

Could be stone could be something else. But an interesting thing is a very outward truncation of the right of the burin and very, very, outward by small retouch, no work here. It is not a borer. It seems that the truncation was a one. Nothing else. I don't know, perhaps it was two.

*Alvin
Williams
Bordes*
No, a concave scraper.

It's not a scraper, it's too outward. It has something to do with camel hunting, I don't know. Other comments from other people? X

Leadbetter I would assume that the casts are replicas, as near as possible to the color of the original material.

*Alvin
Williams*
Approximately.

Leadbetter And, no doubt, it is ~~ert~~^{chert} and flinty material. This is something I wonder about. In Mexico there is an abundance of obsidian and yet these points are of nothing but flints and ~~xxx~~ cherts. It seems characteristic of many of Ancient Man's sites that he wouldn't touch obsidian when it was right in the Valley floor below. I'm speaking of my experience with obsidian in Southern Idaho. For some reason they seemed to desire these flints and cherts and yet we have a lot of obsidian there. But this group proves that they had some well-controlled, well-defined flakes. There is one little flake here showing a hinge fracture. This shows a little specialized retouch of spacing. I mean, there is not enough of these to show any uniformity, but it indicates that it was used scraper-wise in that area. But these three show the position of seating the pressure tool each time rather than indicating percussion or function. This side indicates a bifacial flaking, such as Dr. Bordes explained. This one also shows a bifacial retouching. This one appears to have been abraded on the tip like it may have been one of the gravets or a little engraver. That is all I have to say on this.

Co. 25.3.5.1

Dr. W. Williams

Do you have any suggestions how the retouch on these later points, well this particular later point, would have been done?

Crosby

This appears to have been done by pressure on this side. However, ~~it~~ *the technique is not too refined* doesn't have ~~nearly as refined a technique~~. You can see the little step-fractures where he hasn't applied sufficient pressure and this character is not common with the percussion technique. He has undercut and left fairly heavy deep bulbs on the edge which produces quite a sharp edge. This is, of course, bifacially done. It is quite heavily abraded on this side. This edge appears to be the tip of the tool. And, again we have these left-handed rascals. There is a slight retouch here on the edge of this one, indicating ~~it may have~~ *it may be* ~~a retouched artifact,~~ *a retouched artifact,* ~~been retouched on the opposite side.~~ There is not much showing here, but it appears pressure was applied away from the tip and back in again on the opposite side. This one, ~~is~~ *here*, however, ~~is~~ *is* in reverse. I mean the flakes are directed away from the tip which is difficult to accomplish without sniping ~~off~~ *off* the tip, ~~off~~. He took very wide flakes clear across the surface. The normal reaction when pushing down this much is to get a shearing of the flake because you must keep your pressure away from the tip. But with this specimen, he reversed it and applied pressure towards the base. He may have carried his finger out in

Ca. 25.3.5.2

this manner and used it as a sort of support for the tip. This gives good support without losing the tip. This certainly does appear to be pressure work on this particular point. I'm glad you brought that one up. Don't you think, Dr. Bordes?

Bordes Ah, yes.

*Lucy
William* Well do either of you have any comment on the kind of tool that would have been used to produce this rather large flat retouch or chipping on the biface here?

Gratwic It appears to be done with a billet, horn, wood. Something like that.

Bordes Something like that, yes.

Jelenc I have a question for Tixier or Bordes. How similar is that small stemmed point to an Iberian point.

Bordes To an Iberian point.

Jelenc To an Iberian point.

Bordes No, it is not. Not the same technique.

Jelenc What would the distinction be?

Tixier The distinction is at first the stem is narrower and well shouldered, you see. It's very well shouldered in an Iberian point. On one side, yes. Here it is something like an Iberian point, but here, no.

Gratwic This is just a comment to Cynthia. With the Paleo-Indian artifacts, we find occurrences of the back-handed technique and, yet, in the recent material, we see none of this. An apparently distinctive

Ce-25.3.5.3

technique was used by Paleo man at your site. It appears on the two retouches that we find in Solutrean that we find only two but yet they are distinctive and different while the rest of the specimens show very regular and very uniform flaking. Whenever this retouching was done they applied pressure in the direction of the tip and away from the base.

Orving Mr. Crabtree, in view of the fact of your earlier observation of the hand-holding the piece being flaked does most of the work, do you suppose it is possible that they have here a tradition of holding the piece being worked in the right hand and holding the tool in the left? This done by right-handed men.

Crabtree This I think Dr. Bordes should know. He is ambidexterous and he can work either right or left handed and can change angles from one direction to the other. Right-handed persons have their strength is in the right arm and that is where you actually need it. of a right-handed person will doing this with the left hand he couldn't ~~You can't~~ free hand hold this at. So

~~You~~ ^{he} must ^{therefore} hold the artifact against a log or some part of the body.

Right-handed persons will naturally thrust and pull inward toward the body when applying pressure. But to push away from the body, one lacks control of flaking. It is normal for a right-handed person to pull something towards himself very carefully and very gradually, if you understand what I mean. I mean to exert pressure toward the tip of the point and away from the body is not the normal thing for

Le. 25.3.5.4

a right-handed person. Therefore, I assume the worker was either left-handed or ambidexterous. Another thing - the accuracy needed for flake removal ~~was~~ require^s seating the tool each time pressure ^{is} applied, and this back-handed method would make seating more difficult. This would also be rather tiring for a right-handed person. Because of the mechanics of flint, it is more likely to break when pressing toward the tip rather than toward the base of the point - or toward the body. This back-handed technique takes greater control for shaping points, yet with this particular one, they were applying pressure in the direction of the tip rather than into the body of the artifact. Now, no matter whether percussion or pressure is used, we have to keep the blow towards the center of the artifact, otherwise, we'll break it. I mean it will break in the middle or at one end or the other. Well, the same thing is applicable to pressure work. ~~using~~ ^{if a person has been,} using the right hand for pressure, I just don't feel that one can alternate and use the left-hand ^{for} pressure with ^{any degree of} control. It's just like writing ^{right-handed or left-handed.} And these scars are just as identifiable as penmanship, almost. You'll have certain styles, ^{be} whether it is Palmer Method or printing. When one develops these rhythms and the muscles develop for a right-handed technique, it is very, very difficult to change over. It would

C.O. 25.3.5.5

require much practice and many hours for me to change from one style to another. For instance, last night I was trying to change techniques and do a Hellgap style of flaking. I haven't mastered it as yet. Dr. Bordes was making a true replica of a Solutrean and he feather^d out the flakes with fairly deep bulbs. The way he applies his tool and affixes it to the edge of the piece of flint determines the popping off and the feathering out of the flakes. ^{So} I tried to use his technique to show a little of the ripple flaking. The flakes would go clear across and take off the other side of the artifact. I mean, I just couldn't get the feel of it. These are the things that are distinctive with pressure retouching, probably more than percussion. However, I think that at some later date, and I think Dr. Bordes will agree, that certain percussion techniques are going to be as identifiable as well - when further work has been done and more collections studied.

Bordes Oh yes, yes.

Croft Not from one group, because we have millions of people whose techniques we are trying to identify. And, there may be almost as many techniques as there is with handwriting. Maybe we can get a character analysis here from some of the stone work.

Bordes Well, any other comment on this collection?

Byers I think it's very interesting that Don Crabtree has picked up this concentration of left-handedness with this early material. The preliminary indications from Tetchuachan which is about 40 miles away, Cynthia?

Ca-25.3.5.6