

Retyped
6-10-66

8 *Can share*

An answer here as to why I should think that this is just an intermediate step

to something else as opposed to the finished product. Is there a ground projection

or is it just purely the sort of thing that I know deep down inside that. *this is not finished*

B No. that is *right* that is the state in which I leave something when I didn't want to

finish it now. That's all, *That is the nearly reason* it is and I have at least another reason. On the other hand *but it is*

you say to me that's a finished thing. Perhaps you are right, but give me your reasons

Don

May I help a little on this. I don't know if I can ~~or not~~, but *maybe* Gerry,

instead of cutting sharp and fine lines between whether it was pressure retouched or

being a finished tool *percussion* whether it was *consider* percussion is that on here *generally* sometimes with a pre-

form would be roughly *percussioned to* the shape *as you would like your finished article to be.* ~~and~~ *the worker envisions for the finished artifact*

work this could *be done at* come from the quarry to save transporting a lot of material to *the* come in

for final finishing. *was usually done* and sometimes you will see probable functional use on the edge or *the design of a preform is adaptable for further thinning & completion*

Complete where the style of a little retouching. *indications* to *decide if it is a preform or actual tool* help whether it was. Like Dr. Bordes said, *with* within a

few ~~test~~ *one* blows ~~you~~ could ~~have~~ straighten this ~~eye~~ out *therefore* so it appears to be incomplete.

possibly They were in a hurry to bring in their material in this ~~form~~ form and later on to

finish it, *this will help* would ~~may~~ determine whether it was a preform or just ~~some of these are~~

very *crude* rough roughed out blanks, *Some* others are a little more finely finished at the quarry,

so there is a slight variation, *in preforms* unless there are indications that ~~it~~ perhaps did show

function.

8.

Fine. Now what I am concerned about here is that some of us may rush back here

and start calling all bifaces that aren't strickly on this level blanks. Suppose then

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we talk of ^{these} as thin oval bifaces with this kind of flaking on it. This kind of thinning flake ^{ing} Long pointed bifaces with this kind of flaking on it, and specify the flaking quite specifically.

~~Don't~~ ^{one} before ^{as} they would do that, Gerry ^{it} would be ^{well} to very carefully check the edges to see whether this could be a digging tool. There is ~~not~~ ^{no} purpose for a pressure retouch ^{and certainly} ~~not~~ ^{we cannot call all pieces} ~~to apply to all things to call~~ ^{performed a tool by percussion} them ~~performs~~ ^{performs}. There is quite a wide difference between ^{performed a tool by percussion} It may be finished as far as it will be finished by percussion and ^{the} completed tool ^{but} ~~certainly~~ ^{Lets} not use pressure ~~retouching~~ ^{to determine difference between a} as a diagnostic, ^{it was} ~~it was~~ ^{or B} may ~~be~~ ^{have} even a functional retouch ^{from} ~~as~~ ^{ing} it was rubbed one way or the other ^{which would indicate} to show the manner in which it was ~~Close examination of a pressure retouched tool by percussion will show that it was left at a stage of fabrication to permit final further honing of final finishing by either pressure or percussion.~~ ^{used.} Instead of determining on just the pressure retouch so that we don't make a thin, oval, bifaces usually are not designed for ~~it will not permit further honing - edge retouch for sharpening.~~ ^{too wide a difference on the thing.} I'm not saying this well. ^{One really needs an assemblage before final analysis may be made.}

Irwin speaking. What other aspect of this problem is, I mean you excavate these sites people have been fabricating the objects, you quite often find both ~~the~~ ^{the} halves of an ~~of~~ unfinished object whereas a projectile point, notice....^{here} that we have all bases, well that's because they lost the tip while hunting, they took the shaft back and made another one, but with these blanks they ^{were} ~~are~~ in the midst of the fabrication and this is true of this point which ^{you notice} ~~of course~~ is not edge ground because it was not finished it was broken before they finished it. Almost invariably a point that is finished is edge ground, is one of the Paleo-Indian characteristics

this ^{part} also which is not finished is not edge ground.

Egyptian

In the same line it may be interesting to note that among the workshop materials that we do get from Helgap we do find these rude fine-grained stones very much like that grooved piece that Don had, for grinding the edges ^{of} projectile points or for grinding ~~the edge~~ for platforms for ^{the} ~~fine~~ work.

May I take a piece of this. Byers speaking. This large piece that Gerry was talking about particularly as to whether this was finished or whether it isn't, there are enough ethnographic specimens that have been found with wrapping around them to make that a perfectly good semi-lunar cutting knife, ^{which is} widespread thru the New World with an edge no straighter than that but very jagged because it had been chipped.

And as far as this is concerned, we have a piece from ^{Peatechen} ~~Piewa~~ Kound that isn't finished

as well as that but it is already hafted..... and a handle ...

Byers Looks like something that no one would pick up.

Bordes Yes that can well be, you know. That can well be. But on the other hand, you know, ~~you~~ ^{you} have always have lazy people who did with

what they had until the end rather than to work.....It's as simple as that.

This is simply Am. informality.

Byas

Bordes

I really don't think so, you know. I don't think so. When you see the lots of

pains it took these people when they, ^{really} wanted to finish something. For instance,

where was it, [?] this and other ^S and ^{the} bit of ^{lower} leaf, this, and this, there is

no question that ^{it} is finished. But this strikes me as something which is not quite

finished ^{with} it, oh, about five minutes more of work ^{it} that's all.

Henry
Burles You

Well.

can cut with that. Of course you can cut with that. You can cut with almost anything. We can cut also with a ~~flake~~ *crack* flake without any retouching. *we* can haft.

Have you seen some of the things which

I will show you something that have been hafted by people in the Paleolithic-- Pacific -- Australians and so on . Any flake. But anywhere *it is a flake.*

Henry
That is

Well, one thing you get in this is if you can find all the productions ~~they did~~ *Stages*

~~then~~ if you can go from this blank, so called, or from a bigger one you can go from something like this to something like this and to something that gets a little more finished like this, and to the final point. You'll notice the form is kept reasonably similar . With these things I don't know.

B

Well, you can...

Henry

The thing is ~~these are~~ *that* just to confuse the issue a little more ~~typical~~ *specific* of

~~one horizon~~ *which* unfortunately ~~it does~~ does not include any of these. So may be *they were*

maybe

they kept on sharpening these *+ chipping them* until they became something like ~~these~~ *this*, Maybe ~~that~~

they started using this....

Burles

No. I ~~don't~~ won't say that this is a preform ~~like~~ *for* that. I will say that this could

be a preform for that, which is a quite different shape.

Henry

So We don't know.

We would have to find one hafted, I think, to tell, *B* but with something like this

there is no question Gerry that that is *isn't a tool*

Burles

Yes, I think so.....

Except do you really ~~the~~ think that putting this

as a long bifacial tool with such and such type of *scar* and so on will give you more information than to say no he didn't finish the point.

E

No. Yes, I do.

B

I don't. *I don't*

E

No. What I am very much concerned about here is that, here, Dr. or Mr. Crabtree

we'll have you elevated to Dr. status before the meeting is over

Don

Drop that, *by point*

E

Has certainly shown that we can get a tremendous amount of information out of this material by studying it extremely carefully. Much more carefully than we have ever had before.

B

That's another thing.

E

All right, but *I think* There should be one case here to distinguish between a judgement and a fact and when you call this a blank, and when you call any of these things blanks, you are making a kind of judgement which I think is very dangerous. And I would like here at least to say, you scare the day lights out of me.

B

Well, I want to say something. *about Archaeologists passing judgements* After all this passing of judgement it not *archaeologists* a.....

its *catalogue*

And I have seen too many dumb) *bloody articles*

which are just

catalogues. So many points of such lengths *I suck* which don't matter and so on and so forth that ~~I can~~ go on and go on and in the end you know what more. Nothing.

Synthia

You call them laundry lists.

....

Jellinek I would like to say something.

Yes, go on. Shhh...

J Hallo.

Jellinek Jelink speaking.

J What I would like to say is that I think part of this problem concerns the fact that you have done considerably more analysis with stone material ^{over here - yours} ~~in the area of~~ typology ^{is} ~~has~~ worked out more clearly over here, and in America we are just beginning this kind of analysis ^R and I think that Epstein's emphasis on a more descriptive terminology reflects the fact that we need more description in looking at this material and keeping track of ~~it~~ it at this particular stage of analysis in America and later on we are going to be able to work out a terminology that would ...

Burles I understand this quite well. I wouldn't say that what Epstein's says is wrong, you know, but I would say that first when you speak of this tool in your first report or ⁱⁿ your general report you say one and finish it in point . ^{and} Then when you get into the technology of the making of the point ^{at} at one particular site , you can go to any measurement ^x consideration of which facet ^{it} you ~~x~~ like . That's something else.

But I don't say we have something to win if each time you have to mention this point

you have to say, in your report, a bifacial tool ^{more} of much longer and this wide ^{with}, such and such type of flaking, you know. That would be a ^{convention?}

I think that initially if you are describing an Eden site that you need the measurements + statistics on each of these things and once several of these sites can be analyzed, then we can go ahead and say, after that, well we know now ^h from our previous analysis, that this thing is most probably an unfinished Eden point....

Yea, yea, yea...

The more material ^{we get} we can do it.

All right. You are right up to a point. And you are certainly right up to a point. But on the other point I am very much afraid that this will lead to some kind of work I have seen done ^{this summer} in a certain ^{shelter not very far from here} ~~platform here~~.

with about 20 measurements to show that this was longer than it was wide. That's very dangerous up to a point, you know.

... don't have that much time.

The point is that that is longer than it is wide, of course.

Cynthia Irwin Williams here. I wonder if ^{either one} ~~anyone~~ of you would like to comment

on the possibilities of some of these points being made on flakes rather than by

reducing a core technique or by reducing very large thick-~~ba~~ flakes. There are some

that we find ^{of} which this agate basin is not a terrible good example which ~~do unfinished~~ ^{unfinished ones}

~~ones~~ which do show fragments of striking platform.

I don't know about that one

I'm not quite sure.

C. This is not a particular good *one*

B It could be, it could be.

H Yes, you do get this certainly with Lindenmyer. We don't yet have enough to tell.

In general this end of the Paleo-Indian horizon ^{was} done from core, but with Lindenmyer, ^{the collection} and if Bordes sees ^{and Lindenmyer} and Don sees it, ^{you will see that} there, quite frequently you have these ^{the} made on large, the Folsom ^{points} ~~is~~ made on a large flake somewhat larger than that, ^{and} actually, there will be the bulbs of percussion, quite often ground, like this, and then, in addition, they put a little more grinding on it apparently, for that support. The one example that ^{Marie} I brought doesn't show that, ^{because it is a} but a little bit later on in the thing, ^{then} and, of course, often they would break it. The Lindenmyer collection has a number of these. That ^{is} one of the differences in Folsom and this ^{stuff}.

Don This one is certainly suggestive of that sort of thing.

^{I think here} Tixier speaking. We can see little bits of biface.

^{ya} B I think so.

^{Don} I think so, yes. Here is the natural face, ^T that is good observation, Cynthia, that

that is the flake and this could be from a flake and with a very flat is quite unusual with this facet on there ^{of} with the original portion on ^{that} there.

B This one I might add, an unfinished point in mint condition ~~wpp/~~ without the grinding on the face.

X No grinding.

B And it was found along with a couple of other ^{unfinished} points in a workshop area

B I will *tell* that in the Solitern anyway many of the lower leaves are made ~~of~~ big flakes because it is rather wasteful to begin on the core to make a lower leaf and you have a lot of more work, but sometime when you find, how do you call it, *Slobs* ~~blanket~~, *slabs* of material, then it is all right, you can go from a core like this one for instance, directly from a core technique, but to really make such a fine thing, taking a big lump of thing like that, it is a waste of time ~~and~~ and work.

And it is less easy.

T *It's more easy on a flake*

~~Small... flake.~~

B { *Right - its more easy on a flake*
could
 This one, also.

T Could be.

T Looks like *made on a* big flake, you know.

T A symmetrical cross section.

B I wonder, I wonder if this is not a little part of the original *face*.

short *Thier* On the big flake there is no little waves, *like in the* retouch... *pressure or retouched by percussion*
 Of course, you can start from this *one like the very big flake we had before* flake.....

Bones I could make some kind of thing like that *on* one of the big flakes I *made* *home - I made*.

Amrin The material outcrops locally in tremendously large nodules, 10 to 15 times *as large* larger ~~than~~ the flint nodules as you have been working.

Bones Ah, yea.

Amrin This was mined, *they had a* technological mining procedure. They were able to go after

the beds of ^{this type of} chert.

Bordes No question. They ~~make~~ ^{made} big flakes, ^{first}

Carleton I wonder whether, Cynthia perhaps meant with this one whether this was a blade technique, a small blade technique ~~on here~~ ^{rather than} (because there is no way ^{that you can} ~~would~~ tell with a big tabular piece of stone)

Durrin Williams Well, no I did mean a flake as much as a blade but this is possible.

Durrin You could get a point, ^{like that} out of ~~it~~ ^{it} blade.

Bordes Ya. ^{was} Yes, if the material ^{is} better.

Durrin If ^{it was} it's a little better stuff.

Durrin Williams The point is that we do have somewhat better examples that do look very much like blades.

~~... and you can make. Yes, yes.~~

We do have points of ^{this} ~~thing~~ kind. In fact we have ^{the other} ~~a~~ point found with the same one, made ~~a~~ ^{apparently} on a blade with one flat face quite in retouch.

Bordes By Jove, that's not a typical scraper. Is that what they call a typical scraper?

Durrin Would you not call that ^{of a little} ~~a~~ little more truncation on that .

Bordes Ah, no, that's not a truncation.

Durrin Not steep enough.

Bordes Not steep enough.

Durrin I might add to point out one other thing ~~about this~~ ^{some}. You saw ~~so~~ much artifacts of

this material in ^{the} stuff Marie Wormington showed you. ^T This is primitive treated ~~at~~ best

that is interesting about this.

apparently it occurs in North Dakota, I haven't been able to find ^{the} any other location of it.

Bordes But I have seen such material in *Old World* at too. Same kind exactly.

Drum Ya, there may be more than one locality in America I don't know. I presume *there are more*
Bordes I mean in *Europe* they have things like that *same material*

Drum This particular batch comes from North Dakota, *it* occurs in Alberta, *it* occurs here, and it occurs down as far as Clovis *and ... isn't there 2 or 3 places near Clovis*

Drum Yes there is.
Williams

Drum And they *traded quite widely for it.* It's interesting to notice that when we get

artifacts of this material we... *rarely get blades*
we have small sections. *or unfinished tools.*

Drum We have perhaps seven or eight flakes of the ~~the~~ same material but almost the same number of finished artifacts, apparently was a desirable ~~relatively~~ widely traded material.

Bordes That's also an end scraper. That's interesting. That's a scraper, all right.

Retouch blade. Oh, yes. Oh, yes, that is sloppy looking.

Drum Don, do you want to say anything more about heat treatment?

Crabtree That ^{one} is the most obvious, ~~of the one there on that~~ ^{set} showing the original facet of this side prior to heat treatment, ~~that was the one that was obvious.~~ *others* There is ~~an~~ ^{the} possibly indicate ~~this was~~ ^{they were} exposed near the surface which changed color. It's quite obvious that that one was changed ~~on there.~~ Some of the finished ones, ~~and there~~

~~They~~ are ~~very~~ ^{very} indicative, but, without the ^{of treatment} surface ^{original} ~~there~~ ^{for comparison - one cannot} unless you can find some ^{be sure}
of the original facets, ~~or here~~. *it is hard to tell.*

....

Owner Find out if we can see *something*

Bordes

One of the factors metagating against this is the fact that there ~~is~~ is a very good quality of flint or chert available locally and there really wasn't the necessity for heat treating.

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Alvin

This is some of the stuff then that was brought from up state.

Bordes

Very good.

Bordes

That's not bad at all, not bad. Well, how many other collections ^{have} are you to

look at. }.....

You again.

Madame Bordes

But of course me again.

Bordes

Ok.

Wilmington

This is some of the Western material.

Bordes

Ok all right. We have a limited time.

Wilmington

~~We have~~ ^{We have} Some Folsom material. *from N Mex*

Bordes

Ok, we have a limited time up here.

Joe Bon Wheat

The material here is from three different sites. One of which is

Bordes

What the hell is this?

Joe Bon Wheat

The material here is from three different sites. The earliest of which ~~is~~ is

a Folsom site near Vanhorn, Texas, and the Big Bend area. Actually the site itself is a multi performance site, ^{all} the material, so far, is from the surface, but there are several occupations of this from the Folsom site on out thru varieties of parallel sided projectile points and so forth into an Archaic horizon and finally up into a late pottery horizon. From this site, I want to make a point of this, because from this site we have about 300 of the little snub nosed end scrapers and normally anywhere in the Plains one will say that these could be any age. At this particular site, I have pretty good reason to believe that ^{there are} all concern^{ed} with the Folsom horizon because I have ^{something close to} ~~some~~ ^{where} between 15000 15 or 18 thousand specimens from this area, and I have no snub nosed scrapers from any other site, anywhere in the area, until we get to this Folsom ^{site}. I won't say ~~that~~ I have no ^{one} I have two actually, ~~that are~~ from other sites. So these snub nosed scrapers almost certainly belong to the Folsom horizon. Now the Folsom material, most of which I have brought here, I have selected out of a total collection because many of the pieces show the evidences of manufacture. There are a number of the pieces which were going from the stage which Marie showed this morning thru various steps of fluting. Many of them were actually broken in fluting. And I also have one or two odd-ball pieces which looks like something they were practicing on-- learning how to flute ^a ~~and~~ point. As you can see the ^{original} ~~object~~ side of this has no particular significance but there is nevertheless a good form and a flute started. These are channel flakes and a number of small, what we would call, graters, there ^{but} they are of obviously little drills and so forth. Burin flake this could belong

to any horizon . Possible burin but not a very good one, if it is. And these projectile points, most of them are later in time. Notice [✓] that there is one here ^{which} ~~that~~ has a burin on ^{it} ~~here~~. Yes, right here. Now this is an Archaic period point. Some of the others have been battered around. Shall we take this first and then , well I should mention this material down here. These cores and other bits of blades ~~s~~ ^s and so forth here , most of these are from the same site as the Folsom site ~~are~~ or close to it. At least they are representative of the same type of material, hammerstone type of thing, which show ^s a secondary usage of a core and the double ended scraper or side-scraper and some flakes and so on. These are all typical of the Vanhorn area and apparently are also typical of the Folsom horizon . This, of course, can only be finally established thru excavations there. So I'll turn it over now and then we can come back to these sites later on.

Crabtree Dr. Wheat, ~~this was~~ , which was the example ~~here~~ ^{that} you would like to take first in this first group ~~was this particular area here.~~

Joe Bon Wheat The Folsom points and the ones ^{which} ~~that~~ were broken in construction. Most of these down here.

Crabtree This first one that I picked up is particularly interesting ^{we are} ~~to me~~. ~~I was just~~ ^{preparing} making a preparation to do fluting ~~on~~ one side by pressure and one side by percussion, with Dr. Bordes doing the percussion. ~~By holding this one or here.~~ I have ^{a similar example on} ~~the same on the corner~~ of the shelf over there , ^{it} is the same sort of a preparation to support between ^{the tip} ~~this point~~ and ^{the base} ~~this point~~ as ^{the} ~~this~~ flake ^{is} ~~was~~ detached ~~in relation here.~~

the platform preparation from one

And so he didn't bother to change ~~this~~ side to the opposite side in order to remove

~~this flake~~ *as flake* from this side ~~here~~. It's difficult to tell the type of break ^{age} used here

~~between here and here~~ but, no doubt, there was a bit of flexing ^{of the flaking of flake} and ~~it was broken in~~ ^{therefore}

~~that a case~~ *the artifact broke*. These ^{basal portions} do not appear, *to have been broken in mfg* these basal portions like they were brought back

~~into the site~~ ^{but} and they were ^{apparently} broken, ~~apparently~~, in the field and ~~not in the manufacturing~~

~~stages~~. *Joe Ben: Yes* However, there are several here that do indicate that they were broken ^{by the} of the

hinging off ^{of the channel flake} the ~~of the fractures~~ and this particular flake ~~here~~ as it went off the ^{end of the} ~~fluting~~ ^{indicates it kinged off that}

~~end which~~ has been ^{a problem of mine} my difficulty for years to stop ~~this~~ without using this ^{end snapping and extend one must} particular ^{use a}

type of support. ^{tip} Several of these stubby small ones ^{with these 3 groups} on here show the fluting was done

first) and then the retouching done after ^{marks showing} with a very distinctive ~~showing of~~ over lap ^{of retouch on the channel.}

without shearing the ends of these in these three groups, ~~here~~. The fluted, ^{ing removed the lip} first

brought back in and then retouch ^{rejuvenate} again to ~~utilize the same point~~, which was no doubt

~~was originally longer~~. ^{much} You can very obviously see, the intersecting ^{scars} between this and ^{the lip}

the fluting where ^{channel saw} this retouching was done after ^{on these} with these particular short ones, ^{Folsom} in here.

This ^{broken point} one is a peculiar one here - this thing here, ^{it was} no doubt, broken by stepping on this ^{part of}

After it was broken ^{it was removed} in that case but after ^{there's} evidence, ^{on the edge of} on this side showing, in this

particular case, ^{that this Folsom was made on a blade} that a blade was used in order to produce the Folsom here on this

edge of that one. Whether this is characteristic with the whole group, I don't know

^{From the flake scars of the outside surface,} There are a couple, this one ~~here~~ shows the flake ^{being} reutilized as some sort of

a scraper ~~from the outside surface~~ certainly, ^{it was not intended} not to ^{remove} do another flute, ~~on here~~, but they

^{had} have thinned this ~~may~~ be for ~~sharpening~~ sharpening. It's a little unique, this

sort of a thing. But it shows some sort of a reutilization of these tiny

points, ~~or here~~ similar to ^{other specimens} these that we saw, ^{The direction of the original break shows how} on the other side being dug in this

~~the tool was used.~~

~~direction to produce these on here~~ As Dr. Tixier and Dr. Bordes will observe, all flakes

~~scars are~~

^{one} from this direction ^{a good example} of a reutilization of a broken Folsom projectile point.

^{or shows} This ~~is~~ a peculiar break, ~~here~~. This side ~~here~~ showing the flute ~~and~~ splitting

~~the platform because~~
~~when fluting on the 2nd side.~~

of the thing of a crushing of a cone. It apparently was fluted on one side and then ^{broken}

on the other. But this sharp edge ~~on here~~ ^{may} even indicate a sort of a burin ^{break}

~~of thing on this square ended piece, on here~~ ^{And there} this appears to be much softer ^{than} ~~used~~

~~to remove this type of flake.~~

the rest of it. The heat treatment is quite obvious, ^{When the stone is heated} we get this typical sort of a

break ~~here~~, ^{from} perhaps the collapsing of the platform. However, the flute ^{is} looks like

it was successful, ^{but the channel flake} however ~~it~~ split. This one was not successful; it came off

the edge as the second flute was ^{removed} taken here and it collapsed either ^{from being held &} by holding something

in here and the ^{gripped too tightly due to the} gripping and the extreme thinness of this particular ^{point.} one on here. We

can move on to ~~perhaps~~ these others. ^{One cannot be sure of the} I haven't seen the preparation of this but ^{it shows} the

general thing is that you will find ^{method} a polishing ^{to give it sufficient} on the platform ^{strength} in order to support

^{the tool the necessary force} sufficient strength to detach the flute. Unhappily, most of ^{the specimens center} them are ~~the center~~

^{channel} X sections of the flakes, which are not as diagnostic as the proximal ends, ~~of these.~~

This shows a wide range of material ~~that~~ was used, ~~with this and there is one there.~~

^{It does appear} to be polished ^{on the basal platform} to withstand the pressure. ^{There is a} The difference between, the

~~difference in grinding and polishing.~~ Grinding lets the flakes ~~become~~ dislodged more

easily, while polishing gives ^{the platform} it more edge strength, ^{to withstand the force needed to remove the flake} so ~~with~~ the ^{base} base of a core that

is ground ^{has} a much weaker surface than ~~where you will polish the edge to withstand it.~~ ^{when it is polished.}

So there is quite a pronounced ~~little~~ difference in a flake that is polished and

one that is ground and ^{abraded} ~~abraded~~ ^{in indent} to free the flake ~~and~~ ^{Grinding & polishing} that is usually done on a

flat top surface, ^{wherever the platform of this flake} the grinding ^{is} while this ^{one} is rounded and polished. ~~there so there~~

~~won't be a great deal of confusion in defining~~ ^{is apparent} the difference between the two. With

the cores I don't ^{polish the platforms, but I do grind them} with these on here, ^{apparently} almost a complete utilization of

the core here, Dr. Bordes. I don't ~~if~~ know whether there ~~is~~ anything distinctive left

in the core. The flakes ^{may show some character on} ~~might have something on there~~ that side. This appears to

be a big side ^{struck} ~~stroke~~ flake. ^A collateral flake with a hinge fracture at the ^{distal} ~~end~~ of that

~~it had to be struck~~ struck from the side to produce this ^{distinctive type of flake which} ~~type~~ sort of thing that is very adaptable for a

big scraper. Not a ^L ~~Levassian~~ ^{type of flake} sort of thing but ^{the} basal portion ^{has a similar} ~~is~~ the thickness

^{that is comparable} ~~there with some comparison and a slight retouching~~ ^{shows a slight retouching of the platform} ~~and a slight retouching~~ ^{yes with}

X..

With a flat surface and a conical core.

Crabtree

If it is a core, I am not so sure.

Bordes

We also get pulping planes in that area which look superficially like this and

Jacobsen
Wheat

you have to examine the bottom to see where the wear on the surfaces are.

Crabtree

Oh, yes. I see.

Crabtree

With this array ~~here~~ all I can ~~just~~ do is ooh and ah. I have never seen anything

as exquisite as this particular piece ~~here~~. ~~There is not mechanical way~~ ^{but there is no mechanical way to produce this beauty.} It appears to have almost been ground out, ~~yet~~ ^{we} know that it was preformed in several stages and

~~several~~ ^{several were used} probably techniques went in to give it this final character of ~~the~~ beautiful uniformity, ~~the~~ feathering of the edges, and the edge character ~~here~~ of ~~the~~ spacing of this sort of thing, and ~~to~~ ^{get} leave ~~this~~ ^{the median ridge + edges} perfectly straight, and a perfectly straight

~~plane.~~ This is, indeed, one of the finest works of art that man has created and Joe ~~Ben~~ ^{Ben} has ~~one of these here whether the painting, sculpture or anything else this one displayed~~ ^{an artifact that compares with any of the fine arts} something that we have to work towards to understand more about this.

Joe Ben Wheat Did you notice that you are speaking before of retouch on the edge. Did you notice the retouch on that?

Crabtree Extremely good! ~~The other extent of the material the amount of labor that has gone into a thing is beautiful as that to use as a projectile point.~~ ^{making this} ~~artifact would make it almost a sin to use it as a~~ ^{type of is similar to some hunter agate and}

Joe Ben Wheat This appears to be another one of the big preforms. The base of one of the preforms such as Henry got at the *Well Gap*

Crabtree It's very exquisite work and very distinctive. ~~This sort of thing here, is a~~ ^{set shows a} very distinctive technique

Provin What ~~sign~~ ^{site} is that?

Joe Ben Wheat This is the ~~flakes~~ - this is the *Claypool*.

Crabtree Dr. Bordes.

Bordes Well this is Bordes speaking. First of all this Folsom material it looks as if the biggest state no the second state now has also the ^{smallest} ~~most~~ Folsom, because there are some here ~~that~~ ^{which} are really small. ~~And~~ ^{anyway} they are beautiful.

Joe Ben Wheat Just a flaking.

Bordes

ordinary

Yea. As for other comments I won't say much. The scrapers are the kind of scraper that we have already seen in ^{other} some places, but here about the burin . This is a

projectile point probably; I should say that it is a Bifacially ^{worked} broken tool.

Which seems to have had a burin blow from the ^{break} back. I wonder ^{if} it would be interesting

to experiment with ^{prints} this point and see ^{some times if the fracture break} some kind of a flake back could not give us ^{at times} this

burin blow. I am not sure, not at all. Just an ideal ^{Throw} into the air and let

it hang. But there you have something and on two sides looks very much like some

burins which have been done by silutrian and broken ^{lower} leaves, so it could well be

burins ^{after} all. Well that is more ^{of} a kind of a splintered point, ^{basically}

Or it could be just, no I don't think ^{it} should have been something very odd to make

that. No, that's a little bore ^I I don't see others .

Jacob Wheat

What comments do you have on that one. That's one not on the breakage so much as the flaking itself?

Bordes

I leave that to Crabtree who is better than me on this ^{what?} material.

Crabtree

It looks like a very fine pressure flaking and it shows an entirely different technique than any of ^{these} ~~this right~~ here . In fact ^{in this assemblage,} any of the other pieces , this is quite ^{at} distinctive ^{and this} piece ~~and it changed its character~~ ^{show a distinctive} style of flaking . Is this common? Dr. wheat?

Jacob Wheat

This is the only piece that I have like that from this site.

Crabtree

It seems unique, ~~is it~~

Bordes

^{you know} Well, there is ~~you know~~ a lot in fractures these burins or perhaps double burins,

I don't know, but there is a lot. And this one ^{is} amusing, if it is a burin it has been

made in the same way as Alaska burins that we have seen . Not on a *true truncation*
but something ~~that~~ ^{which} is almost bifacial retouch before that, the burin blow. Well,

about the other things, ~~this~~ ^{I have} is not much to say, there are nice bores , ah ^{yes} here.

Crabtree what do you think of this? Is this big flake , ^{taken off by} ~~is this pressure~~ ^{this} *do you think, at a diagonal angle it could have*

Crabtree It appears to be unless ~~the only thing is a diagonal as it struck a rock that~~
~~removed the flake~~ ^{knocked that out} by percussion ^{blow}. ^{But as it slid thru} it could have ~~carried here,~~ ^{caught}
~~and caught as it slid thru~~ ^{firm} the weight of the shaft and ^{been this} given that sort of a ^{flake saw,} character.

~~Could be.~~

Jacobs *Bow* *wheat* *Burdes* This was actually in a buffalo.
Is that so. Well,, ^{with} striking the bone like that.

Striking the bone or as I have seen when I was young ~~and~~ and practising bow and
arrow , my arrow touching the ^{surface} finding a ^{rack} ~~black and touching again and~~ ^{jumping}
^{again &} going to bury itself in a tree. So it could be the bow as it went into the soil before
getting into the buffalo.

Don It doesn't appear to be an intentional sort of thing that they were doing,
Jacobs *Bow* *wheat* ^{its form} No ~~as for~~ hitting the bone, I am fairly sure . Did you notice this one? Look on
the other side it's more obvious.

Burdes Looks as if there has been two sets of retouch with a different prospect.

Jacobs *Bow* *wheat* This one has become partially patinated and, since it is evidently the same type,
both before and after , it ~~was~~ ^{was} evidently found and picked up again somewhere and
then reused, resharpened and reused.

Bordes
Looks ~~like~~ yes.

Curtis Notice the change in technique on here. I mean it's a random sort of thing like that.

compared with the uniformity of this.

Bordes That is good work in such material. *Don: Bordes is Tough* But that is very beautiful, but it is so

regular that it becomes almost mechanical. I must say that that is a beautiful piece

I must say that
of work but, the general impression is less striking than some which are less beautifully made but more human.

Quinn It has a dramatic touch to it.

Bordes *no,*
It has a mechanical touch.

Joe Ben Notice the range in size in points from one site. These are all from the same

site. These would be considered blades, I presume, or *are these* ~~are these simple~~ *of elongated flakes.*

Bordes I am not sure, no I think that can be rather a flake.

Joe Ben Yes, well that was my impression.

Bordes A flake of first workings of bifacial things. Sometimes you have several blades

like that. Well let's see, here. That one here is very nice, very fine *side* ~~bifacial~~

scraper and it seems *they were vicious* enough to apply pressure flaking for making side scrapers,

you know. They were certainly pressure people. That's another flake of making bifacial tools. That's the same thing. That is more like a blade. This one too, also.

This one is certainly a blade. Ah, that has something on it, yes. That, you ~~will~~ know,

seems to be a kind of tool, because it is much too regular to have been just a preparation

or a striking *platform* but anyway I don't see what they could have hoped to ~~make~~ *take* from that.

Bordes
Jacques Borel
Bordes

That, here.

This is a little flake, I don't think. Is this very common with your scrapers?

Not common. You mean this removing of the bulb?

No. Not removing of the bulb that not removing of the bulbing you know.

We find this often in enough ~~in~~ end scrapers, not very often .

hook

Scraping edge

A regular scraping edge or utilization like that. I have done it by trying to

polish a ~~regla~~ regular searper like that something like that. Well, this is a spall

and not a core I think. *Rather* was a kind of *rough* grade tools . That's a kind of

levallois flake with a what I call scraper with flat face, but it can well be a knife.

Because it give a ~~sheek~~ sharp edge . These are cores which are not very good.

This kind of *munsterian* we call

Tixier Tixier speaking. I think that there are two sorts of graver you see, ~~there are~~

there is gravers or borer

Bordes I don't like this *word* called a graver

Tixier Graver, borer.

Bordes *Graver* if you like but not graver.

Tixier These borers with an abrupt retouch , you see like this one, like this one, and

others with beautiful *semi abrupt* retouch, you see. It's quite different. Here is

abrupt retouch and here is a semi ~~slunt~~ *abrupt* retouch . And here is a little bit of channel

flake . I think these here , the *back face* ~~biface~~ of the blade and then the retouch of the

edge and then the flaking out , flaking off of the channel flake . I think it's another

observations
observations who make me thinking that the Folsom points or fluted points ^{were} ~~are~~ made
on blade or ^{or} biface.

Crabtree This is the natural facet.

Pfizer This is the
Natural facet.

Crabtree I mean from the original large flake ^{that side} on there,

Joe Ben Oh, yes, ~~h/h/h~~ that's not a ~~stem~~ They just didn't take out the center.

Tipton And this is a very good burin spall with a retouch before striking off the spall

perhaps coming from another burin. This is a burin but not very very good.

Yes it's one. Yes it's good; it's good. It's ^{on} a little ~~concave~~ ^{truncated} here.

Crabtree Any further comments from you, Dr. Wheat?

Joe Ben
Wheat No.

Crabtree Anyone else?

Alamy
Smith Don, would you like to try that channeling now?

Crabtree We can do that. *It will take me just a few moments.*

Cynthia Irwin Williams ~~has~~. ^{W^h} have here a collection of late pre ceramic materials

from the Southwest which are of interest principally because they ~~are~~ very likely represent

the ^{antecedence} ~~precedence~~ to the Anasazi ~~and~~ or Pueblo culture . I've got them ~~arrange~~ ^{arrange} more or

less chronologically , so that we have at the ~~the~~ other side of the table here , ^{The}

San Jose culture, as it has been called in New Mexico, which probably has a date range

around 1000 to around approximately 3000 B. C. The crude materials to the left, un-

impressive as they are, seem to ~~be the~~ make the most of these peoples chipped stone

assemblage, and I brought a representative collection primarily of the actual tools
 scraper, scraper planes, choppers, and things of this sort, and also of some of the
~~crude~~ crude flake tools ^{which} go along with them. Some of the cores from which these
 were apparently struck when silicious material, relatively fine grained sort was available,
 and ~~it~~ also some pieces made on this rather coarse ~~basalt~~ basalt. Over to the
 right there are a series of projectile points from the same time period and these
 of course occur with a large number of grinding stones so these peoples main concern
 was for seed grinding rather than for the production of ~~the~~ gorgeous projectile points
 The material closer to me here, apparently, represents the successors of the ~~same~~ same
 groups ⁱⁿ the same area, the development in projectile points styles and development
 in chipping techniques. I think that it is quite obvious that there is considerable
 improvement in the kind of simple tools made in the late periods and there are apparently
 some blade-like objects of the same ~~period~~ period. Now right in front of me ^{there} is a big
 collection of sharp looking flakes which do represent, I brought them along just because
 they represent a workshop, small workshop area probably from one or two pieces of
 obsidian from this later period and this is they are just sort of representative
 of the kind of the kind of stuff that we were getting in the flint bit there. One
 man ^{was} ~~also~~ sitting there and chipping for an hour or so. They probably are somewhere in
 the 500 B. C. range approximately. Down at the bottom here, just to indicate what
 this stuff develops up into of a basketmaker to a projectile point, and this is almost
 certainly what becomes of the culture ultimately. Now I don't think that I will go

into the typology anymore. That isn't our primary concern, so if either of you would like to comment on this ~~why~~ you might as well start.

Crabtree Thanks, Cynthia. With this array of flaked we start in between in here . These are not even as good as ^{these in our working pit} ~~our pit over here~~. We find something characteristic of obsidian in her e and we have a lot of the distal ends that were broken ^{from} in the shock as they collapsed on the end, for instance, there seems to be almost no platform preparation ~~at~~ Very little control of ~~at~~ flakes . This one ~~on here~~ they did take advantage of the ridge to thin these down. This ^{one} appears to be a nice thinning flakes ~~ex here~~ and probably one of the best examples *of this type*