

# UNIVERSITY OF HAWAII

Department of Anthropology

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Dear Don,

Many thanks for your letter of May 30 and for taking the time to read and comment upon the Hayden-Kamminga critique. I appreciate your comments very much, not only because they will help us if we need to make a reply to this critique but also because they have given us some useful pointers for further experiments.

I hope to be in northern California through the month of August, and I think it would be a gas if we could get together up there sometime then. I will be working in Del Norte County, in the vicinity of Crescent City and Smith River, and I can tell you from past experience that this is a marvellous place to be at that time of year. There are several large public camping areas (ideal for your new camper) at places like the Jedediah Smith Redwoods State Park in the area, and, in case those are crowded, I know of some smaller, out-of-the-way spots that might be good, too. As you may know, I think the first Indians to settle in this region (around 300 BC.) came there initially to collect lithic material from the shores of Point St. George (it's still a mecca for rock-hounds, even though it's been pretty well picked over by now - it has good agate) and later settled down to live there and hunt sea-mammals. I am enclosing a little reprint which sort of sets the stage for the work I want to do there this summer (mostly survey and testing, with some C-14 collecting). I'd love to show you and Evelyn around, and I think you would both enjoy the place very much. I will write to you again as soon as I know more details about this.

Opal seems to have been in fairly wide use in the Australian desert in pre-historic times. We recovered quite a lot from the Puntutjarpa excavations, and that included several adzes and adze-slugs. These must have been very inefficient as tools for scraping hard wood, since, as you point out, they do not hold an edge well at all and tend to be affected by friction-heat. We did a series of use-wear experiments at the AMNH with opal flakes I brought back and compared the results with other raw materials (white chert, red chert, Warburton porphyry, quartzite). The opal was clearly the poorest material for scraping hard wood of all of these (only about 70-80 useful strokes of hard woodworking on a single adze-flake as compared to 1200-2450 for white chert and 675-900 for Warburton porphyry -- even the softer quartzites were good for 200-400 useful strokes). For these experiments we used the same big piece of Australian mulga wood (Acacia aneura) -- the same wood the Aborigines favor (I sent you a few pieces a couple of years ago) -- it started out about the size of a baseball bat and got worn down like a toothpick toward the end of our experiments! But the opal is fine for cutting tasks and was readily available in many parts of the Western Desert, including a creekbed near Puntutjarpa. The microscopic studies we did of the opal adzes showed no striae or gloss of any kind - only more of those small terminated flakes we have seen before. Several of these adzes, however, were soft and crumbly (maybe they got that way after they were used -- some show heat-crazing) and could not be studied effectively.

Best wishes to Evelyn. I'll write more anon about this summer.

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Cheers,

Dick

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