



The Rensselaer  
Color  
Measurement  
Laboratory

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Mr. Rolf G. Kuehni  
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Deae Rolf:

This time I will reply to your letter (of June 30) regarding color-difference studies before it gets lost!

I think we both feel the same way about the threshold vs. larger color difference problem, but both have a hard time expressing our feelings of uneasiness. I'm not sure I fully understand the diagram you drew, but it does contain the kind of a discontinuity I had in mind. Certainly the available evidence points to some change of this sort. Whether or not it is associated with a change in the mechanism of color-difference perception is probably not of great concern at the moment. The major problem is how to explore it.

Here, I think Ruth and I are not yet clear on what you had in mind. Her method certainly won't work much beyond the 2 jnd ellipse; 3 jnd corresponds to 99.9% (more or less) certainty of the difference being perceived. To go beyond this requires a different technique, as I think is implied by your suggested use of anchors. The problem is to find one technique which works both below and above the critical region so there can be no confusion about what happens if the technique changes.

It seems to me that we might now benefit from a few quiet hours of face-to-face discussion of the possibilities. Ruth is somewhat limited on traveling these days, but we would be most pleased if you could come to Troy for a day's intense consideration of this problem. Both our schedules are pretty free and flexible through August.

I fully agree that once we get a feel for what should be done, a proposal could be made to the CIE. This should probably come through USTC-1.3 rather than USNC as a whole, for I'm sure the Executive Committee of USNC would just refer it back to the Technical Committee. But that can be planned in due time when we have something to say.

Ruth and I look forward to hearing from you and hope it will be possible for you to accept our invitation.

Sincerely yours,

Fred W. Billmeyer, Jr.

FWB/li  
cc: R. Rich