stations.”

*Science of Man*, for May 1900; Volume III., No. 4.—“The Submerged Man,” “Ancient Times in Ireland,” “Aboriginal Names of Places,” “Legend as to How the Sea Was Made,” “The Races of Man,” “Psychological Anthropology,” “The Sequence of the Ages to Historic Times.”

*The Land of Sunshine* for August.—“A Hero in Science,” by Chas. F. Loomis.

*Biblia* for August.—“Babylonian Antiquities in the British Museum from 4500 B. C. to 500 A. D.”; “Prof. Hilprecht's Discoveries in Nippur”; “Egyptian and Semitic Languages,” by Prof. C. Johnson.

*The Indian Review* for May 1900, Volume I., No. 5; Madras, India.—“Witchcraft in Malabar,” “A French Critic on Indian Affairs,” “Hinduism, Ancient and Modern,” “Ideals of the East.”

*The Methodist Magazine and Review*, Toronto, March 1900.—“Pompeii; The City of the Dead”; “In Manxland,” by Rev. R. Butterworth. July number—“Canoeing in Canada,” by H. M. Robinson.

*The Popular Science Monthly* for September.—“The Modern Occult,” by Prof. Joseph Jastrow.

*The Biblical World* for September.—“Occupation and Industries in Bible Lands,” by Dr. E. W. G. Masterman, F. R. G. S.

*Education*, Boston, June 1900.—“Greek in the Curriculum,” by Pres. J. A. Baker.

*American Journal of Philology*, January-March 1900.—“The Greek Tragic and Comic Poets,” by Edward Capps.

*Folk-Lore* for 1899.—“Australian Gods,” by Andrew Lang; “Britain and Folk-Lore,” by the President. *Folk-Lore* for March 1900.—“The Legends of Krishna,” by W. Crooke, B. A.

*The Open Court* for August 1900.—“The Position of the Earth,” with portraits of Galileo, by Dr. E. Kreuse; “The Evolution of Angels and Demons in Christian Theology,” by R. Bruce Boswell. *The Open Court* for June.—“The Tomb Vivibia, an Important Monument of Dionysian Mysteries,” by Ernst Mass; “The Assyrian Monuments and the Sermons of Isaiah,” a review; “The Theology of Civilization,” a review. *The Open*

*Court for May*—"Signets, Badges, and Medals," by the editor; fully illustrated. "A Buddhist Convert to Christianity." "The International Congress of the History of Religions," by Prof. Jean Réville.

*Proceedings of the Society of Biblical Archaeology*, February 13, 1900.—"Ancient Indian Astronomy," by Hon. Miss Plunket; "Notes on Ahura-Mazda-Ibid"; "A Euphratean Cycle of 360°," by Robert Brown, F. S. A.

*The American Journal of Numismatics*, April 1900.—"Ancient Greek Coins," by Frank Sherman Benson; "Some Coins Discovered in Old Rome," by Rudolf Lauciani; "Coins of the Isle of Man," by John Evans.

*Journal of Biblical Literature*, Volume XIX, Part 1.—"The Council of Elders," by Dr. Aram; "The Sanctuary of Shiloh," by L. W. Batten; "Babylonian Influence on the Levitical Ritual," by Paul Huapt.

*The American Journal of Semitic Languages* Chicago, July 1900.—"Urin and Thummim," by W. M. Arnolt.

*The Journal of the Asiatic Society of Bengal*, Volume XLIX., Part 1, No. 1, 1900; Calcutta, Bombay.—"Copper Plate Inscriptions of Laks Mauasena," by Babu Akshay Kunrar Maitra.

*The American Anthropologist* for September 1900.—"Obsidian Mines of Hidalgo," by W. H. Holmes; "The Obsidian Razor of the Aztecs," by George C. McCurdy; "Pueblo Ruins Near Flagstaff," by H. Fewkes; "Sedna Cycle. A Study in Myth Evolution," by H. Newell Wardle.

—†—

#### FOREIGN EXCHANGES.

*Comptes Rendus des Séances*; Paris, 1897.

*The Asiatic Quarterly Review*, Bombay; April 1900.

*La Géographie*, Bulletin de la Société de Géographie.

*Geologische und Geographische Experimente*; Leipzig.

*Bulletins de la Commissione Archæologica Comunale Di Roma*.

*Bulletins et Mémoires de la Société d'Anthropologie de Paris*; Paris.

1900.

*Journal of the Buddhist Text and Anthropological Society*, Calcutta; Volume VII., Part 1.

—†—

#### HOME EXCHANGES.

*The Literary Digest*. Progress; Chicago, September 1900.

*Railroad Trainmen's Journal*. *Locomotive Firemen's Magazine*.

*The Dial* for September 1900. *The Journal of Geology* for 1900.

*American Homes* for July 1900. *Overland Monthly*; June 1900.

*The Washington Historian* for September 1899.

*American Anthropologist*; Volume II., No. 1; 1900.

*Annual Report of the Essex Institute*; Mass., 1900.

*The Yale Review* for May 1900; Volume IX., No. 1.

*Transactions of the Academy of Science of St. Louis*.

*The Journal of the Cincinnati Society of Natural History*.

*The American Historical Review*; Volume V., No. 4; July 1900.

*The American Naturalist* for May 1900; Volume XXXIV., No. 401.

*Proceedings of the Academy of Natural Sciences of Philadelphia*, 1900.

*Proceedings of the American Philosophical Society*; Volume XXIX.; Philadelphia, 1900.

*Proceedings of the American Philosophical Society*; Volume XXXIX., No. 162; April to June 1900.

*The American Journal of Psychology*.

*Journal of the American Oriental Society*; New Haven, Conn.

*The American Architect* for September 1900.

*The American Historical Review* for July 1900; Vol. V., No. 4.

*Proceedings of the California Academy of Sciences*.

*The Virginia Magazine of History and Biography*; Volume VII., No. 4.

## ARCHÆOLOGICAL NOTES.

### THE ROMAN FORUM.

When one visits the Roman Forum one cannot escape regretting the culpable ignorance of the adventurers and princes who, in the Middle Ages, profaned, demolished and destroyed precious monuments which Roman civilization had erected during several centuries and which, after the reverses, the decadence, the invasions, should have remained an eloquent and imposing proof of the richness and the grandeur of a people whose domination had known no boundaries.

What remains to-day is enough, nevertheless, to allow the visitor to reconstruct this historical region and see once more, although very imperfectly, the splendors of Roman architecture, the sumptuous temples, the immense amphitheatres, the vast palaces and the innumerable monuments that a powerful and ingenious people had accumulated, from the Capitol to the Aventine hill.

In the early days of this century, when the first excavations were carried out, the level of the Forum, which was then the site of the actual market, had become raised about eight metres because of the enormous quantity of débris which had been cast into it since the Middle Ages. The Italian Government entrusted the excavations to men of experience and energy, who spared no endeavor to uncover the ruins and once more give to the Forum, as much as possible, its full extent and primitive character.

The new researches, begun during the ministry of Baccelli, which are being carried out with much activity, are yielding very good results. Signor Giacomo Boni, one of the ablest of archæologists, who has conducted the successful investigations carried out between the Temple of Castor and Pollux and the Atrium of Vesta, has had the good fortune to lay hands on a small altar of the third century, and exactly determine its original position above the small Well of Juturna.

The ruins of the ancient buildings which surrounded the fountain of Juturna have been at length freed from the soil which covered them, as well as the foundations and walls, much less ancient, of the Church of Santa Maria Liberatrice, which was built above the ruins in question in the course of the seventeenth century. In front of this fountain there has been brought to light a little structure, in the centre of which the ground-level is raised so as to furnish a pedestal for some statue; amongst the débris, in fact, has been found the lower portion of a female statue which might have been that of the nymph Juturna, to whom was dedicated the fountain whose relics have just been discovered.

Signor Boni minutely, slowly and patiently, examined the putéal to the depth of fifteen feet, but only found fragments of glass and terra-cotta and numerous amphoras belonging to different epochs and of the most diverse styles. Here the learned archæologist is now busy in reconstructing and drawing out the several objects discovered, especially the amphoras which were used in dipping up the water.

If the fountain of Juturna has been found as it was left after its last restoration, it is only through providential good luck: when the foundations of the Church of Santa Maria Liberatrice were built, the sacred well was miraculously saved by the arrangement of three of the foundation-walls which surrounded it and enclosed it within a triangle, without touching it.

Between the little structure which touches the fountain of Juturna and the Temple of Castor there have been found an infinity of fragments of columns, capitals, pedestals and marble decorations belonging to temples and buildings still unidentified and of various epochs, from the archaic to the classic. Among the most remarkable of the objects discovered in these excavations must be mentioned a fourth-century sarcophagus, which still encloses human bones, and has an admirable frieze ornamented with masks,

palm branches, elegantly and gracefully designed and of remarkably fine workmanship, which recalls the best productions of the Tuscan artists.

Near the fountain is an edifice the destination of which seems to have been—according to inscriptions and the *cippi* which were found with it—to serve as offices for the magistrates employed by the water-service. In the largest room of this structure, in the walls of which there are enormous niches, have been found several fragments of statues of considerable worth. Within the limits of the central niche has been uncovered a headless statue of Esculapius, and further on a splendid torso belonging to the statue of Apollo, of which has also been discovered the plinth, the feet and the two knees, one of which is still attached to the laurel-tree trunk against which the god is leading. There has also been found in the lower part of the edifice a female figure which might very well be Hygeia.

Signor Boni proposes to make a stratigraphical exploration of the fountain of Juturna, as he has already done with success in his earlier discovery of the *lapis niger*, and he is carrying out excavations in the neighborhood of the Emilian basilica, in order to determine the exact limits of the early basilica and the later edifices. These researches are going on in the Cloaca Maxima, in the hope of rediscovering a section, the existence of which has long been suspected.

The pupils of the School of Applied Engineering are, under the direction of Signor Boni, drawing an altimetrical plan of the Roman Forum, and here are some of the important results which will be incorporated in it:

The lowest portion of the historical city is exactly at the spot where today is found the altar of Cæsar (12.622 metres above sea-level), and the highest spot is the *cella* of the Temple of Venus at Rome (33.896 metres).

The *lapis niger* is at the level of 13.195 metres.

The Temple of Vesta (indicated by the steps of the *sacrarium*) is at the level of 14.922 metres.

The *clivium* of the Via Sacra is at the level of 17.307 metres.

The Arch of Titus is at the level of 30.417 metres, and the Colosseum at 23.909.—H. MEREU, in the American Architect.

—1—

#### THE CAVE OF PSYCHRO IN CRETE.

It has been known for some years that a large cave above the village of Psychrò, in the Lasithi district of Crete, was a repository of primitive votive objects in bronze, terra-cotta, etc. As this cave is situated in the eastern flank of the mountain which dominates the site of ancient Lyttos, and is the only important cave known in the neighborhood, it was conjectured that it was the Lyttian grotto connected with the story of the infancy of Zeus in the legend, whose earliest version is preserved by Hesiod. A thorough exploration of it, undertaken in May and June of the current year by Mr. D. G. Hogarth on behalf of the British School at Athens, aided by the Cretan Exploration Fund, has served fully to confirm this view. The cave is double. On the north is a shallow grotto, the upper part of which was cumbered with immense fallen fragments of the roof. The lower part contained deep black earth, partly ransacked by previous diggers. This was thoroughly dug out this year, and when the great blocks had been broken up with blasting powder and removed the deposit on the higher slope was also searched. The result was the discovery of a rude altar in the middle of the grotto, surrounded by many strata of ashes, pottery and other refuse, among which many votive objects in bronze, terra-cotta, iron and bone were found, together with fragments of some thirty libation tables in stone, and an immense number of earthenware cups used for depositing offerings. The lowest part of the upper grotto was found to be enclosed by a wall partly of rude cyclopean character, and partly rock-cut; and within this temenos the untouched strata of deposit ranged from the early Mycenaean  $\Delta\gamma\delta$  up to the geometric period of the ninth century B. C., or thereabout. Only very slight traces were found of later offerings. The earliest votive stratum belongs to the latest period of the pre-Mycenaean Age, that marked by the transition between the "Kamaraes" fabric of pottery and the earliest Mycenaean lustre-painted ware. But below all is a thick bed of yellow clay, containing scraps of primitive hand-

burnished black and brown pottery, mixed with bones of animals. This bed seems to be water-laid, and to be prior to the use of the cave as a sanctuary. Probably, when it was in process of formation, the cave was still a "Katávothron" of the lake which once occupied the closed Lasithi basin; but before the Mycenaean period the present outlet had opened, and the plain was dry. The southern, or lower, grotto falls steeply for some 200 feet to a subterranean pool, out of which rises a forest of stalactite pillars. Traces of a rock-cut stairway remain. Much earth had been thrown down by the diggers of the upper grotto, and this was found full of small bronze objects. But chance revealed a more fruitful field, namely, the vertical chinks in the lowest stalactite pillars, a great many of which were found still to contain toy double-axes, knife-blades, needles, and other objects in bronze, placed there by dedicators, as in niches. The mud also at the edge of the subterranean pool was rich in similar things, and in statuettes of two types, male and female, and engraved gems. These had probably been washed out of the niches. The knife-blades and simulacra of weapons are probably the offerings of men; the needles and depilatory tweezers of women. The frequent occurrence of the double-axe, not only in bronze, but moulded or painted on pottery, found in the cave, leaves no doubt that its patron god was the "Carian" Zeus of Labranda, or the Labyrinth, with whom, perhaps, his mother, the Nature goddess, was associated, and the statuettes probably represent the two deities. Here was the primitive scene of their legend, afterwards transferred in classical times to a cave on Mount Ida.—*The Architect.*

—†—

#### PRIMITIVE VILLAGE SITES IN MARYLAND.

By J. H. McCORMICK, M. D.

During some recent investigations in Montgomery County, Maryland, I discovered three Indian village sites, the collection of stone implements being in some respects a unique one. The first of these was found near Boyds Station on the Metropolitan Branch of the Baltimore & Ohio railroad, about thirty miles from Washington. The second on the Musser farm, near Germantown, on the same railroad, and about five miles southeast of the other. The third was found on the Barnesby farm, on the 7th street pike, about one mile south of Olney, and about twenty-four miles from the city, and about twenty miles northeast of the Boyds and Musser sites. Many implements have been picked up by farmers in their fields all over the county, but with the exception of these three sites and the soap-stone quarries at Sandy Spring, to be hereafter mentioned, they have been found in no considerable quantity in any one locality.

That Maryland, with its Chesapeake Bay, Potomac and Susquehanna Rivers, on the one hand, with the advantages of easy communication by water and abundant marine food, both fish and oysters, vast acres of the latter being justly world-wide in fame, as the most delicious to be found anywhere, and the mountain in the western part of the State, on the other, with their wild game of great variety, afforded a most advantageous home for the Indian, is quite apparent; and he left evidence of his occupancy throughout the State, in the stone implements of a great variety of form.

Montgomery County, touching on one side, for many miles, the Potomac, with numerous small streams flowing into it, was a favorite camping ground.

The first site was found a few hundred yards from the railroad bridge, where it crosses the Little Seneca. My attention was first called to it by Mr. S. G. Burton, the bridge-tender, a gentleman who had picked up on and near the spot quite a collection of implements. The second site was found on the farm of my friend Mr. W. H. Musser, whose land was drained by the Big Seneca. The implements, measuring a bushel or more, consisted of arrow-heads, spear-heads, leaf-shaped drills, metates, mullers, axes,—chipped, ground and polished,—a hammer-stone, a pipe and a boat-shaped stone.

At the Barnesby farm, the trees had been cut down the summer of '95, and were oaks and chestnuts, from 2 to 2½ feet in diameter. A huge

boulder, some 6 or 8 feet across, had a large mortar cut into the top, and measured 22 inches across the edge and 16 inches deep. The implements found there, were ploughed up from what had always been regarded as a primeval forest. About three miles from this lay the soap-stone quarries of Sandy Spring, where a similar one exists, which has been photographed by Prof. W. H. Holmes. These sites are situated northeast from a water supply, whether it be spring or stream. The first was from a stream; the two latter from springs.

These collections are interesting, in that, so far as I can learn, it is the most corroborative evidence in substantiation of Prof. Holmes' claim of the contemporaneity of the Palæolithic and Neolithic Ages, for here are found side by side, the rudely chipped and highly polished implements.

With the exception of the flints, the stone from which they are made are foreign to this county; some of them possibly coming from the regions of the South Mountain. The banner stone, the boat-shaped stone, and the pipe, presumably of a bear image, are of highly-polished Tennessee lignite or slate, and are most perfect specimens. The axes of many varieties, some forty in number, are both chipped and polished, and include some very fine specimens. A phallus, quite perfect in workmanship and design, of a sandstone material, has been defaced, possibly by the plough.

In none of these sites have pottery been found, either in fragments or as perfect pieces of art.

---

## BOOK REVIEWS.

---

**AMONG THE WILD NGONI; BEING SOME CHAPTERS IN THE HISTORY OF THE LIVINGSTONIA MISSION IN BRITISH CENTRAL AFRICA.** By W. A. Elmslie, M. B., Medical Missionary. With an Introduction by The Right Hon. Lord Overtoun. New York, Chicago, and Toronto: Fleming H. Revell Co., 1900.

The book contains three chapters which will be of great interest to ethnologists, for they give a history of the tribe called Ngoni. This tribe formerly settled on the east coast of Africa, about 4,000 feet above the sea level—a treeless region. Also a description of the villages, their means of subsistence, the manner of erecting their houses and herding their cattle, as well as their religious notions and customs; thus making these chapters another contribution to a very interesting subject.

The following are the most notable facts that are given: the villages are situated near the streams and fountains, but are not permanent. Removing a village to a new site was one of the great events in the history of the people. The cattle are the sustenance and the care of the family and the tribe. The huts of the people are built in circles around the cattle-fold. Like everything the native makes, they are circular, and he points to sun, moon, and horizon as a reason why they should be so. The huts are single-roomed; fire is made in a circular depression in the middle of the floor. They are arranged in groups,—walled off from each other by reed fences, so that each man, with his wives' huts and those of his slaves, has a distinct locality in the village. The description of the song and dances is quite interesting. The song is the principal thing—the dance is the accompaniment to the song. The song goes on, while the rhythmic gestures and beating of the ground with the feet add zest to the subject. The witch-doctor is the visible and accessible agent of the ancestral spirit whom they believe in and worship. Certain hills are worshipped, also waterfalls and ancient trees and certain insects which are supposed to give residence to an ancestral spirit. Each house has its own guardian spirit, and the tribe worships the spirit of a dead chief.

In Ngoni land, the great expansive country, dotted over with numberless villages, built without regard to safety from attack, but located where the best gardens and pastures were to be had, made one realize that here



was a people powerful and free, whom to settle among and win for Christ was worthy a man's life. There was one royal residence; one ruler, and he in touch with head-men of each tribe, with all the people under him.

**THE NEW PACIFIC.** By Hubert Howe Bancroft. New York: Bancroft, Publishers, 1900.

Mr. H. H. Bancroft is well known as the author of the "Native Races of the Pacific Coast," and of a series of histories, which fills a long shelf in most of the leading libraries; all of them histories of the states which border upon the Pacific Ocean and face the new empires, which have so recently sprung into notice.

The present book on "The New Pacific," is not only timely, but shows a very general acquaintance with the interests which are at stake in the political discussions going on. It contains a review of the events which have already transpired. These began with the year 1808, which, according to the author, is one of the most important in our history. He maintains that Spain made the same mistake that England did with regard to her American colonies, and justifies the war with Spain. He says the only unjust war our country ever waged, was the war with Mexico, which was caused by a desire for more slave territory. The war with Spain was inevitable. The policy of expansion is something like the war with Mexico. It will bring disaster to the Republic. Not only are the Malays, half-breeds and savages, people, whom hitherto and now, we will not permit to touch our shores in any considerable numbers, but they cannot be governed by the United States at this distance. The chapter upon the "Attitude of the Nations" is in the same strain. A separate chapter is given to "The History of the Far East," especially of China; another to "The History of Europe and Asia." "The Pacific Ocean and Its Borders" comes into line for a hasty sketch, which occupies about fifty pages. The book contains a great deal of information and is well worth reading at the present time.

**McLOUGHLIN AND OLD OREGON. A CHRONICLE.** By Eva Emery Dey. Chicago: A. C. McClurg & Co., 1900.

This book contains a series of word-pictures, which are descriptive of Oregon, as it was between the years of 1832 and 1849. This was perhaps the most romantic and interesting period of the history. We have first an allusion to the expedition of Lewis and Clark. Next, a vision of two beautiful women; one with golden hair and snowy brow, and the other a slender, dark-eyed devotee, each of whom had consecrated her heart to Oregon. These two missionary brides were the first white women to cross the continent. Two bridegrooms rode at their sides, Dr. Marcus Whitman and Rev. Henry Spaulding, who were to lay the foundation for society in far-off Oregon.

Where the Columbia break through the Cascade Range they looked, where never white women looked before; Mt. Hood, visible for miles, grew to life-size. St. Helen raised her graceful, tapering cone above the distant firs. Grander rose the mountains, four thousand to five thousand feet on either hand cut by livid gashes of ravine, exposing the ribs of mother earth. The roaring cascades dashed their billows on rocks. Not a lip moved, not a word was spoken as the French Iroquois boatman stood at his post, and with a skillful dip turned the flying canoe; while on every side seethed and yawned the great green caves of water.

A vision is given of Dr. McLoughlin, who was Governor of the Hudson Bay Company, west of the Rocky Mountains. Also, of Jason Lee, a missionary of the Methodists, who received his bride from the distant East, and was married to her amid the beautiful fir grove. There are allusions, also, to Capt. Sutter, who became so famous further south; and an account of many of the early voyages, among them the voyage of Capt. Grey, who entered the mouth of the Columbia River, while the British commander sailed by it, and by this means Oregon was saved to the Union. The book

does not discuss the causes of conflicts, which led to establishing the boundary at 54° 40'.

The portraits of the notable characters are drawn very clearly, and the pictures of the domestic life of the families who dwelt in the wilderness, even down to the servants and the tradesmen, are very graphic, and awaken as great interest as any novel could.

---

**THE BIBLE AMONG THE NATIONS. A STUDY OF THE GREAT TRANSLATIONS.** By John Walter Beardslee. Chicago, Toronto, and New York: Fleming H. Revell Co., 1900.

This book gives a brief and interesting account of the different translations of the Bible, Beginning with the Samaritan Pentateuch, which is the oldest, as it was prepared about 20 B. C., it includes the Septuagint translation, possibly 133 A. D.; the Syriac translation, 155 A. D.; the Vulgate translation, 382 A. D.; the Gothic translation by Ulphilas, 328; the German translations, 980, 1210 and 1522; the English translations, 1071, 1324, 1524, 1535, 1537, 1568 and 1604; the Holland translations, 1270, 1358 and 1516; the French translations, 1179, 1487, 1545, 1608 and 1877.

These different translations have formed the sacred books for the different branches of the Christian church—Roman Catholic, Greek, Russian, Armenian, Protestant, and Alexandrine, with their different denominations. It is an excellent reference book, and will doubtless be useful to clergymen and Bible students.

---

**NORTHERN GEORGIA SKETCHES.** By W. N. Harlan. Price, \$1. Chicago: A. C. McClurg & Co., 1900.

**NORTH CAROLINA SKETCHES: PHASES OF LIFE WHERE THE CALAX GROWS.** By Mary Nelson Carter. Chicago: A. C. McClurg & Co.

The firm of A. C. McClurg & Co. have risen Phœnix like out of the fire, and are putting forth new books, which are like plumes, as they are fresh and full of beauty. One line which is followed is becoming quite popular: it consists of short stories from real life in the Southern States—Georgia and South Carolina. They carry us back to the times before the war. There is one interesting feature about them, there is not a word of bitterness or complaint; showing that the reign of peace has spread throughout the entire country.

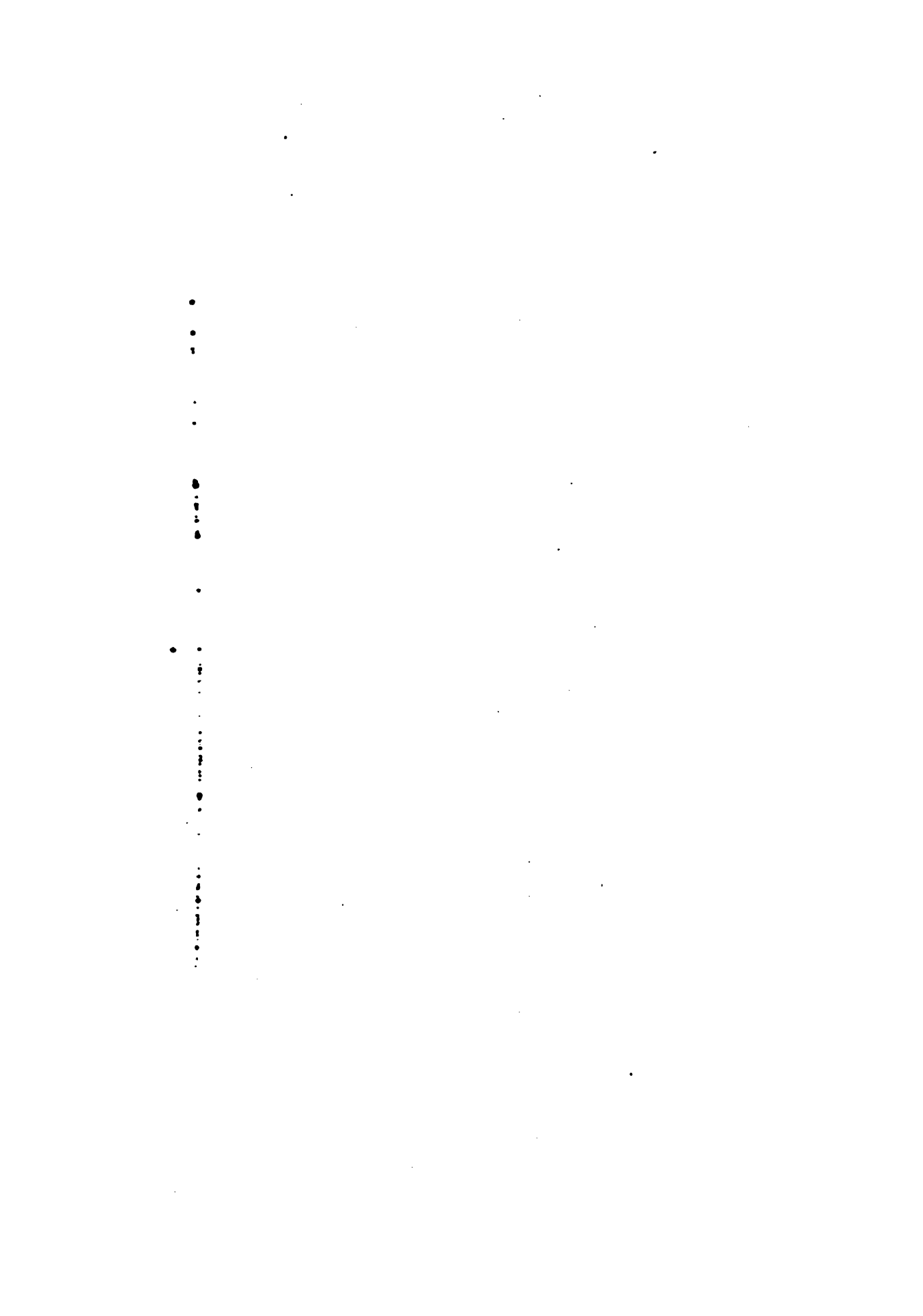
---

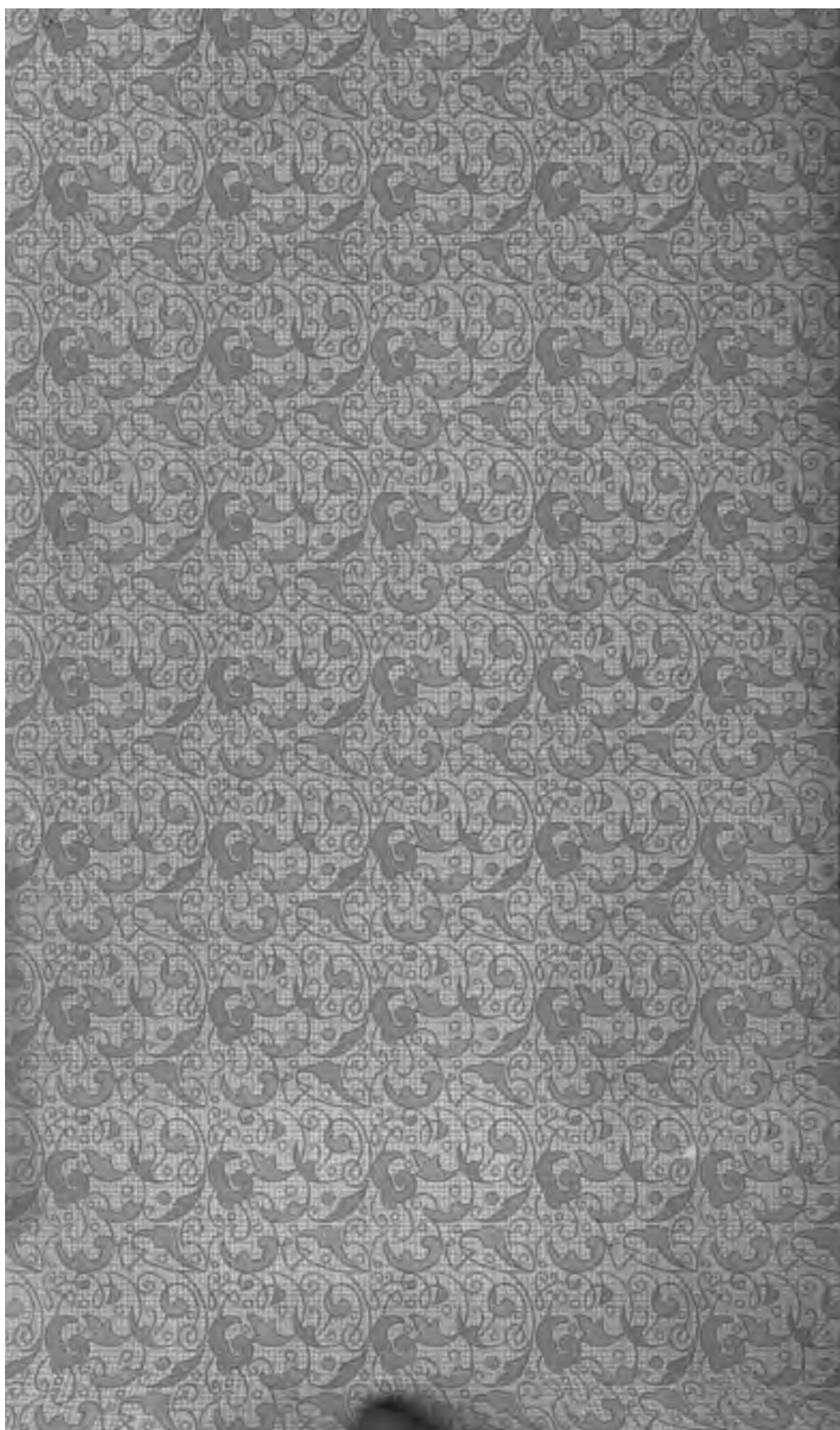
#### BOOKS RECEIVED.

**Russia and the Russians.** By Edmund Noble. Boston and New York: Houghton, Mifflin & Co.—**Historical Memoirs of Alexander I. and the Court of Russia.** By La Comtesse de Choiseul Gouffier. Translated by Mary Berenice Patterson. Chicago: A. C. McClurg & Co.—**Songs of all Lands, for the use of Schools and Social Gatherings.** By W. S. B. Mathews. New York and Chicago: American Book Co.—**Science of Faith, with a discussion of Animal Societies.** By Dr. Paul Topinard. Translated by Thomas J. McCormick. Chicago: The Open Court Publishing Co.—**Man; An Introduction to Anthropology.** By W. E. Rotzell, M. D. Philadelphia: Edward Stern & Co.—**Memoirs of the American Museum of Natural History, Vol. II.; Anthropology I; The Jesup North Pacific Expedition VI.; Archæology of the Thompson River Region.** By Harlan I. Smith. The Smithsonian Report.









Stanford University Libraries



3 6105 006 999 796

NOV 15 '85

**Stanford University Library**  
Stanford, California

In order that others may use this book,  
please return it as soon as possible, but  
not later than the date due.

