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Jeff Flenniken  
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Dear Jeff:

I hope the following comments are what you desire in sponsoring a Doctoral thesis on an obsidian blade research program.

A research program into the manufacturing and use of Mesoamerican blades is of great importance to the field of archaeology and medical research. The replication of Mesoamerican cores and blades has long been a pet project of mine, and continued research has great promise of much information in the development of lithic industries in the New World. The cores and blades have many distinctive diagnostic traits that indicate different technologies which makes them most useful in tracing man's activities in time and space. Information in replicating both core and blade is sorely lacking on a sequential process from raw material to finished product. In the medical field there is no present day surgical cutting tool that approaches the keenness of edge as does the acute edge of a properly made obsidian blade. There is at this time no method by which a metal tool can be ground, honed, or otherwise formed into an acute edge comparable to the edge of obsidian by at least ten thousand times.

All of the students of lithic technology who have experienced working obsidian are aware of the sharpness of a freshly struck or detached flake or blade. They have conducted unintentional experiments in bloodletting and sometimes are not even aware that they have cut themselves until they see blood. Because of the sharpness of the acute edges the wound heals very rapidly, and because of the sharpness of the blade the cells making up the tissue are severed and the knitting of the wound takes place very fast.

I will describe an intentional experiment which involved my surgeon, Doctor Bruce Buck, Twin Falls, Idaho, in performing open-chest surgery for removal of a right lung section. The incision was approximately 18" (45cm) reaching from just below the left pectoral muscle on the chest around the right side to the left side of the scapula. For control, the surgeon made a slight cut at the termination of the obsidian cut and the balance of the incision was

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done with a surgical knife. Unfortunately, I didn't keep record of the dates of the actual healing time and the disappearance of the scar. The obsidian cut from the right breast to the ribs on the underside of the right arm has all but disappeared. The sutures are more obvious than the actual incision. My surgeon was impressed by the sharpness of the blade used in the operation. The lack of scar is due not only to the sharpness of the blade, but also the skill of the surgeon. Fortunately, Doctor Buck was a former professor in thoracic surgery at the University of Oregon at Eugene. It was my good fortune that he had a personal interest in performing this experiment, and particularly after he had seen photographs taken by Doctor Anderson Pace, a reknown industrial scientist.

For control, a Platinum Plus razor blade was used to compare the sharpness between the Platinum Plus blade and the edge of an obsidian blade. There were two sets of photographs taken using an electron microscope. At 750 diameters the Platinum blade appeared to be rounded and dull and at 10,000 diameters the Platinum Plus blade appeared irregular and flat with no evidence of cutting qualities while the obsidian blade was still sharp and could have had higher magnification showing that it was probably ten thousand times sharper than the Platinum Plus razor blade.

Since this operation, others in the medical profession have expressed interest in using obsidian blades for both eye surgery and cosmetic surgery. Other experiments are now taking place and are being sponsored by Doctor Jeffrey Flenniken, Washington State University, Director of the Laboratory of Primitive Technology. It is through him that additional research can be done on Mesoamerican cores and blades to further our knowledge in both archaeological and medical research.

Any consideration in this project should be most rewarding to science in general.

Don

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P.S. Enclosed are photographs.

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