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November 17, 1979

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Dear Peter:

Yesterday I received the Grand Pressigny core which delighted me to no end! It certainly affords a new project and I will start on a small scale in a replication in obsidian.

It is certainly a challenge to see how they were able to strike such a small platform with such great accuracy and detach the blade unbroken and nicely terminated. The publications you sent me are invaluable. The drawings are beautiful and I notice too that in certain instances they used grinding instead to strengthen the platform and prevent its collapse. I am sure these were struck by the use of a hammer stone and using a platform isolation.

In one place in the text, as near as I can interpret, there was a Mica Shist used that was possibly a hammer stone fragment. This technique would require a hammer stone of softer material than the flint. I was amazed at how many blades were in the one cache (105 I believe) of intact blades. Such an assemblage represents a tremendous skill as well as labor in core preparation. Too, I read with much interest the temperatures that you have regarding the heat treatment or alteration of flintlike rocks. Temperatures are in centigrade and I don't do a quick mental conversion, but for the Grand Pressigny flint I find that it makes an alteration at a low temperature, probably the bottom of the scale, and it is at that temperature that it changes from an Alpha to a Beta Quartz. This can be done in the household oven if one covers the artifact with sand as well as placing it in a pan partially filled with sand so the heat will soak in slowly. Raise the heat in increments of approximately 50° every 30 minutes. This allows for the heat to soak in gradually. A rule of the thumb would be the larger the piece, the more slowly it is to be heated and cooled, and the more granular the material the greater the amount of heat required.

I feel that certain materials will change at approximately 425° Fahrenheit to 500° Fahrenheit, not Centigrade. I find that under 500° F., which most household electric ovens are, many chalcedonyes can be altered without having elaborate laboratory equipment. Each material alters at a different temperature and period of time and this is proven by testing the material. Some have a higher water content than others. If cracks appear, the heat is either too high or there has been too much thermal differential.

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I found that Bergeriac flint takes considerably higher temperature than the Grand Pressigny and this may also be true with your results from the Belgian flint. It certainly improves the ease of pressure flaking and also leaves a much sharper edge, and, of course, it makes a visual texture change with its being considerably more glassy. This is only shown after one removes a flake after the heat treatment. In the text there are shown examples of unifacial diagonal pressure flaking. From the examples these were, no doubt, bifaces that had been altered by heat treatment. You will find that it works even better than obsidian as one has more control and the material is not quite as brittle as obsidian.

You may find it of interest that at the Lena River area in northern Siberia, cores were made in much the same manner only they made very thick bifaces and removed both lateral margins in order to get their first straight crested blade. These cores were generally polyhedral upon completion while the Grand Pressigny cores were made with a high convexity to guide the initial blade. The ideal blade is one that is trapezoidal in cross section, rather than triangular in cross section. There do not appear to be very many trapezoidal blades in the illustrations. They may have been retained by the workers. A trapezoidal blade has a tendency to have much straighter lateral margins without the intersection of the lateral flake scars.

I feel that the blow was applied with a fairly heavy hammer stone of a yielding material to avoid crushing the platform. The platform is usually isolated by removing two flakes leaving a ridge directly over the guiding ridge or ridges running longitudinally down the face of the core. If a trapezoidal blade was desired, then the platform was isolated between the two guiding ridges which left a flat surface with two beveled edges. The hammer stone force was applied by an arclike motion using the gravitational center of the hammerstone allowing it to just ouch the projecting platform. This technique insured accuracy rather than striking directly onto the platform.

I will certainly look forward to trying some experiments in replicating this beautiful core. It reminds me of a giant Folsom point and removing a chanel flake from the center

I am only sorry that you couldn't have stayed longer because there are so many experiments yet to be tried and resolved. This specimen will always be highly prized and long treasured. I am in debit to you for all of the gifts as well as this beautiful example of European blademaking. It is certainly a sophisticated process.

I called George Wili and we had a long visit on the phone and I was expressing my gratitude for sending the specimen as well as the other gifts. I do hope that sometime we'll be able to meet.

Again my congratulations on the acceptance of your publication and will certainly look forward to receiving an autographed copy.

Your friend,

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

DC:wt