

PRELIMINARY REPORT ON INVESTIGATIONS  
IN THE  
REGION OF THE VALSEQUILLO RESERVOIR  
1964

Report on Archaeological  
Investigation in the  
Region of the Valsequillo  
Reservoir, Puebla, (Puebla),  
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Dr. Cynthia Irwin-Williams

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## Introduction and Recapitulation:

\*"The question of the origin, age, and character of the earliest inhabitants of the Western Hemisphere is an intriguing one, and presents one of the major unsolved problems of New World Prehistory. Scientific opinion has shifted dramatically in the past several decades from the belief widely held prior to 1926 that man in this hemisphere dated back no more than a few millenia, to modern estimates ranging from 11,000 to more than 30,000 years ago. Whatever the ultimate solution is, it is apparent by now that the earliest Americans were few in number and left relatively little impershable material culture. It is also evident that man in this remote period was only one of a large and varied fauna, in a complex environment and that he should be studied in the context of the available knowledge of contemporary geology and paleontology."

The region of the Valsequillo Reservoir near Puebla, (Puebla) had long been known as an area which offered excellent opportunities for Pleistocene (and earlier?) research. Professor Juan Armenta Camacho had carried out surficial reconnaissance in the region for many years

\*Footnote: From Irwin-Williams "Report on Investigations in the Region of the Valsequillo Reservoir, 1962".

and had amassed a large collection of archaeological and paleontological materials. His studies had led him to conclude that certain bone and stone objects possibly of human manufacture had originated in the Valsequillo Formation, which had also produced an extensive extinct faunal assemblage, featuring camel, horse, mastodon, mammoth, glyptodon, dire wolf, etc. If those of the objects definitely of human had in fact proceeded from this formation, and if it proved to be of considerable antiquity, research here might provide vital clues concerning the earliest inhabitants of the New World.

In 1962 Professor Armenta and I conducted joint researches in the Valsequillo region to investigate the existence or lack of it, of artifacts of unquestionable human manufacture in situ in the Valsequillo Formation. After an extensive survey four localities at which there was definite evidence of this association were located, and tested. The results of this research have been summarized in an earlier report (Irwin-Williams, 1962). It was evident on the basis of these results, that further research could profitably be done on the archaeology of the Valsequillo Formation. In addition it was obvious that the character of the data would be very

much enhanced by the active day-by-day participation of specialists in geology and paleontology. Therefore in planning such research the aid of geologist Dr. H.E. Malde (U.S. Geological Survey) and Dr. Clayton Ray (Smithsonian Institution) was solicited and granted. It was not realized at the time that general Pleistocene studies were being carried on in the area by M. Jean Brunet, working with the Instituto Nacional de Antropologia e Historia. Although M. Brunet's duties prohibited active coordination with Malde and Ray in 1964 it is hoped that in the future such coordination and comparison of results may be possible. Ray is currently engaged in a detailed study of the fauna from the site of Hueyatlaço; Malde has completed a very brief preliminary report and is continuing his studies of Valsequillo.

## Chronology of Investigations

The 1964 investigations in the Valsequillo area were a continuation of the work begun in 1962. As detailed in the preliminary report (Irwin-Williams, 1963) and referred to above, the previous season's work had been carried out at four localities: El Horno, Hueyatlatco, Tecacaxco, and El Mirador. At the outset it was hoped that further research could be carried out in 1964 at most or all of these locations. However, the extraordinary rainy seasons of 1963 and 1964 had raised the level of the water in the reservoir to an almost unprecedented level, completely covering El Horno and El Mirador, and partially inundating Tecacaxco. Perforce then efforts were concentrated on the site of Hueyatlatco. Fortunately it had been one of the most productive of those tested, so that prospects were good.

I arrived in Puebla on April 23, 1964. I had contacted Professor Armenta in advance and he had already completed most of the pre-season preparations, purchased supplies, organized a work party, etc. Field investigations were begun on April 26, and continued through June 15, 1964. Concomittently with these operations I was engaged in analyzing the ceramic remains from the site of Cueva del Tecolote,



Tulancingo, Hidalgo, and making line drawings of as much of the Valsequillo material recovered as time permitted. On June 15, I was obliged to return to the United States to direct the 1964 Harvard University - National Geographic Society Hell Gap Expedition. The Departamento de Prehistoria of the Instituto Nacional de Antropologia e Historia granted me permission to export temporarily some of the faunal remains for detailed study.

### Background

In order to place the 1964 work at the site of Hueyatlatco in context, it is necessary to review briefly the results of the 1962 excavations of this locality: The Site of Hueyatlatco is located on a high terrace of the Valsequillo Reservoir below the eastern edge of the town of La Colonia Buena Vista de Tetela (98°10' longitude, 18°55' North latitude. It is about one-fourth kilometer south of the site of Tecacaxco; both localities lie at an altitude of about 2055 meters above sea level. The outcrop of the Valsequillo Formation near which in 1959 Armenta reported finding the engraved fragment of proboscidean pelvis, is situated about one hundred meters north of the site.

The site itself comprises a prominent outcrop of the Valsequillo Formation, divided into two sections by a shallow arroyo. The two sections, both tested in 1962, were termed Hueyatlacono I and II.

It was noted in 1962, that the micro-geology of the locale was extremely complex, representing a medium to fine grained fluviatile facies of the Valsequillo Formation. It was described as varying from a fine silt and sand representing a weak current, to a fine gravel representing a swifter flow. Subdivisions of this deposit were recognized in 1962, but their significance was uncertain at the time. Of importance however, was the observation that the character of the faunal remains and artifacts indicated that they had been moved little or no distance from their point of origin. The fossils recovered were unrolled and often unbroken, and the artifacts were fresh with no signs of water-wear.

All of the artifacts recovered from Hueyatlacono I in 1962 occurred in a deposit of fine grey silt and clay, often in close association with the numerous remains of extinct animals (eg. horse, and camel).

The five definitely identifiable artifacts included, #1, a large bifacial cutting tool, with a possible burin blow struck off from one edge; #2, a thick oblong flake, chipped along one edge to form a scraping edge and spur-

perforator; #3, an elongated flake or blade trimmed along one edge and at the point; #4, a well worked tool steeply retouched at one end to produce a concave scraper and perforator; #5, an oblong flake, steeply retouched at one end to produce a scraping or gouging tool.

The first artifact recovered from Hueyatlatco II in 1962, occurred in a deposit of fine grey silt and clay, analagous to that at Hueyatlatco I. The piece was a crudely worked bifacial lanceolate form which might have served as a projectile point. The second artifact occurred in an underlying gravelly stratum, and was recovered in situ driven into a large fragment of mastodon mandible near the tooth row. The object was a small chert cobble showing bifacial percussion flaking around about one-third of its perimeter.

#### Hueyatlatco: The 1964 season

##### Objectives

The principal archaeological objectives of the 1964 season were to 1) recover a larger sample of cultural material; 2) explore the deeper deposits at the site, in hopes of uncovering stratified cultural remains, and thus obtaining the basis of a cultural sequence; 3) establish a connection between Hueyatlatco I and II in order to ascertain

the stratigraphic relations between the two stations.

### Procedure

The datum point established on June 12, 1962 was checked and re-triangulated, and the grid of meter squares was re-established. Debris washed in since 1962 was removed, and new areas to be excavated were likewise thoroughly cleaned to avoid mixing. Sr. Juan Hernandez, a museum assistant at the Instituto Poblano de Antropologia e Historia, served as foreman over a group of thirty-five local workmen employed in actual excavation. About fifteen of the latter had participated in the work in 1962, and had subsequently received some more training while engaged in excavations of the Instituto Poblano de Antropologia e Historia and the Instituto Nacional de Antropologia e Historia. As a backbone of the crew these men produced some of the best, most accurate work I have ever seen on any Early Man site. They were paired off with the less experienced members, and were furnished with cross-sectioned workbooks to record the minutiae of sediments, tiny fragments of fossils, etc. thus supplementing the site notes of Armenta, and myself, and Hernandez' site-diary.

Excavation proceeded with various hand tools and the

excavated earth was passed through a one-fourth inch mesh rocker screen. A one-eighth inch screen was substituted at regular intervals to check for micro-faunal remains, but produced few concrete results. Each artifact or flake was photographed in situ and recorded in terms of geologic context depth below the baseline and triangulated horizontal position. The same procedure was followed for all fossil remains, except for very tiny fragments which were recorded in the workers notebooks. In order to work out the complex stratigraphy of the site, detailed profiles were taken by myself at the end of each day, and profile balks were left at key positions to facilitate back-checking of profiles. On the basis of these profiles, it would now be possible to recreate a complete three dimensional diagram of the site. Finally, in two cases, the association of an artifact with the remains of extinct fauna was particularly close and the objects were left in place and removed in blocks for further examination and/or exhibition. They were removed to the Museum where continuous detailed photographs were made of the removal of the objects.

### The Deposits: Archaeology and Stratigraphy

The 1964 excavations at Hueyatlatco produced, as had been hoped, evidence of multiple occupation of the locality through time, and yielded a much more comprehensive picture of its internal stratigraphic dynamics. It is apparent 1) that the deposits investigated represent the activities of a stream or streams over a period of time; 2) that these water sources were attractive both to the extensive Pleistocene fauna of the region, and to the human groups that preyed on them. The result is a long series of alluvial deposits, many of which are highly fossiliferous, and a few of which contain evidence of the hunting, butchering, and camping activities of early men.

It is now possible to discuss the stratigraphy and archeology of these deposits in somewhat more detail than in the report on the 1962 season. However, it should be born in mind that much still remains to be learned of the site before these tentative appraisals can become firm conclusions. As noted above, detailed profiles were kept and the deposits were placed according to their station provenience (Hueyatlatco I and II) and then received a series of letter field designations, (A through J). Trenching between Hueyatlatco I and II enabled us to establish definit-

ively the relations between the majority of strata at the two stations; on one or two however, further work is needed for absolute certainty. With this background it is possible to consider the stratigraphy at Hueyatlaço, and its archaeological remains. Key profiles from a longitudinal section of the site are included for reference.

Unit A:

1A and 2A: Recent dark brown loam covers much of the earlier deposits at both stations. In some localities (eg. the arroyo separating the two stations) it is composed partly of redeposited earlier sediments, including fragmentary fossils. Culturally it yielded a few obsidian flakes and very recent ceramics and glass. It is obviously separated from the earlier deposits by a considerable hiatus marked by a sharp erosional contact.

Unit B:

1B: The uppermost early deposit at Station 1 was a fine sandy silt within which two subdivisions were recognized:

1B<sup>1</sup> comprised fine white to light grey fine slightly bedded sand, silt, and small slightly contorted clay lenses.

The underlying 1B<sup>2</sup> considered of fine reddish brown sand with occasional small clay galls. Both 1B<sup>1</sup> and 1B<sup>2</sup> yielded

a few fossils (principally horse and camel) but no cultural remains.

2B : Deposit 2B was a fine whitish sand, with a rather massive structure and containing clay galls. It produced few fossils and no cultural ramains. Although completely separated from 1B of Station 1, on the basis of its lithology and stratigraphic position it is very probably equivalent.

Unit C:

1C: Deposit 1C represents the effects of a small shallow stream which has cut a distinct southwest-northeast trending channel in earlier strata. The numerous recognizable subdivisions reflect the deposition of complexly bedded sediments within the channel: 1C<sup>1</sup> was a medium grey (white with some black grains) sand, with clay bands and lenses and clay galls. Its bedding was variable and locally contorted. It produced abundant fossils, principally horse and camel. Culturally it yielded the largest assemblage of artifacts available from any single deposit at the site. All of the artifacts recovered from Hueyatenco I in 1962 lay in this stratum, (a large bifacial cutting tool, a scraping edge-and-perforator, a cutting edge on a blade or flake, a concave end scraper-and-perforator, and a gouge or "chisel" on an oblong flake). It will be remembered that the concave scraper-and-perforator



was recovered in situ about one centimeter from a horse mandible, and the associated pieces were removed in a block. The major part of 1C<sup>1</sup> had been removed in 1962, but from the remaining portion excavated in 1964 an unretouched flake and a second piece of considerable interest were recovered: a percussion flaked stemmed projectile point which will be described in detail below.

1C<sup>2</sup> was a medium well sorted white sand with black grains and with occasional clay lenses. It produced numerous fossils, but no cultural remains.

1C<sup>3</sup> was a well sorted medium sand showing alluvial cross bedding and an alternate white and grey coloration. These micro-strata may be further subdivided into three parts, but these are probably of relatively little long term significance. Locally the base of 1C<sup>3</sup> contained thin lenses of slightly oxidized small gravel and coarse sand. The stratum produced abundant fossils.

1C<sup>4</sup> was a medium sand with an overall dark gray coloration, black grains predominating over white sand in the matrix. Locally its base was marked by coarser sand and small gravel. Like 1C<sup>3</sup> it had lenticular structure and showed some cross bedding. It produced abundant fossils but

no cultural remains.

10<sup>5</sup> was a light grey medium sand. It had a rather massive structure and locally its base, the channel bottom cutting earlier formations, exhibited a dip up to 25°. It produced only sparse fossil remains and no cultural materials.

The subdivisions of Deposit 10 have been described as they occurred in the center of the stream channel, at maximum distinguishability. At the east and west ends of the Hueyatenco I Station near the edges of the channel, these deposits were much thinner, less characteristic, have a higher clay content, and are accordingly more difficult to separate. In general, 10<sup>1</sup> and 10<sup>5</sup> were relatively distinct but 10<sup>2</sup>, 10<sup>3</sup>, and 10<sup>4</sup> could be distinguished with certainty only toward the center of the channel.

20: At Hueyatenco II Deposit 20 in all probability correlates to 10. It is likewise evidently cut <sup>into</sup> earlier deposits, but showed relatively few of the distinctly oriented center channel characteristics. It may be subdivided into three parts:

20<sup>1</sup> was a white medium sand, peppered with dark grains. It had a variable structure, locally contorted, and contains pale clay galls. It yielded numerous fossils and one man-made

object: The crude percussion flaked bifacial form (possibly a projectile point), recovered in 1962 lay in this stratum. On the whole on the basis of the lithology structure and stratigraphic position it is very probable that this stratum corresponds to  $1C^1$  at Hueyatenco I.

$2C^2$  is similar to the overlying stratum except that it is slightly more massive though variable locally and slightly darker in coloration. It produced abundant fossils, particularly horse and camel, but no cultural evidence.

$2C^3$  is a light grey medium sand with a distinctly massive structure and a basal dip of up to  $15^\circ$  where it intersects earlier deposits. It yielded relatively few fossils. The similarity of lithology, structure, and stratigraphic position of  $2C^3$  to  $1C^5$  is very marked, and it is probable that the two correspond as the basal member of Unit C.  $2C^2$  then may correlate to one or more of  $1C^2$ ,  $1C^3$ , and  $1C^4$ , which even at Station I were separable only in mid-channel.

#### Unit D

1D: Deposit 1D consisted of a very fine clayey silt with a massive structure and a light tan coloration. It occurred as a rather thick deposit in the west end of the

trench between the two stations, at the east end of Hueyatenco I and as isolated remnants in the northwest corner of the same locality. Where present it separated Units C and E, but it had evidently been largely removed by the stream action responsible for Unit C. It contained no fossils or artifacts. No corresponding deposit was recognized at Hueyatenco II.

1) it may be a local feature of Station I; 2) further work may reveal it; 3) it may have been completely eroded away; or 4) it may be equivalent to the latest of the succeeding strata, thus adding complexity to correlational procedures.

#### Unit E

1E: Deposit 1E composed a series of alluvial sediments in a shallow channel cut in earlier strata. The channel represented was apparently considerably broader than that cut by the stream responsible for Unit C, and its orientation is somewhat more south - southwest to north - northeast. That the water current was frequently stronger is evidenced by numerous lenses and layers of coarse sand and small gravel. In mid-channel it was possible to recognize a maximum of eight subdivisions. Elsewhere, near the channel edges, only two (1E<sup>1</sup> and 1E<sup>2-8</sup>) were distinguishable.

1E<sup>1</sup> was composed of medium to fine bedded grey sand,

with a layer of pale yellowish coarse sand, and small gravel at its upper boundary. It contained fossil remains and one heavily calcinated chert flake which will be described below. The stratigraphic affiliation of the latter is somewhat questionable: 1) Although it is the only man-made object in this stratum, the flake may be indigenous to it; 2) It is a small light object, occurred near the base of the stratum and might have originated in the preceding level, in which chipped stone tools are relatively abundant. Its most interesting feature is that it suggests strongly the contemporary presence of fire, natural or cultural. Of this, due to local soil chemistry we have no other evidence.

Deposit 1E<sup>2</sup> is a light grey to white medium bedded sand with thin layers and lenses of pale yellowish grey coarse grit. The stratum yielded very abundant fossil remains including prominently horse, camel, four-horned antelope, and mammoth. In one section of the site was uncovered a part of a semi-articulated horse skeleton definitely associated with two artifacts, and probably associated with two more: Near a group of semi-articulated horse ribs and vertebrae was uncovered a well made bifacial bi-pointed projectile

point. Directly under an associated vertebrae occurred the tip of a well made bifacial knife or point. Nearby were discovered a fragment of a thick bifacial tool and a core or utilized core.

1E<sup>3</sup> comprised a layer of grit or gravel of a pale yellowish color.

1E<sup>4</sup> consisted of fine greyish sand and lenses of small gravels.

1E<sup>5</sup> was composed of a relatively heavy yellow-orange gravel, which graded locally into sand and clay facies.

1E<sup>6</sup> consisted of a layer of sandy clay with a distinct yellowish-orange coloration.

1E<sup>7</sup> was composed of clay and fine sand with a somewhat less noticeable yellowish hue.

1E<sup>8</sup> consisted of greyish clay or silty clay, and formed the basal unit in the channel fill.

1E<sup>3-8</sup> were fossiliferous, but contained no cultural materials.

The deposit underlying Unit C at Hueyatenco II shows numerous similarities of lithology, structure, stratigraphic position, etc., to 1E. However, the absence of Unit D at this locale and other factors make its correlation with 1E (or a part of it) somewhat less firm than those equivalences already discussed. It is hoped that further work

*[Some text missing here in the original.]*

2E: Three subdivisions could be recognized locally:

2E<sup>1</sup> was a thin layer of pale yellowish grey coarse sand and grit, with very numerous fossils.

2E<sup>2</sup> was a strata of pale yellowish grey fine sand with relatively fewer fossils.

2E<sup>3</sup> was a thin layer at the base of 2E<sup>2</sup>, composed of yellowish grey coarse sand and grit. It contained very numerous fossils, principally mastodon, horse, camel, mammoth, etc. Many of the mastodon bones concentrated in the northwest portion of the site locality, may be from the same animal and are associated with human activity. The mandible and maxilla of mastodon have apparently been purposely split and fragmented, and two man-made artifacts were discovered in direct association with these fragments. In 1962 a small chopping tool made on a pebble was discovered deeply imbedded in a fragment of mandible, next to the tooth row. The association was removed in a block. Nearby in 1964 a thin flake with a burin-like spall removed from one edge, was recovered in situ between the cusps of one of the molar teeth.

#### Unit F

1F: Deposit 1F consisted of a pale yellowish grey fine sandy clay and silt with lenses or pods of coarse sand or grit. It conforms to what may be a very broad shallow

channel partly cut in and partly simply overlying the preceding sediments. It contained relatively few sparse fossils and no cultural remains.

2F: Deposit 2F showed many marked similarities of lithology, structure, and vertical as well as stratigraphic position to 1F. The two were separated by about 10 meters by the shallow recent arroyo cut, but it is very probable that they correspond. 2F was composed of a pale yellowish grey to very fine sand, with local pods and irregular beds of coarse sand. It contained relatively few fossils and no cultural remains.

#### Unit G

The continuity between Hueyatlatco I and II is so direct and the correspondence of the Deposits 1G and 2G so close that they may be discussed together as a unit. The deposits comprised a pale yellow-gravel and very coarse sand or grit, faintly bedded and locally displaying flow rolls at the base. Fossils were abundant including mastodon, mammoth, camel, and horse. Five objects of cultural interest were recovered: A unifacial pointed piece, very probably a projectile point, was found adjacent to and nearly touching a fragmentary proboscidean acetabulum at Hueyatlatco II; the association



was removed as a block, and continuous laboratory photographs were taken of removal of the piece. A second unifacial pointed piece was recovered underneath a camel rib a short distance from the first, and may also very possibly represent a projectile point. An unretouched flake was found nearby, another flake was recovered in the trench between Stations 1 and 2, and a third at Station 1.

#### Unit H

Deposit H is a very localized phenomenon occurring only at Hueyatenco II. It comprises a pale yellowish grey very fine sand, well sorted and peppered with dark grains. Its structure is massive. It evidently represents the fill of a narrow channel cut in Deposit 2G, running in a generally southwest-northwest direction. A number of fossil remains of camel and horse were concentrated in the channel, and were accompanied by a single lightly retouched flake scraper.

#### Unit I

Like Unit G, Unit I can be traced throughout the length of the site so that 1I and 2I may be discussed together. The deposit consisted of yellowish very fine sand and silt, gritty clay and grit. It was locally clastic with imbedded pods

of crude channel images. Relatively little work has been done within the unit, but it is already evident that it is thickest, most prominent and coarser at Station 1 and thins out and has a finer texture at Station 2. In the deepest test at Station 1 there are indications that it may be possible to divide it into at least two parts, 1 I<sup>1</sup> and 1 I<sup>2</sup>. Fossil remains were recovered (horse, camel, mastodon, etc.), but were not very abundant. Of considerable interest however, was a neatly trimmed unifacial pointed object, probably a projectile point, in situ underneath a camel rib in 1 I<sup>2</sup>. The association was removed in a block and continuous laboratory photographs taken of removal of the piece.

#### Unit J

Unit J has been investigated significantly only at Hueyatlatco II and the trench between the two stations. However, the deepest pit at Station 1 indicates that the same phenomenon exists there as well. The deposit comprised a yellowish coarse sand and very fine grey sand. It contained clay galls and exhibited a concave bedding with smooth of relief. It produced very few fossils and no cultural remains.

Above then are described the micro-geologic units tentatively defined at Hueyatlatco in 1964. It is hoped that further work at the site will enable us to break these down still further and furnish a still more detailed description. It is evident however, as noted above, that they represent a series of fluviatile deposits, which can be ordered in terms of local relative chronology to furnish the basis of a sequence for the associated cultural materials. It is now possible to describe these complexes in detail and to comment briefly on the character of the remains.

#### Material Culture Recovered\*

##### Unit 1C

As noted above the majority of artifacts from 1C were recovered in 1962 and have already been described. The only additions made in the last season to this assemblage were an unretouched percussion produced flake (G5/9) and a bifacially worked projectile point (F5/9) which may be described as follows: It is a rather short thick point, with abrupt but not barbed shoulders and an asymmetrical stem, which is shorter and more expanding on one side than on the other. The base is slightly concave and the blade forms a asymmetrical triangle with very slightly convex edges. The character of

\*(Footnote) Number designations accompanying each piece indicates provenience by grid number and level below baseline.

the point is of interest: It is nearly twice as thick as the base, and has been crudely blunted either purposely or accidentally. A flake has been struck off along one edge which corresponds in structure to a burin stroke; whether this was done purposely, employing the blunted end as a striking platform, or is due to natural causes is not known. The detail of the point face is unusual: Near the point the cross-section is steeply bi-convex; near the base, however, each face exhibits a shallow central concavity which is reminiscent of cross-sections of fluted points. The corresponding surficial areas exhibit a flat to slightly concave appearance. Concentric ripples and stress marks indicate that the blows responsible for these surfaces were both struck from the basal end. The flakes which define the form of the entire piece were probably done by well controlled percussion or occasionally by heavy pressure. All of this retouch cuts into and therefore post-dates the flat concave surfaces. There are two possible explanations for the situation: The piece could have been on an ordinary flake with the thicker striking platform at the tip and the thinner distal end at the base. However, the orientation of the ripple lines and stress marks indicates that this is

not the case. Alternately, employing a thick flake longitudinal thinning strokes could have been applied on the original striking platform, where the base would be leaving the still relatively thick distal end for the point. Finally an analogous thinning process could have been applied after the point was partly roughed out. The technique employed in the last two, more probable possibilities, is similar in principal though not in detail to that used on "fluted points". (No historic implications should be drawn at this time).

On the whole, while the sample is small, some conclusions may be drawn from the assemblage recovered from Deposit C: There is evidence of a rather well controlled bifacial percussion technique, used to produce two known forms - a stemmed concave based point and a large bifacial cutting tool. Something reminiscent of fluting may have been employed for the point. The bifacial cutting edge displays in addition, what very possibly amounts to a heavy burin blow off one side. Other artifact types produced by unifacial percussion and some pressure retouch include the concave end scraper-and-perforator, the side scraper and the gouge or scraper on the end of a flake. All of the above

above are produced on a rather poor quality chert or chalcedony with many imperfections. The single piece made of a less irregular white chert is a lightly retouched blade or blade flake; a larger sample or one of a better grade of raw material might indicate the existence of a coordinated blade industry. The character of the assemblage as a whole suggests a situation in which the important consideration was in killing game and in the processing of meat and hides. A brief hunting camp at or near a kill-site best fits these conditions.

#### Deposit 2C<sup>1</sup>

As Deposit 2C<sup>1</sup> probably corresponds to 1C<sup>1</sup> the single artifact recovered from it in 1962 belong to the same complex just described. It is as noted a bi-pointed bifacial object possibly a projectile point, and was produced by a percussion technique. It is on the whole rather cruder than the bifacial pieces in 1C<sup>1</sup>.

#### Deposit 1E

As noted above the single cultural item from E<sup>1</sup> may have originated up in the immediately preceding level. The principal interest of the small flake (D3/17) is that it shows indisputable signs of calcination, indicating

the presence of fire by human or natural origin.

Deposit 1E<sup>2</sup>

Deposit 1E<sup>2</sup> produced one of the most interesting associations of extinct animals and man-made tools at Hueyatlaço. Two artifacts were directly associated with the partial semi-articulated horse skeleton. The first recovered adjacent to the primary concentration of ribs and vertebrae, is an excellently worked bifacial bi-pointed projectile point (D6/19). It was produced by well controlled pressure flaking. It is somewhat thicker and rather blunter at the basal end than at the point. While bi-convex in cross-section, it displays a distinct longitudinal ridge on one face. The second artifact (E7/23) found under one of the associated vertebrae is the tip of a projectile point or knife which displays even finer craftsmanship than the first, and might have been produced by either pressure or percussion. On one side next to the break it has been retouched or resharpened. Two other man-made-objects were recovered nearby the main complex and probably associated with it. One is a fragment of a large bifacial tool (C4/20) somewhat cruder than the above specimens, and rather reminiscent of the large broad flat flaking found on the biface from 1C<sup>1</sup>.

It was almost certainly produced by percussion. The last is a large irregular nucleus (H4/20) from which numerous flakes had been removed by percussion.

There seems to be no question but that the assemblage represents a single "kill", and possibly a brief camp.

#### Deposit 2E<sup>3</sup>

Deposit 2E<sup>3</sup>, as noted above produced very numerous remains of mastodon, possibly most from a single animal, and a concentration of split jaws and teeth with two associated artifacts. The one recovered in 1962 in situ imbedded in a mandibular fragment, was a small bifacially worked pebble tool. The specimen found in 1964 between the cusps of a molar, was a thin flake with a single burin-like blow removed along one edge (Y5/20). Both of the objects, in contact with the jaw fragments and teeth, had evidently been employed in disassembling them. Again this meager sample attests to early hunting and butchering activities practiced.

#### Unit G

Unit G produced two of the most significant artifacts recovered in 1964: two small pointed objects probably projectile points. The first (Y22) was recovered adjacent <sup>and</sup> to with its point almost in contact with the fragmentary



acetabulum of a proboscidean. It was made on a blade or blade flake and is an asymmetrically elongated diamond-shape in overall form. The contracting stem has been formed by abrupt rather coarse percussion flaking along the edges, while the point has been lightly trimmed along the edges by pressure, principally shearing. Work is unifacial and is essentially confined to the edges so that the faces are formed by the surfaces of the component flake. Of great interest is the fact that the lower one-third of the stem has been heavily ground and polished, both at the lateral edges and across the ventral face of the artifact. Microscopic examination shows that the dominant direction for the polishing stroke was at approximately right angles to the longitudinal axis of the piece. The second (Xl/22) was recovered in situ under a camel rib less than a meter from the first. It is very similar in many respects to the latter, but appears to be broken at the base. It is roughly triangular in outline and plano-convex in cross-section. It was made on a blade or flake blade and the point has been trimmed by pressure, mainly unifacial and involving a shearing process. The existing base is formed by an abrupt hinge fracture. It is possible that the piece was used in this form. Alternately there may have been an elongated

stem like that of the first point, though the character of the flake indicates that such a stem would have been considerably thinner than the first. In addition to the two points, a single flake (U3/24) was found nearby; another (R3/23) in the trench between the two stations and a third (F4/21) at Hueyatenco I. The character of this assemblage strongly suggests a kill-site and perhaps brief butchering activities. The artifacts themselves indicate the possible existence of a technology and typology radically different from those observed in succeeding levels. There is evidence of a rather well-controlled blade producing technique. At the same time the advanced percussion and pressure flaking extending completely across the surfaces of the artifact, characteristic of materials of Unit C and E, is totally absent. In view of the small sample no comment can be made concerning the relative associated tools.

#### Unit H

As noted above Deposit H is a local phenomenon confined to Hueyatenco II and postdating Deposit G. It produced a concentration of horse and camel bones, associated with a single utilized or lightly retouched flake (X2/23).

#### Unit I

Despite a general paucity of faunal remains, Deposit 1 I

produced a single artifact of considerable interest:  
a small pointed object, probably a projectile point (I2/24).  
Although it is made on a thin flake rather than a blade,  
it bears numerous resemblances to the points from Unit G.  
The blade is roughly triangular, and a short asymmetrical  
basal projection on one side might be considered a stem.  
It has been trimmed all around by shallow or abrupt pressure  
and some percussion retouch, limited entirely to the peripheral  
edges. It has a flattened hexagonal cross-section. On the  
whole it is very similar to the Unit G specimens and  
tentatively may be considered as belonging to the same  
typological group. It should be noted that the single  
point found at El Mirador in 1962 is also quite similar  
and may pertain to the same type. Again the specimen  
from Deposit I suggests hunting activities.

### Summary

Summarizing the overall character of the cultural  
remains recovered at Hueyatenco, the following brief  
commentary may be made: 1) The fluviatile deposits laid  
down at Hueyatenco indicate that a stream or streams  
existed in the locality over a period of some time.

2) These favorable conditions repeatedly attracted a large variety of extinct fauna to the site. 3) Early men were also attracted to the spot, where several times during the prehistoric period represented, they hunted, killed, and butchered the available game. 4) Each of these hunts was an isolated incident in time, providing a brief glimpse of the relevant technology and typology. 5) Taken together they yield a most skeletal framework for an early prehistoric sequence. 6) The exact chronology of this sequence must await further geologic and radiocarbon studies.