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Dear Bill:

Thanks for your letter of January 17th and congratulations on writing the article for Scientific American.

I have searched our files at I.S.U. and here at home but did not come up with much in the way of photos or reports on the field school. This is due to the fact that all reports and photos were sent to N.S.F. and, unfortunately, we did not keep copies of all reports. However, I am enclosing some letters from the students which may better describe their feelings and benefits from the school than I could personally convey. If you wade through all this material you may find what you consider the greatest benefits of such a session. Am also enclosing some photos which you may be able to use. They do show hand positions and use of the knees, etc. Would like to have these returned when you are finished with them.

Now regarding my personal feelings about this field school: I have always felt that typeology which does not include technology is more or less theoretical when it is primarily based on the morphology of the stone tool and the final series of flake scars. As you know, these are not as diagnostic as the many manufacturing stages necessary to arrive at the final flaking process and, therefore, the assumptions of the typeologist can only be hypothetical or theoretical. Certainly, we can not live without theory in this profession but "theory" is still derived from the Greek word meaning speculation which can sometimes be ambiguous and give little clue to the actual manufacture or intended functional use of a specific stone tool. So it is my contention that by actually trying to manufacture the stone tools, the students become aware of the importance of proper preforming, thinning, platform preparation, ridge control, angles of platform and applied force; use of proper billet, hammer, percussor, compressor; coordination of eye and application of force, muscular motor habits, choice of suitable materials for specific tools, dampening or acceleration of applied force and other factors too numerous to list here. They also become aware of the diagnostic value of debitage for, as you are aware, most of the clues to manufacture go with the detached flake and only by the study of this debris can we calculate such steps as the angle of the platform - whether it was isolated by flaking, faceting, grinding, polishing - angle of force, control of the length and width and termination of the detached flake or some of the 100 or more definitive characteristics.

It is not my intention to make a flintknapper of every lithic tech. student and they need not become proficient at the art, but I feel an attempt to replicate by actual manufacture will improve their typeology.

And, certainly, it makes the future study of debitage more interesting and beneficial.

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A few of the remarks of the students come to mind and you might find them of value. I remember Irv Rovner saying that when he arrived he consider himself an authority on an early man collection he was analyzing. He said at the end of the session that he would now have to return to Wisconsin and reevaluate the entire collection. Payson Sheets had written a fine paper on the blades and cores of El Salvador. However, when I reviewed it for Antiquity I found the technology to be erroneous. I asked Payson not to publish until after the school at which time I felt he would see his errors. After the school he thanked me for delaying the publication and has since rewritten it and published a fine paper for Ceramica de Cultura Maya. Again - Alaric Faulkner had written his Ph D thesis on the manufacture of Mesoamerican prismatic blades by mechanical means. In the thesis he avowed that the blades were made by only downward pressure and always bore lips and errailleur scars. When he tried this theory at the school it resulted in broken blades, broken cores, malformed blades and certainly not replicas. But when he supported the tip of the properly formed core and applied downward and outward pressure then he was able to produce replica blades which did not always have lips or errailures. Certainly, his thesis is an important contribution to the fracture of materials, but here I think we have an important lesson of making the machine conform to man rather than the reverse. Bruce Bradley - who will certainly be one of the all time great flintknappers - came to the school perfectly capable of making both percussion and pressure tools. However, I discovered that he was not trying to replicate the patterns of ancient man and was not evaluating his debitage. After the session Bruce was replicating very well and certainly studying debitage with different thoughts.

I hope all of this muddle will be of some help to you and I will be looking forward to your publication in Scientific American.

With kindest personal regards,

Don E. Crabtree

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