BULLETIN

OF THE

ARCHÆOLOGICAL INSTITUTE OF AMERICA.

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I.

THE WORK OF THE INSTITUTE IN 1882.

THROUGH the Spring, Summer, and Autumn of the present year, work at Assos has been carried on steadily by Mr. Clarke, Mr. Bacon, and Mr. Koldeweij. During August Mr. Haynes visited the site from Constantinople, and made a large number of photographs. Mr. Diller, also, returned from Germany to spend the greater part of his vacation in continuing his geological studies of the Troad.

In September Professor Goodwin, accompanied by Professor Jebb and Mr. Frank Calvert, visited Assos, on his way to Athens. In a letter, dated October 6, he said: "As soon as I can find leisure I want to write something which may confirm what has been already told about the great extent and the value of the work done at Assos. I was astonished by the amount already accomplished with the small means at the disposal of the party; and I would repeat with emphasis what both Mr. Calvert and Mr. Jebb said with great earnestness, — that the work has been done in the best manner; that the results are highly satisfactory, and most creditable both to Clarke and Bacon; and that it would be a shame to leave so good a piece of work unfinished."

It was anticipated at the beginning of the season that the investigations might be completed during the current year, but

as the year advanced it became obvious that this could not be done; and on the 3d of October Mr. Clarke addressed a formal letter to the Executive Committee of the Institute, advising the continuance of the work during the next year, until the expiration of the *Iradé* granted by the Turkish Government under which the investigations are carried on.

The principal excavations during the past season have been upon and near the plateau upon which the Agora of the ancient city was situated, with the adjacent chief public buildings. A large amount of digging was done in the earth accumulated beneath this plateau, in the hope of discovering remains of interest; but this hope was, in the main, disappointed. The excavations upon the plateau itself have resulted, however, in revealing a group of structures of various ages, of great extent, and of unexpected interest. The amount of work which these, together with the gymnasium, have required, preventing due attention from being given to the study of the important walls of the city, and to the Street of Tombs, is the cause of the necessity of continuing the investigations through another season. But this is not to be regretted; for the investigations of the present year have shown the Agora to be the most complete and perfect specimen known of a Greek market-place of good period, and have secured definite knowledge of the plan and construction of an extensive and peculiar group of buildings, including stoa, bouleuterion, baths, with an adjoining temple, and other minor structures of unusual interest. It seems probable that when the work is completed, the remains at Assos will not only present the most perfect idea of a Greek city that is anywhere to be obtained, but will afford a better insight into the life of an antique city than is to be gained even from the streets and houses of Pompeii.

Although no discoveries of minor objects of the fine arts of

remarkable artistic value have been made, the number of terra-cotta and marble fragments, of vases, coins, and other small articles found is very large, and two fine mosaic pavements have been unearthed. A number of inscriptions of various date and importance have been added to the similar discoveries of the preceding year. For full details the official report of Mr. Clarke will be awaited with interest. Meanwhile the following extracts from Mr. Clarke's latest letters afford information concerning the present condition of the works: —

Assos, November 18, 1882.

"Work has advanced regularly during the past week, — one of the last of the season in which we shall be able to dig, for the weather is growing cold and stormy.

"At the Street of Tombs we have found a long inscription and a very finely carved marble altar. The inscription is on a slab once above the door of one of the monumental receiving tombs, and contains, apparently, two honorary epitaphs. It has not been read yet, having been brought down only yesterday, but it is evidently of quite late date. The marble slab on which it is engraved is 2.20 metres long, and .51 wide. The inscription is of several hundred letters, and is complete enough for the entire text to be made out. The marble altar is a gigantic block which originally surmounted the stepped roof of the vaulted tomb published in the report, on plate 32. Upon its four sides are wreaths of fruit and flowers; upon its corners the heads of rams. The bottom of the block is badly shattered, evidently having been hammered at by the mediæval lime-burners; the parts of most importance, — the wreaths, top cornice, etc., — are in a very fair state of preservation. Considering the immense weight of the stone, and its situation aside from the road, I am doubtful whether it is worth the expense of road-building and transportation to the landing; but it will make a fine drawing and restoration."

November 25, 1882.

"This last week has been an especially busy and an especially profitable one. Mr. Bacon is working at the Street of Tombs, and here

the restorations are particularly interesting. The forms of some of the monuments are very peculiar, — one in particular. The receiving tomb mentioned in my last week's letter is a perfect parallel to one of the so-called "Tombs of Kings," near Jerusalem, and will lend a most important argument to the proof that these later buildings are late Roman, and not the proto-Doric they are supposed to be by Viollet le Duc, Semper, Julius Braun, and Aug. Thiersch. The studies of the walls advance more rapidly than I had hoped, the weather being favorable. My surveys of three of the gates are completed, so far as they can be without the excavations which these unrivalled structures deserve. I can now distinguish the fortification works of six different ages. Still it is almost impossible to convey an idea of the extent and value of the present work by letter: you will be obliged to suspend your judgment until the Report and its illustrations are ready for publication. The inscription of which I spoke last week has been read, and contains two interesting passages. It speaks of the temple of Athena Polias here, and proves the existence of Archontes at Assos, — one of the persons buried having been Archon Basileus; the other, the Basilinna, his wife. The greater part of the head of the statue which surmounted the great receiving tomb has been found, — a female head of noble Greek type; it is the most valuable of the marble heads we have. The statue was shattered into a great number of pieces, many of which have been dug up."

December 2, 1882.

"I received day before yesterday the telegram announcing that funds for further work had been secured. This determination to carry the work to its full conclusion is one which I am quite sure the Institute will never regret. The only disadvantage that suggests itself to me is, that you will have to wait some months longer than if the work were closed now to learn the full results of the investigations, — results so important and so complex that I despair of conveying any adequate idea of them by letter. . . .

"The Rev. Mr. Spaulding in his review of the first Report, which you kindly sent me, speaks of my "pardonable enthusiasm," and implies

exaggeration. If there is anything that touches the scientific scholar, it must be this assumption of his being possessed by a liveliness of interest beyond the control of cool reason. But in face of this I do not hesitate to say, that the fortifications of Assos, with which I have now become more familiar, are not only the finest remains of Greek military architecture, but the only ones known in which the development of the masonry can be traced in examples, side by side, dating from the walls which opposed the Lydian conquest to a late Roman period. The publication of the fortifications of Assos will give a comparative standard of date to which every Hellenic wall of the historic period must be referred for determination. Seven distinct styles of wall represent as many centuries; the last two being Roman, and differing but slightly. . . .

"During the last part of this week most of the men have dug at the western end of the stoa-plateau, to determine the entrance to the Agora. The ascent behind the stoa has been examined; a door from behind to the upper story has been found; and various other matters of importance cleared up. In the Street of Tombs the pavement before the great gate has been found; and at the walls, with two men, I have been uncovering the junctures of the various masses of masonry, to determine their relations. The sills of the elliptical gate, and of the gate in the great transverse wall, have been examined. I propose to stay here as long as any digging, surveying, and drawing can be done. This will be, as nearly as I can tell, till Christmas. The weather is now cold and rainy, and the site is being gradually deserted by the workmen."

When Mr. Clarke's recommendation to continue the investigation reached the Executive Committee, the means in the treasury of the Institute were only sufficient to meet the obligations already incurred, — to pay the salaries of its agents in America and Asia Minor. It was necessary, therefore, to appeal to the public for the sum required, according to Mr. Clarke's estimate, to complete the work. The appeal was liberally replied to; and the Executive Committee desire to

express their sincere thanks to the members of the Institute, and others, who have provided the means for accomplishing the task in hand.

The work, owing to the good judgment, the personal sacrifices, and the energy of the agents who have it in charge, has been conducted at a very small expense in proportion to the importance of the results attained, and to the usual cost of such expeditions. At the close of the investigations a full report of their cost will be printed for the members of the Institute.

The letter of Mr. Bandelier, printed herewith, contains an interesting summary of his work in New Mexico, in the spring and summer of 1882. Mr. Bandelier is now in New Mexico, and has just entered upon a somewhat perilous progress through the comparatively unexplored regions of the Mexican border. His zeal and energy are unabated, and interesting results are to be expected from his present expedition.

For the Executive Committee,

CHARLES ELIOT NORTON.

II.

REPORT BY A. F. BANDELIER

ON HIS INVESTIGATIONS IN NEW MEXICO IN THE SPRING AND SUMMER OF 1882.

HIGHLAND, ILL., Aug. 15, 1882.

TO THE PRESIDENT OF
THE ARCHÆOLOGICAL INSTITUTE OF AMERICA: —

SIR, — According to the desire of the Institute, I left here on the 6th of March, this year, reaching Santa Fé, after some delays rendered necessary by the preparations for the trip, etc., on the 17th of the same month. The approach of Easter festivities, as well as the extremely cold weather, made it unadvisable to go to Cochiti until after the end of the month; so that, devoting my time to documentary studies, I remained at the capital of the Territory until the 1st of April, reaching Cochiti on the 3d. I was confined to my room for nearly three weeks afterwards, less by the extremely cold weather than by the condition of my face. During the severe expedition in the winter of 1880, both my nose and upper lip had been frozen, and in consequence of it fresh exposure to cold produced a disagreeable, finally a dangerous, eczema. "Indian medicine" finally succeeded in curing me; and after painting the principal ornaments, the weapons and household implements of the Indians of Cochiti, studying the dance called by them "ayăshtyŭ-q'ŏtz," completing my investigation of their social organization and mode of life, and securing more of their religious and historical myths, I left for Santa Fé again, and reached

Albuquerque on the 29th of April. Thence I visited the environs and the pueblo of San Felipe; but a sudden rise of the Rio Grande prevented my crossing it as I had intended, and I finally left for Acoma on the 6th of May, reaching that pueblo on the 8th. At Acoma I remained until the 17th, making drawings of the plat of the village and of the exceedingly remarkable cliff on which it stands; and after wandering over the country, mostly on foot, measuring and exploring the ruins as far southwest as the Cebollita for twelve days, I returned to Albuquerque on the 30th of May. Between that date and the 5th of June I completed my drawings, and visited one of the cañons of the Sierra de Sandia. On the 5th of June I went to Bernalillo to survey the ruins of the pueblos of the Tiguas in that neighborhood, and from the 12th to the 16th of June I spent my time at Socorro and San Marcial, where I explored six ruins. Returning on the 20th of June to Acoma with two photographers, I succeeded in obtaining photographs of that very important point, after which I was obliged to go back to Santa Fé on the 29th. The ruins at Galisteo were surveyed on the 6th, 7th, 8th, and 9th of July; on the 13th and 14th I was at Cochiti to photograph the great dance then celebrated; and finally, on the 18th of July, I started homewards, reaching here on the 22d, after an absence of four and a half months.

The main results of this trip are to a certain extent complementary to those obtained in 1880. The present condition of the Pueblo Indians is not their original one, but has been much affected by their connection with the Europeans for more than three hundred years. Any study of their customs, mode of life, beliefs, and traditions, if not constantly checked by what is known of these features as they were three centuries ago, will therefore give but imperfect, and in most instances illusory, results. Many implements and

instruments in use to-day, however primitive they may appear, are of modern date; others, of ethnological importance, formerly used, have become forgotten; language has been modified, and the religion is a mixture of Christian beliefs with an older creed. Even the *secret* rites of the Indians are not absolutely pure; and as to their historical traditions, the events of the uprising of 1680, and of the reconquest following, have become (for instance, at Acoma) so mixed with anterior recollections, that one not familiar with the early documents relative to New Mexico must be exposed to the most serious mistakes. The names of Popé, of Catité, and of Don Domingo Gironza de Petroz y Cruzate are associated with local or individual names of other periods in a most confusing manner.

I have thus become impressed with the necessity of a thorough examination of the results obtainable now in the light of documentary history. The first work to be done is to reestablish as near as possible the ethnography of the country in the sixteenth century. New Mexico is full of ruins, but these places were not simultaneously occupied. The tribe of Cochiti, for instance, occupied successively the Potrero de las Vacas, the Potrero San Miguel, the ruins of Cŭa-pa, the Potrero Viejo, and, finally, the site of the present pueblo. The tribe of Santo Domingo started from the Potrero de la Cañada Quemada to settle at Guiperi, and thence, only about two hundred years ago, they moved to their present home. The Pecos migrated up their valley from the southeast, occupying the Pueblo San José, the ruins at Kingman, and settled finally on the *mesilla* which still bears the stately ruins of their village. The Acomas point to the remains above Acomita as their early home. Estimates of population based upon the frequency of ruins are therefore deceptive; but these estimates of population have their bear-

ing upon our judgment of ethnological conditions, and are therefore, however plainly exaggerated, not to be overlooked.

My efforts to retrace the condition of New Mexico have led me to the result that when Coronado first visited the territory in the sixteenth century, the first settlements of Indians living in many-storied houses were found at San Marcial, or one hundred and fifty miles north of El Paso del Norte. These were the Piros, and their villages were scattered at intervals along the river banks to within fifty miles of Albuquerque. The principal clusters whose ruins I measured are at Socorro. Not more than twelve villages of those now in ruins were simultaneously occupied at one time. North of the Piros came the Tiguas in three clusters, — one near Isleta, one, the principal, near Bernalillo, the identity of which with the "Tigüex" of Coronado I have satisfactorily established, and a third one to the east near San Pedro. Northeast of the Tiguas, the dry basin around Galisteo was occupied by the Tanos. Besides the four pueblos which they certainly occupied at the time of the Spanish Conquest, I have found the ruins of four more, about whose destruction a few years previous to the advent of Coronado I secured a very definite tradition. Among the Tehuas, Picuries, and Taos, north of Santa Fé, little change has taken place in the position of the villages. Of the Queres, west of the Rio Grande, I have determined the sites of most of the ancient villages, which were hardly more numerous than those which exist to-day. Of the Jemez, it is positively known that their scattered pueblos were consolidated into a single large one by the Spaniards, the five others being still visible in ruins. At Zuñi, Mr. Cushing has reestablished the former cluster of Cibola, while the Moqui pueblos remain very much in the condition in which Coronado's men found them and described them under the name of "Tusayan."

My experience leads to the conviction that, by assigning to each of these pueblos an average of five hundred souls, the number is yet above the limits of truth, and that consequently a population of thirty thousand souls is in excess of that of the sedentary aborigines of New Mexico, living in many-storied buildings during the sixteenth century (those of Arizona even included). If this is the case, their numbers had not decreased before 1680, but have dwindled down to about one half since that date.

In arriving at these results, I have not only spent considerable time among those pueblos now occupied, but have surveyed, explored, drawn, and photographed in part, the ruins of forty-five more. Their ground-plans, with details of architecture, are so far ready for reproduction. Besides, I have seen, without being able to measure them, eight more destroyed villages, and the locality of more than sixty has been stated to me by trustworthy persons, together with many details of their former condition and arrangement. Though many of these ruins were well known, they have not attracted the attention of scientific explorers.

Of the linguistical stocks formerly represented in New Mexico, two have completely disappeared, — the Piros and the Tanos. Of the latter, it may yet be possible to obtain some fragments at Santo Domingo; but of the former, the pueblo of Senecú, in Mexico, State of Chihuahua, is the only place where a vocabulary could be secured. I had myself obtained a vocabulary (nearly one thousand one hundred words and phrases) of the Queres idiom as spoken at Cochiti, which vocabulary I have since completed, adding to it many synonyms from the Acoma dialect. It shows that the influence of the Spanish tongue has been much greater on the Rio Grande than at some distance from its banks. In many cases the Acomas have an aboriginal word for objects

which at Cochiti are only known by corrupt Spanish terms. Aside from these linguistical collections, I have secured the names for their present villages in the languages of the Tehuas, Queres, Tiguas, Jemez, and partly in the Taos and Navajo idioms. These names are historically very valuable. Compared with the full list of villages furnished by Juan de Oñate in 1598, they have enabled me to identify a great many which otherwise would have been looked for among the ruins, and would thus have led to serious errors.

I may refer here to Pecos, identified, through its proper name of A-q'iu, with the Acuique of Coronado; Santa Ana, or Ta-mă-yă, which is his Tamya; San Felipe, or Q'ash-trĕ-tye, which is Catriti; Santo Domingo, or Guiperi; Sandia, or Ña-pĭ-ăp, which is the Napeya of Oñate.

I have already alluded to the change or improvement in implements and utensils which has taken place within the last three centuries. Of agricultural implements, the plough, however defective, is of foreign origin. The shovel, now of wood, was originally of stone, — a spade of hard rock; and it is to be regretted that I was unable to secure one of them. The pitchfork, of hard cedar or juniper, is of recent introduction. While at the present time matches are in general use, not long ago glowing embers and burning chips were used to transmit fire, while to raise combustion the fire-drill was the chief instrument. The latter, with a point of flint or iron, still constitutes the auger of the pueblos in many cases. Splinters of obsidian in some villages serve as lancets; they recall the time when knives and arrow-heads were not made of any other material. Finally, of the weapons of old, shields of buffalo hide have fallen into disuse, but the bow and arrow are still kept, with the quiver of fur, whereas the club remains as a curiosity. A weapon akin to it, the slug, or *masseta*, however primitive it looks, is of Spanish origin, also probably the sling.

Of household utensils, the grinding-slab, or *matate*, has not undergone much change. But I have found traces of a time when it was a recent invention, round mortars of stone being used in its place. The same is true of the frying-plate, or *comal*. The old *comal* was a rude flat bowl, very thick, of hard lava; the new is a square slab covered with an artificial gloss given by a decoction of water-melon seed, and subsequently with pine resin. In regard to pottery, while the shapes have little changed, the designs have become more elaborate; but the art of covering the painted lines with a gloss or varnish (which art certainly was practised three hundred years ago) is lost. So is the custom of making indented and corrugated ware.

The house-life of the present Pueblo Indians is vastly different from what it was in the sixteenth century. Then, and even as late as the first decennium after the re-conquest, there was a strict separation of sexes. The women and children alone occupied the houses; the men slept in the *estufas*. This custom, which virtually destroyed the family, was abolished by order of the Spanish governor. From this communistic arrangement resulted the arrangement of the houses. All the older pueblos, principally those in ruins, consist of four, sometimes only two, large houses with very small cells. The upper stories only were used for living; the lower, as still at Acoma, served for storage. Now, since the whole family live together, fewer persons or clusters occupy larger apartments in a smaller building, and at Isleta the single house even begins to appear. With it the summer pueblo, or group of "ranches" inhabited by the tribe during the months of most arduous labor, has gained a more permanent character.

The social organization of the Pueblo Indians, based on the system of consanguinity, has remained comparatively intact.

In most, if not all, of the pueblos, descent is in the female

line; that is, the children belong to the mother's side, and if she dies, her goods and chattels (including household utensils and housed crops) go to the children, or, in default of any, to her sisters or brothers, or to her sister's or mother's sister's offspring. If the husband and father dies, the children all inherit the lands without distinction of male or female; but if there are no direct descendants, they go to the man's brothers or sisters, or to the sister's and mother's sister's offspring. With such rules of descent and inheritance, it is plain that the gens, kin, or clan must be the unit of social organization; and I have indeed found it in every pueblo, though most strongly marked perhaps in Acoma. Children, therefore, belong to the kin of the mother. At Cochiti there are eleven kins, at Acoma at least fourteen. The kins are all named after animals, plants, and inanimate objects, such as the sun, the turquoise, etc. Nearly the same kins are found in all the different linguistical stocks, and those of the same name claim relationship with each other. Marriage among members of the same kin is strictly forbidden.

With the kin as unit of organization, it follows that the form of government is democratic. Indeed there are no hereditary titles or offices among the pueblos. And though the influence and power of the consanguine cluster is no longer so strong as it was previous to the advent of the whites, the tenure and form of office has been but slightly modified. In the sixteenth century the government of each village consisted of the council of old men ("principales"), and I have reason to believe that these were directly chosen by the kins to represent them on an equal footing with each other. This council was the supreme body, and its members were chosen for life, though they might be removed for crime. The executive power lay in the hands of three men: a cacique (as the Spaniards called him), who was mainly a

civil officer, and a war-captain with his lieutenant, who were charged with the military affairs and the punishment of graver crimes. These chiefs also were elected for life, or during good behavior. At present the "principales" are not directly elected; every man, after he has once filled the position of governor or lieutenant-governor, becomes a "principale" by right. The governor has taken the place of the caciques of old, and he, as well as the war-captains and their substitutes, are elected annually on the first day of January. The governor has judicial power over lesser offences, calling to his counsels all the former governors and lieutenant-governors. The war-captain directs military affairs and establishes the police regulations; his advisers are the ex-war-captains and their lieutenants. But all matters of great importance are decided by the "principales" in joint session, except when in extraordinary instances the whole tribe (females sometimes included) is convoked.

In proportion as the influence of the kin has waned among the tribe, another cluster has become more prominent. This is the association of kins for purposes of worship, for public dances forming a part of that worship, and for games. It is the phratry. Among the Queres pueblos of the Rio Grande, the phratry is well defined. Each of those villages has two *estufas*, one called the "calabash," the other the "turquoise." Both are names of kins also. All the inhabitants of the pueblo, grouped by kins, belong to one or the other *estufa*, one set of kins meeting at the calabash, the other at the turquoise. In the course of time these associations have taken the *rôle* of political parties, and they are the source of much interior strife in the apparently harmonious community. These phratries become plainly visible in the arrangement of their dances, all of which bear a distinctly religious character, derived from their old creed.

Each village is perfectly autonomous and independent; but in case of war, those of the same stock call upon each other for assistance, the leadership in a joint campaign being vested in the war-captain of the pueblo that has asked for aid.

Behind the tribal council and its executive officers, and in a measure even behind the tribe itself, there stands an officer and dignitary whose attributes are somewhat occult and mysterious, whose power is directly felt only on grave occasions. This is the "cacique" of to-day, entirely distinct from the cacique of the old Spanish authors.

The cacique has neither civil nor military power; in fact he appears to exercise no authority beyond that conferred by general respect, and probably superstitious dread. He never commands, seldom goes out, and attends to his private affairs in a quiet, unobtrusive manner; still, should he leave the pueblo to travel, an alguazil, or constable, is sent along with him; and in spring, before the villagers plant their corn, they jointly plant that of the cacique, mixing what is left of the seed among the seed of their own fields. In autumn, not an ear of corn is housed until after the crop of the cacique has been gathered. Not an officer is elected unless with the cacique's consent, and he invests all with their dignity after election. He himself is not elected, but chosen and trained for the office by his predecessor; he consequently holds office for life. The cacique appears prominently on momentous occasions only. When the interior peace of the pueblo is threatened, everybody defers to his decision. My friend Dr. Thomas, Indian agent at Santa Fé, has been witness to the power wielded by the cacique in such cases.

Such an office appears to militate against the principles of democratic equality otherwise so plainly prevalent among the pueblos. But the cacique does not stand alone and independent; he is only the official head of an organization

kept in the background by the tribe, because it represents an element incompatible with and inimical to the Christian religion. As the governor is the figure-head of civil, the war-captain of military, organization, so the cacique is the figure-head of religious life, the representative of "Indian medicine."

Element-worship formed the basis of the ancient creed, still more or less openly cultivated, of the pueblos. Or rather, their religion was the bending before everything that appeared to exercise a decided influence upon the weal and woe of man, while at the same time it lay beyond his control to modify it. The more stable and regular that influence was, the less it was interfered with by other agencies, the more it became the impersonification of the supernatural. Thus the sun, with its constantly recurring course, became the type of the permanently beneficial; light and heat, seen and felt even without the sun's presence, came next; the earth, mother of everything required for the physical existence of mankind, and still apparently immovable, was third; and finally the air, with its currents, which now brought rain, then again dispelled it, was the last prominent agency which particularly struck the Indian mind. The whole cult of the pueblos was and is the result of experimental knowledge and observation. Out of experience, often sad or awful, of elemental vicissitudes, grew the feeling of adoration, and with it the sense of need of a body of regular intercessors. These men were expected to solicit benefits, not only for the pueblo, but for its individual members in case of particular need. Thus an organization of "medicine-men" sprang up, which was in full force at the time of the Conquest, and continues to the present day.

The influence of such an organization on the affairs of the whole tribe was apparent. Among the medicine-men

themselves, something of the democratic nature of the society out of which they grew was perpetuated. Each kin required its own medicine-men. But a profession based upon special knowledge could not be transmitted by election; only by training. Each cacique, as I have said, trains his own successor, and, should he die before that successor (who is often chosen very young) has sufficient mental and physical faculties, then a mentor is elected by the whole pueblo to perform the duties of the office and to continue the education of the youth. In this election, as well as in the case of a cacique dying so suddenly as to be unable to give the name of his successor, the democratic nature, as well as the organization of "medicine," is revealed. In the instance last mentioned, it is evident that he must be chosen from the body of medicine-men, and still these defer to the voice of the whole tribe, while secretly guiding its counsels.

Of these "medicine-men," called Tshă-ya-nă among the Queres of Laguna, there are four principal ones, representing respectively the sun, fire and light, the earth, and the air and wind. Below them, every one skilled in using the herbs of the land, every one possessed, or believed to be possessed, of any invention or discovery particularly beneficial or detrimental to humanity, is gradually drawn into their circle. In former times these medicine-men evidently congregated by kins; now they are more promiscuously scattered, and the phratry is perhaps their nearest point of division. However, the four principal ones just mentioned form the council of the cacique. Where, as at Laguna, the office of the latter has been abolished, they still subsist. The cacique, therefore, is only the intermediate between the counsels of the medicine-men and the actions of the tribe, the personage to whom the people apply, not so much for individual relief, as for advice from outside their immediate

world. He is the mouthpiece of those who deal for the pueblo with the supernatural.[1]

The preservation of creed, of traditions and myths, devolves upon the medicine-men, though not exclusively. Their "secrets," which they sometimes anxiously conceal, are of less importance for the historical student than for the student of ethnology. While their dances, even in the ornaments and trappings, portray their faith in the ultimately beneficial influence of certain striking natural forces, few of the traditions which they preserve have any definite relation to the past. I reject from these tales the so-called "Montezuma tradition" (which would never have acquired much prominence but for the Anglo-American occupation of New Mexico, and which, while of considerable value for the history of the formation of myths among lower organized peoples, has not the slightest historical importance), and refer to the following traditions as bearing upon the immediate origin and descent of the Pueblos.

It is a statement commonly made by the Pueblo Indians, that all the ruins of which they have no account as having been peopled by their own tribe, were formerly built and settled by Indians of the same degree of culture, whom they acknowledge as relatives, and who ultimately moved to the *South!* Another tradition is, that all the Pueblo Indians sprang from a common mother, whose home was in the North (or Northwest, it is impossible to determine the precise direction), where she still remains at the bottom of a lagoon, whither the good Indians go after death. This is one of their religious beliefs coupled with the Spanish importation of an omnipotent God, who consigns every soul, four days after its departure from earth, either to an un-

[1] Among the Iroquois of New York there were officers of a religious nature called the "Keepers of the Faith."

defined "beneath" for its sins, or to the bosom of its "mother" for eternal felicity.

Such myths of a general character, coupled with traditions of a local nature, form the connecting link between the Pueblo Indians of to-day, — of the times whereof written and printed documents exist, — with their unknown past. Local traditions are prevalent everywhere. Thus the Acomas claim to have come from the North, passing by Cia; the Cochitinos assert that at one time all the Queres lived jointly in the Rito de los Frijoles, where the extensive cave-dwellings of that region begin, and that thence they moved southward in bands, which subsequently formed the actual tribes. The Tehuas say that their ancestors moved across the Rio Grande from the West, or that region where the caves and cliff-houses are most abundant. The Pecos recollect that they rounded the high *mesa* opposite the pueblo, and moved up the valley from the southeast.

These traditions appear as the residue only of a large number, the result of careful sifting from a mass which, while homogeneously aboriginal in appearance, is yet mainly composed of memories which do not go farther back than three hundred years, and in the majority of cases not even so far.

It cannot be denied that this is comparatively a slight harvest, and that its bearings upon the antiquity of Indian life in North America are not very promising. More, however, may be realized from the study of those remains of antiquity which clearly antedate the period of Spanish conquest.

After clearly establishing, by the aid of documents, which ruins are those of pueblos occupied during the sixteenth century, and after eliminating them, the remainder represents the times anterior to that date, — times erroneously called prehistoric, because their history is not yet known. I have already

alluded to some instances in which the outlines of that history have been preserved in the memory of the natives. They indicate that the great number of these ruins is no evidence of simultaneous occupation, and therefore is no proof of a large population at any one time,—a conclusion with important ethnological consequences.

Assorting the ruins which antedate the sixteenth century, according to their architectural character, we find that they may be divided into the following categories: —

(1) Cave-dwellings.

(2) Cliff-houses.

(3) One-story buildings of stone, forming scattered villages.

(4) Large houses with retreating stories.

The cave-dwellings are scattered from Colorado down to Southwestern New Mexico. Their occurrence and frequency are regulated by the facilities for working the rock. Along the Rio Grande, between San Juan and Cochiti, they occur in lines along every cañon; the volcanic tufa there is so soft that it may easily be hollowed out. There are hardly any, if any at all, in the hard lava opposite. They reappear in the Rio Chama. I found them in the friable sandstone about Acoma, in an equally soft material near Galisteo, and in the Sierra de la Gallina, southwest of Socorro; and this enumeration is far from exhausting the list. The caves are generally small; they have, of course, doorways from the outside, and also low passages communicating from one chamber to the other. Wooden lintels of a very rude kind often cap the doors; they had chimneys built of stone, and *matate*-frames made of the same material.

The cliff-houses are of two kinds. One of them, found in the Northwest, presents large communal buildings, sometimes more than one story high, built on rocky shelves or within vast

natural caverns. The majority, however, are comparatively small houses of stone, sometimes daubed over with clay, with doorways and windows. They appear mostly in clusters in rocky recesses or on projecting cliffs, safety having evidently determined the choice of location.

The small houses forming scattered villages are very numerous. I have found them near Pecos; they occur in the Sierra de Mora, about Santa Fé, around Cochiti, particularly about Acoma, and all along the Rio Grande as far south as San Marcial; possibly farther south, and east of it to beyond Gran Quivira. They number sometimes as many as thirty or forty one-story buildings of stone, with doorways and small cells; and I have found distinctly in one of these settlements that circular depression called the *estufa*. The workmanship bestowed upon these houses appears superior to that of the large ones. In one place (at the Cebollita) I found a group of chambers clearly disposed for defence, with walls which exhibit superior skill in handling stone, and forming something like an intermediate step between the scattered village and the many-storied pueblos. In general, the main difference between these buildings and the cliff-houses is one of location.

The many-storied pueblo is found from Northwestern New Mexico down to the Sierra de Mogollones, or rather from Colorado to the Mexican State of Chihuahua. It is worthy of remark that the oldest of these buildings, some of which were found occupied by the Spaniards, show the tendency to crowding. At the present time houses over two stories high are not built, whereas four, five, and even six stories were not unusual in former times. In consequence of it, less basal expanse was needed, and one building often constituted the whole village.

Of these various types, the cave-dwellings and the many-

storied joint-tenement houses seem to be most directly connected. At the Rito de los Frijoles two and three tiers of caves are superposed, and where such is the case, the connection is vertical along the outside, and not lateral through open partitions. In fact, these very extensive ruins appear like a many-storied pueblo which was *dug out* of the rock, in place of being *built up outside.* Nevertheless, I have also seen cave-dwellings which directly recalled the cliff-houses, in that they had front windows. The cave, therefore, seems to be of a type evidently anterior to the high pueblo, possibly also to the small house; but it is probable that the latter was coeval with the cave, and antedated also the large tenement-house.

Among the remains of objects of various nature profusely scattered about all classes of ruins, the implements of stone do not exhibit marked distinctions. Hardly any difference could be traced between the hammers, arrow-heads, etc., from ruins of various kind. This is not the case, however, with the pottery. Much of the earthenware from the large houses along the Rio Grande is coarsely painted, and its decorations are glossy; some of it is undecorated and plain black. The same kinds prevail at Pecos, at Jemez, near Acoma, wherever large houses are found whose existence is traceable to about the sixteenth century. Among the ruins of similar houses, however, in the Northwest, in the Navajo country, and also of some of the oldest ones about Cochiti, an altogether different class of pottery is found. It is harder and better, white, gray, or red, with simple but not badly executed geometrical figures painted black, and, so far as I could detect, without gloss. This pottery is decidedly superior in quality and in finish to the glossy kind. Along with it the corrugated and indented ware abounds. Fragments of both sorts are also picked up in more recent pueblos, but they have probably been carried thither by the Indians, who often exhume and preserve old specimens.

Both kinds (the corrugated and indented, as well as the decorated pottery without gloss above mentioned) are found more particularly among the small houses composing scattered villages. In fact, among the latter I have nowhere found any fragments of the glossy type. As the unglossy pottery is evidently superior to the glossy in material, burning, and decoration, and the latter is (as documents amply prove) coeval with the many-storied pueblo houses of the sixteenth century, it might be inferred that the occupants of the small houses were superior to the ancestors of the present sedentary tribes of New Mexico in ceramics, or else that they led a more peaceable life, favorable to improvement in the useful and pleasing arts of peace. The architecture of the small-house type seems to lead to analogous inferences.

Aside from ceramics, I was able to find but few remains of plastic art. From the vicinity of small houses I secured copies of rock-carvings and of some still unexplained sculptures resembling millstones or burrs. We know that the Pueblos worshipped, and still worship to-day, idols of stone, and the life-size statues of mountain-lions (pumas, *Felis concolor*) found by me in 1880 still remain the most remarkable monuments of aboriginal art discovered in New Mexico.

To resume the above: There appear to be in fact but two types of aboriginal architecture in New Mexico, the *many-storied communal house* and the *one-story building of stone.* The latter is either found in villages on the level ground and on gradual slopes, or clustering on rocky shelves and scattered in recesses like the so-called cliff-houses. The cave-dwellings appear as an incidental form resulting from the ease with which the rock was hollowed out, or from the existence of natural cavities which, from their size and the security of their position, afforded advantages superior to those of independent buildings. The majority of cave-dwell-

ings seem to be many-storied pueblos, scooped out of friable rock, or built inside of caverns for protection; but there are also instances where the small-house type is reproduced in the shape of a small cavity or isolated nook walled up in front.

While these architectural types do not necessarily imply as many distinct branches of aborigines, it still is a question of great and vital importance to decide who the builders of the small houses may have been.

The present Pueblo Indians state that they were their older relatives, who preceded them and who moved southward a long time ago. On the strength of these traditions, I have regarded the small-house dwellers as having become extinct before the Conquest. But Antonio de Espejo, who explored New Mexico in 1582 and 1583, and whose reports I have carefully sifted and examined from the *original* documents (not from the distorted and mutilated version in Hakluyt), finding them of the utmost reliability in everything except the numbers of population, describes the Jumanos Indians as *living in these small houses at his time.* He found them in Chihuahua, while Juan de Oñate, who conquered New Mexico in 1598, found them in New Mexico about Abó, Cuaray, and the Gran-Quivira of to-day, *occupying regular villages.* The convulsions between 1680 and 1692 destroyed the tribe, and only an occasional mention of the name appears since. But the distinguished Mexican linguist, Manuel Orozco y Berra, in his work on the distribution of the indigenous tongues of Mexico, classifies the idiom of the Jumas, or Humas, as a dialect of the Central Mexican Nahuatl. In the sixteenth century the Jumanos were also called Xumas.

As long as the small-house architecture had not been noticed in New Mexico, the aboriginal dwellings there ap-

peared as totally disconnected from the structures farther south, except in so far as they indicated the same principles of social organization. Now these small houses with front doors, with walls carefully constructed, with fairly faced stonework, present architectural features not unlike those which are characteristic of the buildings of the Nahuatl tribe. These features, as evidenced alike by remains, by old descriptions, by past and present mode of life, I have detailed in my Report to the Institute on the last year's work in Mexico.[1]

Such traits of similarity are in themselves insufficient to establish an actual connection. Should the bond of language suggested by Orozco y Berra prove to exist, a positive link, however, would be gained. At all events, while my investigations appear to result in increasing the clusters of sedentary Indians by one heretofore unnoticed, they also tend to indicate an expansion of the sedentary tribes to the south of New Mexico into Chihuahua, even as late as the sixteenth century. Thus the distance separating the permanently settled aborigines of the North from those of the South is considerably lessened from what it was supposed to be at the time of the Conquest.

Evidences of steady abode, from times anterior to the sixteenth century, have been known for more than two hundred years, as extant in the northern section of Chihuahua. The "Casas Grandes," in the district of Janos, have been described frequently; but the descriptions hardly, as yet, justify any conclusion as to their real character, beyond that they are indeed "large." In view of the probable dissemination of the pueblo architecture over southwestern New Mexico, it becomes important to ascertain how far it may have penetrated into Chihuahua, and whether it completely disappears

[1] Now in press.

there, or whether it gradually changes into new forms unknown to the North, and more closely connected with those of the South.

I therefore propose on my next trip to explore first those regions east of the Rio Grande inhabited formerly by the "Jumanos," the districts of Abó, Cuaray, and Gran Quivira. Thence I intend to cross over to the west of that river and explore southwestern New Mexico, entering Mexico south of Silver City. After investigating northern Chihuahua, I intend to proceed farther south, in order to determine, if possible, the location and character of the vestiges of sedentary occupation as far as the ruins of La Quenrada in Zacatecas. Thence I shall be guided by previous experience and by circumstances as to the route which I shall follow to reach the central plateau about the city of Mexico.

In tracing this programme, I enter upon its execution without any foregone conclusion whatever. The results until now obtained do not admit of any far-reaching further deductions, and they are merely guides to the points nearest at hand. While they may lead along a descending current of human migrations, that current may suddenly stop, or, instead of going down-stream, we may find ourselves travelling in the opposite direction. Without anticipating results, it shall be my duty to gather information in any line of archæological and ethnological research. The shape such information may take in the light of critical study, is of no consequence so far as concerns my present labors.

I have the honor to remain, Sir, with the highest respect,

Your most obedient servant,

AD. F. BANDELIER.

ARCHAIC TERRA-COTTA CENTAUR FROM CYPRUS.

In the Metropolitan Museum of Art, New York.

[illegible] CENTAUR FROM CYRUS.

[illegible] Museum of Art, New York

III.

NOTE ON A TERRA-COTTA FIGURINE FROM CYPRUS, OF A CENTAUR WITH HUMAN FORE-LEGS, IN THE METROPOLITAN MUSEUM OF ART, NEW YORK.

By THOMAS W. LUDLOW.

ONE of the most interesting discoveries made by the Assos Expedition, during its first season of work, was that of the block of the sculptured epistyle of the temple, upon which is represented Herakles Chasing the Centaurs.[1] These centaurs are especially remarkable as having human fore-legs; that is, they are formed of a complete human body, to which the body and hind-legs of a horse are attached. Centaurs of this primitive form are not infrequently met with upon painted vases;[2] but examples in relief are much more rare. The centaurs on the Chest of Kypselos were of this type,[3] as are those represented upon two bronze reliefs found within a few years at Olympia and at Dodona,[4]—reliefs which are of great interest from the analogy they present in subject and in execution to the decoration of that famous Chest, as described by Pausanias. The same type appears upon en-

[1] *First Assos Report*, plate 15.

[2] See, for instance, *Archäologische Zeitung*, 1881, Tafel 11, 12; and *Journal of Hellenic Studies*, vol. i., 1880, plates 1, 2. In plate 1 the first centaur of the second row has hind-legs also like the legs of a man, — perhaps by inadvertence of the ancient draughtsman.

[3] Pausanias, v. 19, 7.

[4] Curtius: *Das Archaïsche Bronzerelief aus Olympia*, Berlin, 1880. Karapanos: *Dodone et ses Ruines*, 1878, planche xix. fig. 5.

graved gems,[1] and upon certain rude coins ;[2] and it has been remarked by Messrs. Bacon and Walker, of the Assos Expedition, as entering into the decoration in relief of two "Etruscan vases of the oldest period" in the Vatican and at Perugia. Ross found upon the Akropolis of Athens a small bronze figurine of a centaur of this form ;[3] and he mentions others found in Etruscan graves. The Assos relief is, however, far the most important surviving example of this primitive conception of the centaur.

FROM A VASE IN THE VATICAN.

Mr. W. H. Goodyear, Curator of the Metropolitan Museum of Art of New York, observed recently, among the mass of Cypriote objects which still await classification in the Museum, the terra-cotta figurine of a centaur with human fore-legs, of which the Archæological Institute, through the courtesy of General di Cesnola, Director of the Museum, is enabled to publish a photograph of the full size of the original in the accompanying Plate. The dimensions of this figurine, which is the only terra-cotta representing a centaur of this early type which has yet been noticed, are as follows: height, $4\frac{11}{16}$ inches ; length, $4\frac{1}{4}$ inches ; greatest width, $1\frac{7}{8}$ inches. Its color is pale buff, passing into brick-red in some places, from the effect of the firing. The surface is disintegrated in spots, from the influence of time. The nose, right hand,

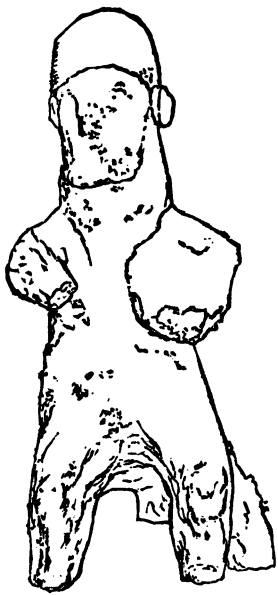
[1] For illustrations, see *Journal of Hellenic Studies*, i. 130. These centaurs, despite their uncouth form, are not earlier than the period of fully developed Hellenic art.

[2] Of the Orreskioi, Zaielioi, etc.; see *Journal of Hellenic Studies*, i. 130, note 1.

[3] See *First Assos Report*, p. 110, note 1. This figurine is illustrated on p. 102 (fig. 36) of Perry's *Greek and Roman Sculpture;* but the engraving does not seem wholly trustworthy. To judge from it, the figurine is archaistic, and the face is of a marked Persian type.

right hind-leg, and right fore-foot of the figurine are broken; and the lower rim of the slightly concave disk, — probably a shield,[1] — held on the left arm, is somewhat chipped. No trace of artificial coloring can be distinguished.

General di Cesnola informs me that the centaur was found in 1874, in a tomb near the village of Alambra, between Dali and Limbia. These three villages form a sort of triangle, and lie at a distance from each other of half an hour on mule-back. On the left of the Ambelliri road a small cemetery was discovered, in 1867, by the natives, and between 1867 and 1874, General di Cesnola opened here one hundred and seventy-nine tombs, of which the average depth was five feet. In these tombs he found drab-colored pottery ornamented with concentric circles in brown, copper spear-heads, knives, bowls without decoration, and fibulæ, and terra-cotta statuettes with the heads of animals, centaurs,[2] and long-necked horses. No glass, lamps, or coins were discovered upon this site.



From an artistic point of view this figurine is very rough; it is not, however, without character.

[1] The proper weapons of the centaur are a club, a sapling often torn up by the roots and with its branches not cut away, or stones, — arms in accordance with the savage nature and habits of the monster. Like Herakles, the centaur often wears a lion skin about his shoulders. The beneficent centaurs, Pholos and Cheiron, are often represented, especially in earlier art, with their human bodies clothed. For an example of a centaur with a shield, see Overbeck: *Griechische Plastik*, 2ter Halb-band, fig. 94, West 7 (3), — Frieze of Phigaleia.

[2] No other figurine of a centaur than the one under discussion has as yet been identified in the Cyprus collection in New York.

It is modelled by hand, like the children's playthings and other cheap objects which have been found in great quantities upon nearly every site of ancient Hellenic civilization, and among which the "long-necked horse," sometimes mounted on terra-cotta wheels, was a favorite subject.[1] The cap, which is represented as of a conical shape, and made of some soft material which stretches to fit the head, was added, with the shapeless ears, the right arm, and the shield, after the rest of the figurine was modelled. The point of the cap hangs down on the neck behind, inclining toward the right shoulder.[2] The fore-legs are more carefully formed than the rest of the figure, and are clearly characterized as human. The hind-legs, on the contrary, are quite shapeless, as are in general the legs of the toy horses, and without action ; as, in early sculptures and vase-paintings, centaurs, whether of the older or the final type, are generally shown running with their forelegs only,

[1] See Jules Martha: *Catalogue des Figurines en Terre Cuite du Musée de la Société Archéologique d'Athènes*, Paris, 1880, p. xvii. The collection of these terra-cotta toy horses in the Metropolitan Museum of New York is very large. No. 696 is an interesting example. The clay is of a light red-brown. Upon the horse's back is a rider, hand-modelled, and with much expression. The face is bearded. He wears a helmet in shape like the Phrygian cap, and bears upon his left arm a circular shield, ornamented with a large Gorgon's head (moulded) of late design. In Case 17 are many more common examples, — some of the horses having two heads. These figurines are mostly of a pale buff clay, and many of them are decorated roughly in color, — some with stripes in red and black, and others with a system of ornament like that of the "geometric" vases.

[2] Of the monuments in stone, belonging to the Cesnola Collection in the Metropolitan Museum in New York, the following, among others, are apparently provided with caps of the same nature : —

No. 1166. Head, natural size, of Assyrian type, roughly finished. The point of the cap appears to have hung down behind the head, as in the case of the centaur ; but it is now much broken away.

No. 159. Statue of a youth clad in a short tunic, broken at the knees : about one-third natural size ; archaistic Greek type. The figure wears a high conical cap, which, although it stands erect, appears to be of the same nature as those of the centaur and of No. 1166.

No. 241. Male head, beardless, of about the same size as that of the preceding example, and wearing a similar cap. This head is of a well-developed archaic Greek type.

while their hind-legs are stiff.[1] From the freedom of the modelling of the fore-legs of our figurine however, and from the pose of the head, one may doubt whether it was produced at a very early period. Taking into consideration its provincial origin, it can hardly date earlier than 500 B. C.; and it may be even much less old.[2] The profile of this centaur is strikingly like those of the Assos relief,[3] which, according to the most authorized opinions, must have been carved between 525 and 475 B. C.; and both at Assos and in Cyprus, the position of the sites, outside of the direct influence of the great centres of Hellenic culture, is sufficient to explain the late retention of an archaic type which is especially awkward in sculpture.

Whether the idea of the centaur was a Greek creation, or whether it came originally, with other traditions, from the East, is not easy to decide. Mr. Colvin thinks that the centaur is of Greek origin, because on vases of the Corinthian style, and on such early monuments as the Chest of Kypselos and the Olympian bronze-relief, he is always represented separately from the bands of animals, birds, and other ornaments which are taken directly from Eastern embroideries.[4] On the other hand, the centaur was a favorite subject of these old artists in connection with such Oriental patterns, and with

[1] Assos sculptures. See, also, *Journal of Hellenic Studies*, i. plate 1, etc.

[2] For centaurs of this type which are without question of late date, see the red-figured painted vase, illustrated on page 138 of the first volume of the *Journal of Hellenic Studies*, and the archaistic black-figured vase reproduced in plate 2 of the same volume.

[3] *First Assos Report*, plate 15. See, especially, the middle centaur of the three.

[4] *Journal of Hellenic Studies*, i. 128. This paper, by Mr. Sidney Colvin, on "Representations of Centaurs in Greek Vase-Painting," is a most interesting and valuable exposition of the centaur myths and their artistic manifestation. In support of the Greek origin of the centaur, cf. Curtius: *Das archaïsche Bronzerelief*, etc., p. 26: ". . . . Das Wild (der Kentaur) das hier verfolgt wird, ist eine Mischgestalt griechischer Erfindung. . . ."

the Oriental winged Artemis;[1] and many German scholars consider that, like these ornaments, the centaur myth is of Eastern origin. M. Perrot is of opinion that we have in Assyrian art a combination of man and beast analogous to the perfect Greek centaur, in a bass-relief from Kouyoundjik, in which the head and torso of a man, complete to the waist, are set upon the body of a lion, entire except that it wants the lion's head.[2]

[1] Cf. the Chest of Kypselos, — Pausanias, v. 19, 5; and see Curtius: *Das archaïsche Bronzerelief*, etc., Tafel 1, 2.

[2] This relief, which is in the British Museum, is to be published in Layard's *Second Series of Monuments from Nineveh*, in folio.