Report of the Color Committee

By H. P. TREVITHICK, *Chairman*

THIS year the Color Committee has no definite recommendations to make, but can report progress. In October 1924, Mr. Bailey sent to Washington a set of Color Glasses to be standardized by the Bureau of Standards. Although we did not expect that it would take more than a year, at the last meeting of the Society in 1926 there were no indications of when the glasses would be received; nor even indications that they were being standardized. Mr. Putland was delegated to see if he could get any action. A meeting was arranged in December at the Bureau of Standards, at which Mr. Putland, Dr. Wesson and your Chairman were to be present; but due to illness in his family, Mr. Priest postponed the meeting. However, Dr. Wesson was in Washington and went out to the Bureau. Later Mr. Putland and the Chairman went to Washington, and spent a day at the Bureau, discussing the matter with Mr. Priest. At that time it was thought that the glasses would be finished in a few weeks. Now the Bureau promises them in May. In any case, it seems that we will have them before the next season begins.

Mr. Morrison of Procter & Gamble has available a considerable number of color instruments, and has made an investigation as to the best method of using these standard glasses after they have been received. He has not reported fully as yet, but believes that the usual tintometer with the split-field eye piece is as good a method of comparing glasses as any.

The Bureau of Chemistry of the Exchange has a 7.6 Red glass which was purchased from Eimer & Amend about 1912 by Charles O. Lowe. In purchasing this glass, Mr. Lowe obtained the complete stock which Eimer & Amend had at the time, some twenty or thirty glasses, and after discarding all

H. P. Trevithick

that were obviously out of line he picked two or three that agreed and were as near the center of the lot as possible. One of these glasses was standardized by the Bureau of Standards about six years ago, and found to be 7.63 Red. This glass has been in almost constant use ever since purchased, and no particular care has been given to it. At Mr. Priest's request, this glass was submitted to the Bureau of Standards again in February and tested. The de-

tails of the analysis are as follows:

The Bureau's 7.6R glass (B. S. 9940) has been very carefully compared with a glass submitted by Mr. Trevithick of the New York Produce Exchange. This comparison has included:

(1) An accurate determination of the spectral transmission of each glass.

(2) A direct comparison of the glasses, each in combination with 35Y, in the Martens photometer comprising many observations by four different observers for the purpose of detecting any vanishingly small difference. It was found that when the brightness was matched, there was no certain difference in either hue or saturation.

(3) An attempt to determine experimentally any small difference in dominant wave length between these glasses when each is combined with 35Y. This proved to be too small to determine by direct observation of dominant wave lengths. The mean of 40 separate measurements by 3 different observers was found to be 0.025 millimicrons which is really less than the uncertainty of measurement.

(4) The values of dominant wave length, purity, and sunlight transmission, on the O. S. A. Colorimetry Committee basis have been computed from the data on special transmission for each of these glasses in combination with a 35-yellow glass. The computed dominant wave lengths differ by 0.02 $\mu\mu$. but the difference is contrary to that found by observation (under 3 above). The dominant wave lengths, therefore, may be considered sensibly equal. The computed purities are 0.954 and 0.953; and may be taken as sensibly equal. The computed transmissions differ by 2.2 per cent, that for the Produce Exchange glass being the less. This ratio of transmissions has since been determined directly (March 4th) on the Martens photometer and the difference found to be 2.8 per cent. It may be concluded that the transmission of the Produce Exchange glass in combination with 35y is 2.5 per cent less than the transmission of B. S. 9940 in combination with the same 35y.

The most interesting part of this test to us is that it seems to show that this particular glass at least has not changed materially since it was purchased about 15 years ago, and that therefore it seems a fair conclusion that the Lovibond glasses are pretty permanent.

The only recommendation that the Committee can make is that the Society decide definitely where the standard set is to be deposited and the charges to be made to members and non-members of the Society for standardizing the glasses.

Due to the unsatisfactory glasses which we have obtained from Lovibond, Mr. Morrison has been investigating the possibilities of having them made in this country, and he will probably report on that direct to the Society.

Mr. Priest has done a tremendous amount of work on the Lovibond glasses and on color in general and has devised new instruments and modified others to be used in this work. The Society owes him a vote of thanks for his work, as well as the gratitude of every member.

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