

THE WYOMING ARCHAEOLOGIST

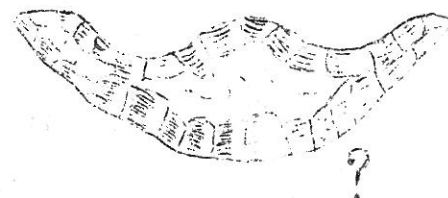
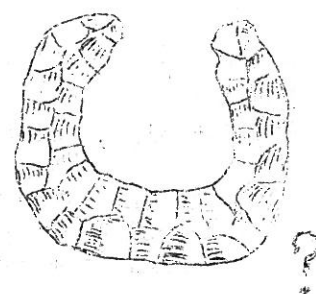
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Dr. George A. Agogino addressed a joint meeting of the Wyoming Geological Association and the Wyoming Archaeological Society recently on the subject of the famous Piltdown Hoax.

In 1911, Charles Dawson, lawyer and amateur archaeologist, supposedly found a skull and mandible of a pre-historic human being in a gravel pit near Sussex, England. The skull resembled that of a modern person, though rather small, and the mandible, which appeared to fit the skull, although found at a different time, was of a type more nearly like that of one of the apes. Bones of extinct animals were also found in the gravel pit from time to time.

It was not until 1953 that the find was proved a hoax. Many experts had never been convinced about the find, and modern tests applied to the skull and mandible proved that they were not ancient at all, but had been altered chemically and physically to appear old and to appear to be part of the small animal. The skull was actually that of a modern woman, and the mandible was that of an orangutang altered to fit.

Dr. Agogino expressed the opinion that the hoax was perpetrated by Dawson as a joke on his famous anthropologist friends, Dr. Arthur Woodward, and Dr. Elliot Smith. In all probability, the resultant publicity given the find, and shame over the childish trick he had played, made Dawson reluctant to admit the truth, and it took some 42 years to uncover the fraud.

ROMAN OUTPOSTS IN BRITAIN

Some 1800 years ago, Britain was a Roman colony, and the many remains of Roman settlements furnish ample grist for the mills of the archaeologists. Many of the fortress walls, towers, roads and other structures are still visible, and archaeologists unearth more every season. House builders in London and other towns often unearth Roman relics from basement excavations, showing the previous existence of Roman cities on these same sites. Many of the towns still have names which are modifications of the original Latin names. The suffixes--chester and--caster are cognates of the Latin castra, meaning camp.

Among the most impressive structures is the Hadrian Wall, extending across the center of the island from Newcastle upon Tyne to Carlisle. The 70-mile long wall was built to keep out the truculent Scots and Picts of the northern isles. The wall was 20 feet high, had a guardhouse every quarter mile, and a supply depot every 15 miles.

The Pharos lighthouse at Dover is very well preserved. This structure is about 70 feet tall, and about 30 feet in diameter, and was used to guide supply ships across the channel from France.

An amphitheatre with a seating capacity of 6000 persons has been unearthed at Caerleon in Wales. A complete military post was uncovered, and at nearby Caerwent, baths, temples and theatres have been found. Tennyson identified Caerleon with Camelot, King Arthur's home town.

The Roman occupation of Great Britain extended over 350 years, longer than the English occupation of America.

SITE NUMBER 48 NA 326

The Casper chapter has chosen a site for its ~~staked~~ cruise in field archaeology this spring. The site is a rockshelter and campsite on the rim of gulley. Evidently, in the distant past, the small stream has cut a small canyon through the uplifting.

sandstone of the area, forming a large rockshelter in a bend of the stream. The area subsequently silted in with some 20 feet or more of soils. During the period of accumulation of these soils, the site was inhabited, so that layer after layer of cultural materials may be seen at the site. Finally, the stream began to erode again, and has formed a steep-sided small gulley in front of the rockshelter site. The wall of the gulley is about 12 to 18 feet in height, and scattered firepits, hearths, and bone deposits can be seen in nearly all portions of the exposed surface.

The age of the site cannot be determined, but it would seem from the state of petrification of some bone from the lower level that the site may extend well back into the Early Middle Period. One of the lower hearths seems like a typical stone-filled hearth of the Middle Period. It may well be that the site will yield a detailed time sequence for the Middle Period lithic industries in this area, because of the thick deposit.

The site may well yield some pertinent climatological information in addition to its cultural content. The deposition of the soils can probably be dated archaeologically, and the correlation with the climate conditions, which changed from erosional to depositional to erosional again, may yield some pertinent records of past climate. Variations in the erosional-depositional cycle may produce some challenging problems in the interpretation of stratigraphic sequences.

To sum up, it would seem that the Casper people have a real project on their hands, and one which is almost guaranteed to produce some important archaeological information.

YOUNG ARCHAEOLOGIST FROM CODY

At the recent Wyoming State Science Fair, a young archaeologist from Cody presented a display on original archaeological research that he had done in the Cody area. His name is Gene Smith, and we expect to see Gene go a long way if he doesn't belie his promise.

Gene presented parts of two displays at the fair. One was an intact firepit showing a rock lining and filled rock layers that were fairly common in the Middle Period. The other display included the skull and several bones from a nearly complete bison skeleton which Gene and a friend removed from beneath about 15 feet of overburden. The nearly intact skeleton had one side-notched point in context. There was an extra bone in the find indicating that a second skeleton must be in the vicinity. The site may represent a multiple bison kill.

A short conversation with Gene indicated that he had a good grasp of the subject matter of archaeology and of field techniques. Gene's exhibit only drew a red ribbon at the fair, but the Wyoming Archaeological Society is hoping that his entry may be sent to the bi-state fair at Boulder next month. If his school is not able to support his entry, it may be possible for the society to offer some assistance. In any event, we wish Gene luck, and will keep an eye on his progress.

USE OF THE SITE REPORT FORM

Secretary Dr. Bentzen reports that there are on file a total of 85 site reports at the present time. This is a sizeable increase since last time insofar as numbers are concerned, but the number of submitters is not greatly enlarged. The names and number of reports filed by society members are as follows: Margaret Powers 1, Joe Tyrrell 1, Mrs. George Briggs 2, Thelma Condit 3, Glenn Sweem 7, Sweem and Grey 10, Don Grey 20, and Dr. Bentzen 41.

The comment was made at a recent meeting that more site reports might be filed if it wasn't necessary to fill in the exact legal description of the site location. This represented too much work to determine in many cases, it was suggested.

First of all, it should be stated that a legal description by range, township and section, is not absolutely necessary. It helps, naturally, but a description of the site location through the use of landmarks and a clear description of how to reach the site should be adequate if the legal description is difficult to obtain. The main thing is---
---REPORT THE SITE!

The site report is important, particularly in the event that a program in archaeological salvage is established in this state. For that reason, a large part of this issue is devoted to the site report and directions for its use.

The first two items on the report are self explanatory. The name and date of the reporter go here-- and that date is important. Item 3 asks for the type of site. By this is meant the functional or descriptive name of the site. If the function of the site is known, such as campsite, artifact manufactory, bison kill or other hunting site, or burial ground, this should be stated. If the function of the site is not known, as in the case of many stone structures, or in a pictograph site, a simple descriptive term should be used.

Item 4 asks for the location of the site. Space is provided for the range, township, and section. If this is not known, other parts of the report form will provide for a location description. When possible, the county in which the site lies should be stated, since this helps in the assignment of site numbers. The last part of Item 4 asks for a nearby landmark. It would be well to state an estimated distance from the landmark to the site, such as, "The site lies about 3/4 mile southwest of a prominent red-topped butte, called Duncan's Castle."

Item 5 requests the name of the landowner and his address. This is obviously important if permission to protect or dig the site is to be obtained. It is assumed that all society members will be aware of whose land they are site-hunting on, so this should be filled in. If the site is spotted from a distance, or for some other reason the owner is not known, this can usually be found in a county clerk's office if the location is known. If you don't wish to take the trouble to look this up, FILE A REPORT anyway. The owner can always be looked up later.

Item 6 asks whether the landowner has given permission to dig. If you haven't inquired, say, "Not asked." Sometimes permission is more readily obtained if the owner has written a letter on business stationery. If permission is asked, it is often desirable to ask the owner's cooperation in protecting the site from pot-hunters until an investigation can be undertaken.

Item 7 affords a chance to state whether the landowner has agreed to protect the site or whether it may be naturally protected from discovery and looting by its remote or hidden location. This item should not be overlooked, since the determination to excavate at a site may often be based on the possibility of its being looted if not protected.

The description of the site and its relation to the surrounding area requested in Item 8 is particularly important if the legal location is not known. This item should also give the relationship of the site to local features of importance to the people who inhabited the site, such as nearest drinking water, barriers to travel which would limit travel to certain trails in the area, and possible food sources in the form of berries, game, etc., and any nearby natural shelters from the weather and sun. If the site is a cave or rockshelter, the direction of facing should be noted, since this often determines the extent of the habitation of the site, and the time of year that it could be used. A sketch map on the back of the page will help make this clear, and will help on Item 13 as well.

In Item 9, list the amount of work done at the site, insofar as this can be determined, and by whom the work was done. Naturally, if some other archaeologist is working the site, it would be bad manners to move in without his express permission. If a test pit is made to determine potential value of the site, this should be stated. If only a surface inspection is made, this should be stated also. Any appearance of digging by unknown pot-hunters should be mentioned also. If the pothunters are known, their names should be given so that the materials they have recovered might be inspected for important finds, if possible.

Under Item 10 note the features or artifacts found at the site which give evidence of inhabitation or visitation by early man. Mention surface finds in the area, firepits or evidence of charcoal, accumulation of bone, pictographs, or other markings. If artifacts are found, give a complete description, as this helps to determine the possibilities in the site. If possible, turn over the site report's first page, and draw a picture, or even just an outline, of the artifact on the back, so that its type can be known accurately.

Item 11 can be brief, but it is important. By giving credit to the persons from whom we have learned about possible sites, we make friends.

Estimate the amount of work and the type of work that needs to be done at the site and enter this in Item 12. For example, one might say, "An exploratory trench should be dug through the mound to determine what cultural aspects may be represented. About four man-days would be needed."

Item 13 is particularly important if the legal description of the site location is not known. Whenever possible here give compass directions and mileages along roads and trails to the site. Mention streams, fences, prominent landmarks, and other features which will help the stranger to the site.

Your discoverer's interest in the site will be protected by the site report. No investigation will be undertaken without consulting you if you are available. If you are the first person to file a report on the site, your name will be given as the discoverer of the site.

Happy hunting, and don't forget to FILE A REPORT.

TALL BUT SHORT

I met Brush N. Trowell, the noted anthropologist, the other day, and he was sporting a fancy stickpin in his tie. The pin was a beautifully symmetric Middle Period point, mounted in a silver pin. Naturally, I asked to look at it, and he removed it from his tie and handed it to me.

As soon as I had it in hand, I knew that it was an acrylic cast, rather than the actual point. It was beautifully done, and the color was perfect. I asked the professor where the original point was found, and was somewhat surprised to hear him say that the original had never been found. It was not like the professor to wear something that had no archaeological significance. I asked for more information.

"Well," he said, "I was looking for a site in the Hole-in-the-Wall last summer and came upon a small knoll which was covered with chips and flakes, indicating that the site had been a manufactory at one time. The top of the knoll was a rocky outcrop from which the wind had removed all the dust, leaving only the pebbles and flakes, and a few artifacts lying on the surface. I picked up a few artifacts very quickly, and in the process noted a fragment of beautiful red jasper, and a number of chips and flakes of the same material. The chips were pretty well confined to one area.

"As you know, I like a challenging problem in field archaeology, and I was curious about the point or other artifact that had been made from the material, so I took out tweezers and collection box, and collected all the chips and flakes of the material that I could find.

"That evening in camp, I spread the materials out on the table, got the glue ready, and began fitting chips and flakes together. In a comparatively short time, I had fitted together the chips and flakes, and the one large fragment, into a complete stream-rounded cobble; complete, that is, except for a cavity in the middle. I poured some plastic into the cavity, and when it was set, I parted the rock and removed the cast. There was a perfect replica of the point. So you see, by careful detective work, I had converted a handful of chips into an image of the end-product of the manufacture, and, not insignificantly, typologically dated those same chips.

"This story emphasizes a point for all you amateurs. Save everything until you are sure you've gotten all the information it contains," concluded the doughty old professor, and he wandered off in search of another page in nature's history of man.

NOTES ON GLACIAL AND PLEISTOCENE GEOLOGY

The water component of the earth is contained in four principal reservoirs: (1) the oceans, (2) the atmosphere, (3) the land surface, and (4) the ground water and juvenile water beneath the land surface.

In all probability, the amount of water contained in the atmospheric reservoir is relatively constant, and the air simply serves as a means of transportation of water from ocean to land surface. Relatively speaking, the amount of water in the oceans probably does not vary much either, simply because of the vast amount of water in the oceans. In an absolute sense however, the content of the oceans may vary by tremendous amounts. The quantity of water beneath the land surface is not too well known, but the ground water portion is known to vary with climate rather markedly.

The surface water of the earth is in two forms; the lake and stream waters, and the fixed waters in the form of snow and ice. The ice and snow bodies on the earth are believed to vary widely at times. Since the total water component of the earth is constant, it is apparent that when one of the reservoirs gains in water content, the others must lose an equal amount.

Under certain conditions, which are not too well understood, the quantities of ice and snow on the land may increase at the expense of the ocean water. When this condition takes place, the geologists say that the earth is undergoing an ice age. Many hypotheses have been advanced to account for the changes in climate that make for the preservation of snow through the summer and thus start the buildup of a continental ice sheet. None of these has yet been agreed upon by a majority of geophysicists.

FORMATION OF GLACIERS

When proper conditions prevail, the snow that falls on the earth's surface may not melt or sublime as fast as it is precipitated, and a net

accumulation of snow begins. The proper conditions usually occur first in the higher altitudes of the mountains of a given area, of course, and it is here that the rivers of ice called glaciers have their birth. The fluffy crystals of ice that are snowflakes soon alter by association with others under the pressure of their own weight and other influences and begin to form small, nearly round crystals. These crystals fit quite close together, making the body of snow become more compact and dense. As more weight forms from above, the crystals are squeezed together to form glacial ice, much as a boy forms a snowball from loose snow by pressure. As the depth of glacial ice builds up, it achieves its greatest thickness in the mountain valleys, of course, and when sufficient pressure is achieved, the ice begins to flow, like water but much slower.

As the glacier moves, it scrapes and gouges at the walls and floor of the valley in which it moves. The rocks, gravel, sand and dirt which it gathers may be carried for great distances. In stages of retreat or meltback of the glacier these loads will be deposited as moraines. The material from beneath the glacier forms ground moraine, while material from the walls of the valley will form lateral moraines. Some of the material from beneath the glacier and from its sides may combine at the terminus to form a terminal moraine.

The material deposited by a glacier may be almost completely unsorted, that is, the coarse boulders and the finer gravels may be mixed together. This unsorted material is called till. The lack of sorting is a distinguishing feature from stream-deposited materials which are always sorted.

As meltwater from the glacier flows down the valley, it will carry the very fine material from beneath the glacier into any lakes that may occur in the drainage. This fine material may be transported for some distance, and when deposited, will have the characteristics of silt. The deposit will vary with the water flow, which in turn varies with seasonal temperatures, so that in many cases layers will form in annual sequence. In this case, the layers are known as varves. The counting of varves in a deposit will give an accurate estimate of age. If the layers occur periodically, but not annually, they are called rhythmites.

Where large scale glacial activity has occurred, many of the deposits of fine material may be eroded by winds and redeposited as glacial loess. Loess can originate from desert areas, also, but an expert can distinguish between the two types. During the continental glaciation, loess beds up to 200 feet thick were formed near the source of the fine material. As the distance from the source increases, the thickness decreases of course.

If conditions favorable for glaciation persist, the valley glaciers may flow to the feet of the mountains and there join together to form piedmont glaciers. These in turn may become large enough to join the piedmont glaciers from other mountain ranges and thus form an ice sheet which will perhaps cover an appreciable fraction of a continent.

When continental ice sheets form, a great deal of water is tied up in the surface reservoir, at the expense of the ocean. Ocean levels fall, new land along the seas will be exposed, and new pathways open up the the migration of man, as for example, from Asia to North America, from Greenland to Scandinavia, and perhaps even from Asia to Australia. The latter case is improbable, at least in Pleistocene times.

It seems probable that man migrated from Asia to North America during the times of one or more of the continental ice sheets, and then followed the open land along the receded oceans into the southern regions. Many campsites are found in geological environs associated with the advance of the ice sheets.

Nomenclature of North American Glacial Units

Below is a table of the glacial and interglacial names as used in North America.

Glacial	Substages	Interglacial	Years Ago at Start
WISCONSIN	Mankato Carey Tazewell Iowan	Sangamon	50,000
ILLINOIAN		Yarmouth	250,000
KANSAN		Aftonian	750,000
NEBRASKAN			900,000

The ages of the ice sheets are not yet accurately known, but the current consensus regarding the last phase of the Wisconsin, that is, the Mankato advance, began to recede about ten or eleven thousand years ago. This date is established indirectly by radiocarbon methods and its interpretation is still questioned by many experts.

It seems likely that man migrated to North America during the early Wisconsin ice sheet formation, or perhaps during the late Illinoian. With the end of the Wisconsin tentatively dated at eight or ten thousand years ago, a date of over 37,000 years for the Lewisville campsite of Sandia man probably places man's trip to North America at the beginning of the Wisconsin, unless further archaeological discoveries should put him here earlier. It is to be remembered that the 37,000 year date is a minimum and the exact value is not known.

Each of the major glacial stages had its various retreats and advances. The Wisconsin is divided into Iowan, Tazewell, Carey and Mankato sub-divisions. The Mankato was the last of any importance to occur in the ice age.

OVER THE CAMPFIRE

The program for the Sheridan meeting on April 4th will be given by Ray Conkling of the Casper chapter who will show slides of the Castle Garden pictographs and petroglyphs. The lecture will include some of the findings and interpretations of Dr. Renaud in regard to these writings.

A state executive board meeting will be held in Casper on March 27 to discuss a few needed changes in the society constitution.

On April 9, members of the Wyoming Archaeological Society will make a trip to Cody to install a new chapter there. Mrs. Pat Neeley, of Cody, was largely instrumental in arranging the meeting. Mr. Gene Smith, we understand, is organizing a junior branch of the club for school-agers who are interested in the subject. We think his work will be a real asset to the society.

There will be a meeting of the Montana Archaeological Society on April 2 and 3. Among the speakers will be Dr. Carling Malouf, Dr. Dee Taylor, Claude Schaeffer from the Museum of the Plains Indian, and Glenn Sweem, president of our Sheridan Chapter. The Montana Society will discuss the question of incorporating their society.

Mrs. Clifton Wood made some new flags for the society to present to the new chapters which are to be formed this spring. She has made all but the first of the society flags and does a very good job indeed.

A mail-order campaign to solicit new subscriptions and memberships has resulted in six new memberships from six states. The University of Wyoming took out a perpetual paid membership for its library. Ray Bentzen deserves a pat on the back for the idea and the work in extending our membership.

Dr. Richard Forbis of the Glenbow Foundation, Calgary, Canada, has written to us for assistance in organizing a society in Alberta. Dr. Forbis is a member of our society, and is a man of considerable standing in the profession, so we consider this a compliment of the highest order. Needless to say, he'll get our full cooperation.

The extra cost and handling required by mailing subscriptions to distant points may result in our asking for an additional half-dollar from those whose issues must be mailed. We regret the need for the step, and if enough new subscriptions come in, we may not need to take it, since costs per copy will go down with increased numbers. Pauline Yost, of Tensleep, has voluntarily sent an extra dollar with her subscription for the last two years, a pretty thoughtful gesture.

George Frison of Tensleep has been doing some very good work on a cave site this last season, and has recovered some fine Middle Period Materials, including such perishable items as a piece of fish net.

EMBERS OUT