

Route 1
Kimberly, Idaho 83341
June 17, 1967

Mrs. Wallace D. MacKenzie
1140 Oakley Avenue
Winnetka, Illinois 60093

Dear Mrs. MacKenzie:

Thank you for taking the time to drop me a note regarding the stone knives - or Aztec razors. And thanks to Miss. Anderson for her interest in these implements and for telling you about them.

I will have a paper in print soon which explains in detail the Polyhedral cores from the Valley of Mexico and their prismatic blades. We have a few photos to finish before final publication which will be in "American Antiquity" magazine and "Tebiwa", the Museum publication of Idaho State University. Printing will be in about a month and I will be pleased, at that time, to send you a copy.

It is most exciting to realize that many thousands of years ago the aboriginals were able to produce such superior cutting implements which they used for many cutting tasks including surgery. At Monte Alban in Oaxaca I have seen evidence of their having been used for caesarian surgery and history also gives evidence of their use in trephining. It has taken me many years of experimenting to replicate these fine blades but I am now able to produce them as large as six inches in length. They are made of obsidian (volcanic glass) and their very sharp edge is due to the calculated fracture of the material to leave an edge which terminates to the last molecule. Our present methods of honing and lapping do not produce an edge of equal sharpness and - as I am sure your husband is aware - manufactured glass knives only give about an eighth of an inch of good cutting surface. These blades can be produced up to seven inches in length with both sides of the blade having a cutting surface keener than any razor.

The staff of the Medical School at the University of Alberta in Edmonton have found that a broken piece of glass is more satisfactory than diamond, sapphire, tungsten carbide or the finest steel for slicing one-celled organisms. This is because the sharpening always causes slight striations on the edge. However, they were only able to get an eighth of an inch of good cutting surface with glass and they were delighted with the obsidian blades.

Because of the extreme sharpness of these obsidian blades they may be useful in certain types of surgery such as plastic surgery, eye surgery or for amputations. Their extreme sharpness severs the cells with none or a bare minimum of damage to the tissue. Therefore healing is very rapid and is accomplished without scar. I have cut my hands literally thousands of times during the last thirty years of experimenting but I bear no scars and have found that healing occurs in a matter of hours. For this reason, it is possible that patients - such as amputees - could be made ambulatory much sooner and lessen the danger of blood clots.

I will send a few specimens for your inspection. However special care must be given the edges of the blades for any contact with brittle material will result in a dulled edge. I shall look forward to your husband's reaction.

Sincerely

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