

1968, March 4.

Mr. C. P. Butler,  
738 Sequoia Ave.,  
San Mateo, Calif. 94403

Dear Mr. Butler:

I am still trying on Haidinger's brush but can report no real progress. Yesterday I did get my garden globe temporarily mounted and we had a late clear afternoon, but I didn't see anything of what Minnaert describes. He says there is (in the globe) a region around the observer's head, when he blocks out the sun, where the brush runs at right angles to the sunward line, and then a darkish line separating this region from the rest of the sky where the brush will appear normally, pointing towards the sun. I just can't see any of that, only a big blotch of more or less polarized light (darker reflection) roughly extending across the sky at right angles to the sunward line.

Your experiment with a strongly lit piece of white paper also foils me, both theoretically and actually. Would any light from any piece of paper at any angle be polarized merely by being reflected? I tried to be realistic about the angular size to be expected, as you warned; I have had a great deal of experience with angular estimates in the sky, and think I can do this reasonably well for nearby objects, but again I failed miserably. I had trouble on this angular proposition on the garden globe also.

You speak of the black sides of the brush as compared to the bright sides when using the filter you supplied, but I never thought of the brush as having black or bright sides—only as being a yellowish streak. I've never seen any hint of the offsetting blue dots or areas. I have presumed I am to hold the slide so that the marks are in a sunward line.

Any further comments on what you think I am doing wrong would be appreciated. My black mirror and my Polaroid glasses don't seem ever to help detect anything, and I have tried them at various times and angles.

Sincerely,