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Artifact Sales Successful

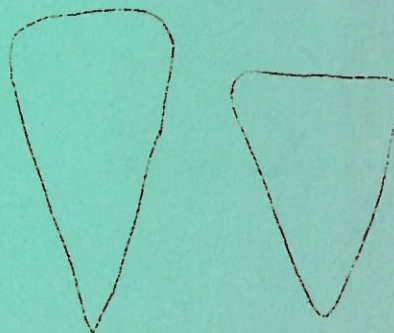
Elements of Archaeology -- Part I

Annual Banquet

Over the Campfire



JACKASS EARS



UN-NOTCHED POINTS

The Wyoming Archaeologist is the monthly publication of the Wyoming Archaeological Society, member of the Society for American Archaeology. Subscription is by membership. Dues are 2.50 annually, and are payable to the secretary of any chapter. There are chapters at Casper and Sheridan.

This site, discovered by Glenn Sweem in 1958, was excavated by Glenn, Bob Sowada and Don Grey during July, 1959. Jean Goedicke of Casper in copying the petroglyphs and petroglyphs at the site put in a great deal of work. Several members of both the Casper and Sheridan chapters dropped in to lend a hand for a day or two when they could. Margaret Powers, Mr. and Mrs. Hilman, Dr. Bentzen, and others helped to open up the excavation and get it started.

The site proved to be well stratified, and showed five distinct habitation levels. The uppermost, Layer I, was light colored, with occasional firepits or hearth areas, but no constructed hearths. Layer I produced 9 scrapers, 1 biface, 2 blade fragments, and 9 point fragments, of which 5 were corner notched, 2 were unnotched triangular types, and 2 were not classifiable.

Layer II produced 20 scrapers, 17 blades, 1 mano, 2 awls (stone), 12 bifaces, and 64 point fragments. 32 of the points were corner-notched triangular, 12 were un-notched triangular, 1 was a possible lanceolate, and 19 fragments were unclassifiable. Layer II was very dark and contained much ash and charcoal, but no constructed hearths. It seems probable from the artifact types that Layer I is simply an extension of the cultural period of Layer II, Both appear to belong to the Late Middle Period.

Layer III was again light colored, although not as light as Number I. This layer produced 24 blades, 4 bifaces, 1 awl (stone), 8 scrapers, and 21 point fragments of which 11 were corner-notched triangular, 1 was corner-notched with convex sides, 2 were McKean points, and 2 were triangular unnotched. 1 was a new type with an almost circular point section, deep basal notch and small side notches, which was irreverently dubbed a "jackass ear."

Layer IV was again dark with ash and charcoal. It produced 6 blades, 4 scrapers, 5 bifaces, and 18 point fragments. There were 10 McKean points, 2 corner-notched triangular points, 1 corner-notched type with convex sides, 2 triangular un-notched points, 1 jackass ear, and 1 probable lanceolate.

Layer V was very light colored, showing little evidence of fire. It produced 1 side scraper, 3 bifaces, 2 blades, and 5 point fragments. 3 points were corner-notched with convex sides, 1 was a McKean type, and 1 was not classifiable.

Layer V, the oldest layer, was quite pebbly. The occurrence of corner-notched points in this layer seems anomalous, since Layer IV shows a definite trend to Early Middle Period. While notched points do occur in Early Middle, and even Early Period sites, they are usually confined to Late Middle Period or Late Period sites in this area.

An unusual feature in the form of a wall of burned stone was found in Layer II. This row of rock was about 13 feet long, 3 feet wide and 18 inches high. The sandstone of which it was made was blackened on all sides.

Dates may be obtained for the site in the near future which will help to clear up some of the questions, and it is possible that more excavation in the area in front of the shelter might be profitable.

A considerable volume of dirt was removed at the site, with a total of 17 five-foot squares being excavated to bedrock. Walls or bulks were left between squares for stratigraphic control, and all dirt was screened.

APPLIED ARCHAEOLOGY

Part of the difficulty in obtaining funds for archaeological investigations stems from the fact that archaeology has been regarded as an "impractical" science, that is, one which produced no commercially valuable result. Now Dr. Nelson Glueck, president of Hebrew Union College, has

made a very practical science of the archaeology of the Near East.

Dr. Glueck started by tracing the wanderings of the Children of Israel in their exodus from Egypt, using the Bible as a source book and using archaeological methods to discover the actual campsites and routes they used. Dr. Glueck became an expert of the history and pre-history of the Negev desert. He gradually came to realize that the area had probably always been a desert, and yet had at various times supported thousands of people in thriving cities. Glueck has discovered some 450 cities, some dating back 8000 years B.P. He also discovered King Solomon's Mines, some copper deposits which were too low grade for primitive methods, but are now yielding a profit to modern mining and smelting methods.

Dr. Glueck's studies are unfolding a picture of primitive, but highly effective, methods of capturing and storing water from the occasional rains which enabled men to survive on this forbidding desert. Some of the ancient cisterns are still water tight, and need only be cleaned to be useful again.

Because of the lack of vegetation in the area, any rains that fall run off quickly in flash floods. The waters rush down the wadies and are gone in a very short time. The ancient builders constructed diversion dams across these wadies, and small canals to carry the waters into large underground cisterns for storage. Hilltops were often cleared and smoothed to form large natural "roofs" which would allow water to run off and be captured in cisterns. By utilizing and saving every drop of water that fell, these people were able to brave the hostile desert and support cities.

Dr. Glueck feels certain that by utilizing these same methods again, the people of Israel could make the Negev support at least 200,000 people.

That, fellow archaeologists, is a very practical result.

PROJECT GULLYWATCH

Some very important sites have been found exposed in the banks of streams where the water has cut a natural "exploratory trench" through the countryside. Archaeologists take advantage of these gullies wherever they occur. So watch those gullies. You may find another Lindenmeir Site. Don't forget to file a site report when you find it!

MEMOIR TO BE PUBLISHED

A memoir will be published this winter which will contain reports on all the major investigations of the Wyoming Archaeological Society to date. It will be about 150 pages, illustrated, and paper-bound. It will probably sell for \$4.00 to non-members, but will be supplied free or at a very low cost to paid-up members. Those who would like to receive a copy should notify one of the officers within the next two months so that we can know how many to print.

ARTIFACT SALES SUCCESSFUL

The sale of artifacts has proven a very successful way of adding some operating funds to our coffers. Through the cooperation of several merchants in Sheridan, we have been able to realize about a hundred dollars.

To the business establishments listed below, we want to express our sincere thanks for the time and display space which they donated to our money raising project. The next time you have an opportunity, drop in and thank them, and give them a little business if you can.

Ernst's Saddle Shop
Dan's New Method
The Sport Shop
Sheridan Stationery
Mudra's (Big Horn Saddlery)
Pioneer Sporting Goods

Bob's Clothing and Sporting Goods
Uptown Service Station
Copper Kettle Dining Room
Eileen's Beauty Shop
Sheridan Inn
Chamber of Commerce
Gatchell Memorial Museum, Buffalo

One customer, who lives in Meeteetse, bought a whole display, and then wrote a letter requesting another fifty dollars worth!

ELEMENTS OF ARCHAEOLOGY - - PART ONE* * ANTHROPOLOGY

Note: In order to clarify some of the basic concepts of archaeology for our newer members, a series of articles, adapted from a course in archaeology taught at Sheridan College, will be published in the Wyoming Archaeologist in the next several issues.

General Anthropology is the name given to the study of man. There are many ways of studying man, and there are many subdivisions under the name of anthropology.

Physical anthropology is the study of the physical structure of man, his bone structure, his muscles, coloration, etc., and the hereditary relationships of human populations. In the case of the archaeologist, usually only the skeletal remains are available for study. The anthropometrist is a specialist in the field of physical anthropology who studies the dimensions of the human body, and their various relations.

Cultural anthropology, or ethnology, deals with the scientific analysis of the socio-economic systems and heritages of peoples, and is based upon descriptions of these functions and is undertaken to reveal the origins, functioning, and metamorphosis of these cultural features.

Any anthropological study, cultural or physical, of a people must of necessity concern itself with some appreciable span of time. Both cultural and physical aspects of a people are the results of inter-relation with other racial and ethnic groups, and processes of cultural and physical evolution. In order to thoroughly understand a people, something of their past must be known. In many cases, written history furnishes valuable information. Eventually, however, a point is reached beyond which there is no

history. This is where the archaeologist comes in. The archaeologist is a scientist whose specialty is the study of pre-historic peoples. Usually, he learns about these peoples by digging up their cities, their campsites, and their garbage dumps to recover their remains and their artifacts. From these, the archaeologist makes inferences, based upon the principles of one or more of the anthropological sciences, about these prehistoric peoples. Sometimes the archaeologist works to learn more about people of historic times about whom too little is known because of incomplete histories. In every case, his searching is for information about peoples who have vanished without leaving records of the sort required for a particular study.

Archaeologists sometimes call themselves college-trained garbage collectors. Theirs is the task of recovering the broken, discarded or lost relics of a vanished people, and re-creating a picture of their appearance and their way of life. Obviously, the task of the archaeologist possesses much of the aspect of the detective's job. Small clues must be pieced together to furnish a story of past peoples and events. As with the modern detective, the archaeologist makes use of a vast variety of different disciplines in achieving his ends. The laboratories of the chemist, physicist, astronomer, artist, dendrologist, botanist, paleontologist, geologist, ceramist, and many more, are utilized to extract every last bit of information from the clues recovered by the archaeologist.

Cultural Anthropology

Several means exist by which cultural patterns may change. These are of great importance to the archaeologist in interpreting cultural remains. Three major types of change are evolution, diffusion, and integration.

Integration is simply the coming together of several cultural groups to form a single resultant pattern. Certain patterns may predominate, of

course, but the influx of outside patterns will result in a modification that the ethnologist can often recognize and relate to its source.

Diffusion is the process by which patterns of cultural behavior radiate from a single source into several different surrounding ethnic groups. This may take place through commerce, migration, conquest or other activity.

Evolution is the normal pattern of progress within a group by which its technical, cultural, and physical patterns change with time, even without contact with other groups. Invention is the key to technical evolution.

Physical Anthropology

Since about 1830, when the theory of evolution was first put forth in a scientific form, scientists have been studying the ancestry of man as one of the most interesting facets of evolution. The emotional response to the concept of the evolution of man has made the theory unpopular among the less well educated, but it is scientifically well established, and is a very useful guide to the study of life on the earth.

Roughly speaking, the evolutionary history of man is as follows: About 30 million years ago, propliopithecus, a gibben-like animal, was starting to walk on two legs. He had no tools, and no speech. By about 19 million years ago, proconsul appeared. He walked erect, but again had no tools, and probably had no oral communications of any formal nature. Brain cases of proconsul have not been found, so the subject of his speech is still open to question. By about 13 million years ago, dryopithecus had developed. He walked erect, and his brain case shows that his speech areas were somewhat more developed than his ancestors, although his vocal communications were probably limited to a large variety of cries and noises without much formal organization.

By about a million years ago, dryopithecus gave way to some pre-human types. These beings used erect walking postures, and possibly had some primitive speech, with a vocabulary of several words. In all probability, these pre-humans used simple tools, made of sticks, woven reeds, and other perishable materials. Occasional sharp stones picked up and used without modification may have been part of his material culture.

In Africa, some collateral relatives of the humans have been found. About half a million years ago these animals, australopithecines, lived in the Dark Continent, used tools, including crudely shaped stone elements, and probably had primitive speech. These animals were not ancestral to humans, but were remote "cousins" as it were, having developed from the same family tree, but along a different branch. So far as is known, no human species is descended from these beings.

Also about half a million years ago, pithecanthropus, and sinanthropus were developing. These were ancestral to humans of the modern type in all probability. Skeletons of pithecanthropus, found in Java showed skulls with near modern brain capacity, large, but human-like teeth, and femurs with muscle processes that proved erect posture. The interior topography of the brain case showed that the speech areas of the brain were much better developed than of any previous forms.

Contemporaneous with pithecanthropus, and much more abundantly represented in fossil form is sinanthropus. Sinanthropus had a slightly larger brain, used fire, and worked stone tools.

The use of fire may have been fairly widespread, and recent evidence indicates that the australopithecines used fire. It is very probably true that pithecanthropus used fire, although no direct evidence has yet been found.

It is possible that *sinanthropus* may have been ancestral to the modern Mongoloid peoples, while *pithecanthropus* may have been ancestral to the Australoid group.

A skull found in Germany in 1907, called Heidelberg Man, is nearly contemporaneous with *sinanthropus* and *pithecanthropus*, and may possibly be ancestral to Neanderthal Man. Neanderthal is not generally considered to be in the line of descent of any living men, however. Many more remains of all these early types will have to be found in order to establish their exact position in the evolutionary scheme.

By about a hundred thousand years ago, several types of early men existed, and of course, since they are more recent, their remains are more abundantly found. Here the developmental record is fairly complete. Many names abound in regard to types of men during the Ice Age, all of which seem to be ancestral to some of the types of men now living.

Cultural Evolution of Man

Of all the implements used by early humans and pre-humans, only the stone artifacts persist. Wood usually rots away, and other perishable materials similarly disappear from the scene. It is not certain when stone began to be used by man, or pre-man, but it was very early. Very crudely chipped flints have been found in the same geologic formations as the remains of *dryopithecus*, although there is some debate as to whether they were deliberately flaked or whether they were products of natural processes. It seems certain that the earliest use of stone was through finding sharp-edged natural pieces that could be used as tools. It was probably a long time before the art of stone-flaking was developed. This age, during which stone artifacts were used, but were not the basic technical product of man,

is called the Eolithic Age. Very probably artifacts of perishable material outnumbered the stone tools during this age.

About a million years ago in Eurasia, stones became an important tool of man and they were beginning to be deliberately shaped. The first axe or Faustkeil was the predominant early tool here. This art of stone working marked the opening of the Paleolithic Age. For several hundred thousand years, the art of stone flaking developed very slowly. Improved techniques led to the development of scraping tools, although it is believed that simple flakes of stone struck from parent rock were the predominant tool of the time.

The advent of bone tools and the art of pressure flaking marked the beginning of the Middle Paleolithic Age. Bone tools did not become widely used, and pressure flaking was usually limited to edge retouching of artifacts shaped by percussion flaking.

The Upper Paleolithic Age started about fifty thousand years ago in Eurasia and lasted until perhaps ten or fifteen thousand years ago. This age was marked by wide use of pressure flaking, resulting in nicely worked artifacts, and by the wide use of bone for projectile points, awls, sewing needles and other items. Much of the famous cave art of Europe appeared for the first time during this age.

A transition period from 11,000 B. C. to about 6,000 B. C. in which very fine stone tools (microliths) were developed, and during which the fine cutting tools of stone caused considerable development in bone and wood carving, is called the Mesolithic Age. It is very possible that the beginning of the age corresponds fairly closely with the invention of the bow and arrow. Mesolithic people were the last of the food-gatherers.

About 6,000 B.C. in Eurasia marked the development of rudimentary agriculture and heralded the beginning of the Neolithic Period. Among the developments of the Neolithic Age is the use of polished stone artifacts, and the development of pottery.

In Egypt, copper smelting was discovered around 4,000 B. C. and bronze was invented in about 3,000 B.C.. Iron smelting followed in about 2,800 B.C. These led to the development of metallic cultures, but no definite time is given for the end of the Neolithic Age. It just faded away.

The chronology given above is for the Old World, of course, and the corresponding developments took place at a much later time in the New World. It is quite probable that the first migrants to America were at about the Middle Paleolithic level. There were probably several subsequent migrations bringing newer techniques to add to the old. The last migration is believed to have taken place around 8,000 years ago. The development of the bow was apparently independent in the New World, even though it occurred much later than in the Old World. Agriculture was probably developed independently in the New World also.

A precise answer to the date of migration of man to America is one of the goals of American archaeologists. When the extent of cultural evolution in America can be assessed, the picture of diffusion of knowledge from the older culture in Eurasia will become much clearer. The two problems are inseparable, of course, and only when the extent of archaeological investigation in America approaches that of Europe today will we have the answers.

ANNUAL BANQUET

Saturday, September 26, 1959, at 7:00 PM at Lee's Banquet Room will be the annual banquet of the Wyoming Archaeological Society. A fine dinner will be served, and the program looks excellent. Dr. Agogino, archaeologist

at the University of Wyoming, will be the principal speaker. His topic will be "Early Man on the High Plains." A short history of the society will be given by Dr. Bentzen, and Don Grey will give a progress report on the carbon-dating project. Musical entertainment will also be provided. The tickets are \$2.25 each and members will be receiving theirs in the mail. The meeting is open to anyone, and members are urged to bring friends and interested persons to the meeting.

OVER THE CAMPFIRE

We hear a rumor that Glenn Sweem has skeletons in the family basement, Hear any strange noises at night, Glenn?

Bill Vehnekamp has been adding to his collection lately, and we know that he made a real good buy from Margaret Powers lately. You'd better look 'em over a little closer, Margaret; those fluted points are worth more than half a buck.

About three weeks ago, Glenn Sweem and Don Grey travelled to the other side of the mountain to examine some petroglyphs. They found some very good looking sites to be dug. We won't run out of work for a while.

Glenn and Don had a few moments of excitement the other day when they found a burned area in some old river gravels that may date back to the Ice Age. They had visions of a Pleistocene campsite with Sandia points and mastodon bones, but nary a chip or bone did they find. Better luck next time.

While digging at 48 JO 301 in July the crew had a chance to look at the collection of Mr. Greer, who leases the - C Ranch. Among the items was a very tiny point of yellow jasper which was just under $9/16$ inch in overall length, and just under $5/16$ inch in greatest width. It was

perfect in every detail--a corner-notched, concave base type. It was bifacially flaked, and very symmetrical. Does anyone have a smaller point in his collection?

See you at the banquet folks.

EMBERS OUT