

Rt. 1, Box 210
Kimberly, Idaho 8341

April 24, 1974

Dr. Are Tsirk
425 E. 79th St.,
New York, N.Y. 10021

Dear Are:

Thank you so much for such an interesting and informative letter and please excuse the tardy reply. Evelyn and I have been away for the past month to Mexico and the University of Arizona and returned to a backlog of correspondence and work for the University.

You have written an excellent summation of the experiments on Felsite - by all means have it published. I am so glad that you were able to encourage the interest in lithics at Orono. It would appear that you had a pretty busy schedule. Felsite is a difficult, tough tenacious material to work and will quickly retard the knapper's success with materials which respond better to applied force.

There are almost no ethnographic references to hafted hammerstones. Most hammerstones have been discarded as non-diagnostic. Richard Gould - personal communication - told of observing the Australian aborigine using a hammer which was made by affixing spinnifex adhesive on the end of a handle-like stick and then inserting a pebble in each side to create a version of a ball pene hammer. My personal feeling is that hafted hammers were widely used to gain more velocity when one was working tenacious stone. Too, I remember Bill Irving telling of the Eskimos using ivory hammers to work stone.

I know you don't have the time or the facilities but heat treating may make the felsite more tractible. Another material used in the Northeast is a variety of massive white quartz which is next to impossible to flake by conventional methods - yet prehistoric man fashioned it into very effective projectile points. Fred Johnson of the Peabody Institute sent samples of this type of quartz but I could do next to nothing with it. These were certainly poverty stricken people as far as lithic materials were concerned.

I am glad that you are working with John Speth and hopefully will continue the mechanical experiments on fracture. If John has your help and takes advantage of your understanding of aboriginal fracture then one can ultimately replicate some of the elusive techniques. There is so much to do on the study of inertia, velocity, yields of the different percussors - such as arclike and glancing blows and in line direct blows. One could go on and on and the approaches are endless but the results would be rewarding.

Are, I am delighted with your continued interest and evaluation of fracture technology and will miss your presence at the forthcoming field school at Dierkes Lake. Will close for now as I have to journey to Pocatello to do some work and get ready for the field school on June 15th.

With best wish from me and Evelyn to you and your wife,

Don E. Crabtree

ce 11.1.78