Route 1, Box 210
Kimberly, ID 83341

July 26, 1980

Mr. Paul Graham
Ohio Department of Transportation
Bureau of Environmental Services - Room 608
25 South Front Street
Columbus, Ohio 43215

Dear Paul:

Please excuse this belated letter. Unfortunately I have been spending a great deal of time in our local hospital - this time I was released last week, and so now I will make an attempt to answer your letter.

I am more than pleased to learn of your dedication and interest in primitive technology. It has been a long time - possibly 40 years - since I was at Ohio State Museum with Doctor William Clyde Shetronne and H. Holmes Ellis. You asked me about the time that I had spent with them and how this came about. In the 1930's Holmes Ellis instigated a WPA project for unemployed persons to do research. During this time anything that was written pertaining to the manufacturing of stone tools was compiled in a comprehensive publication on flintworking. It was one of the only monographs published on that subject for many years and was, at that time, the only complete account of all information on that subject.

Each one of the processes was assigned to various individuals for replication of that project. Because of the very limited experience and the inadequate distribution of the various techniques used by the early observers, there was much left to be desired. Some of the early accounts were written by good observers and poor observers which left experimenters at a loss.

Basically for pressure flaking one held a piece of stone in the palm of his hand and was able to press off flakes. The results of the WPA tyros were very embryonic because they hadn't had an opportunity to develop muscle control, they knew nothing of platform preparation, and they did not have the knowledge of how to produce a flake the desired width, length, or thickness at will. Therefore, when it came time for conclusions, there wasn't a good deal accomplished out of the project in the way of replication because of the lack of information and the lack of opportunity to develop these skills. The final accomplishments were extremely primitive.

This also applies to the percussion work, indirect percussion work, and a variety of the other techniques described in Ellis's book. I was there in 1939 or 1940. The monograph had already been published. At that time I really made no contributions in the form of text. I did do many replications, and we acquired Harrison County flint which responded very well and was most excellent to work.

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Holmes Ellis made it possible for us to conduct our first bona fide heat-treating experiments under controlled laboratory conditions at the Batelle Institute and qualify crystallography changes in silicious materials. This was done by Dr. Andrew Pace, and since that time heat treating has been accepted by the profession.

I would be most anxious to see you start a Lithics Laboratory again at Ohio State relative to

(1) Materials of the upper Mississippi Valley and response to heat treatment - particularly Flintridge, Ohio, flint
(2) A replication of Hopewell blades and cores
(3) The mystery of the Cumberland points
(4) The trade routes of the various materials
(5) A bona fide description of the flaking debitage that was found in association with obsidian ceremonials
(6) Good illustrations of the flaking techniques and photographs of the actual ceremonial blades, if available.

Several ceremonial blades are at the Ohio State Museum. I understand that there are a few at the Field Museum in Chicago, and the rest are in the hands of private collectors. Possibly through Flintknappers' Exchange one may be able to have photographs made of those still owned by private individuals. This would be of interest to most everyone.

Paul, I certainly agree with you that the only way to understand flintworking is to actually do it yourself. Photographs and drawings are most inadequate as you need to study the third dimension when examining the diagnostic traits, the free surfaces, the platforms, and the general physical attributes.

It was certainly of interest to find that you and your friend work with Rob Bonnichsen. He was one of my first students and spent nearly a year with me. I hope you have the opportunity to work with Rob at some later date. He has also been doing considerable research on bone technology.

You commented on your experiments with burins. With my experiments in use-wear I find that not only was the tip of the burin used, which is fairly fragile (and also when flaked will make a second burin), but also if it is an angled burin it has both an acute and an obtuse edge.

The obtuse edge using the burin technique is a very satisfactory tool for working both soft and hard resistant materials and will retain its edge over a long period of time. The acute edge can be used for softer materials such as wood, flesh, etc., but is more friable. The actual

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use of the burin still remains somewhat of an enigma as only the people who used these tools had accumulated information that accelerated their skills.

Again I give you my every encouragement to continue on with this line of much needed research, and I wish you every success.

Respectfully yours,

Don Crabtree, D.Sc.
Research Associate in Primitive Technology

DC:wt