COMMITTEE REPORTS

COLOR COMMITTEE REPORT*

The producing organizations working on color motion picture processes in the United States may be grouped conveniently into two classes, according as their process is of the additive or subtractive type. In the additive method, the image to be projected is an original black and white image, the color being obtained by interposing the proper color filters in the light beam during projection. Kodacolor (16 mm.) and its "parent," the Kellor-Dorian method, are representative additive processes.

In the subtractive method, which has enjoyed considerable favor for several years, the original positive silver images are converted wholly or in part to colored images composed of inorganic salts or dyes, so that the final picture may be projected under normal conditions on a standard projector. Typical examples of the subtractive process are: Technicolor, Multicolor, Sennettcolor, Colorcraft, Photocolor, Brewster Color, and Kodachrome.

It is not certain that any of the systems mentioned meet the desires of the producers. Lower print costs are the immediate requirement. Ability to make prompt deliveries is the second important requirement. Producers also resent the presence of strange cameramen on the lots, and the wait for "rushes." Nothing will satisfy the producer other than to make his own picture in his own way, on his own lot, with his own men and equipment. This applies to the Class A producers, while the independent will always welcome the independent color print maker.

The question as to how much the theaters will stand for in making changes of or addition to projectors in order to accommodate the "additive processes" is a pertinent question for the Committee to investigate. The trend in color picture projection appears to be toward additive systems,** which require some changes in the projectors. Additive color prints are usually in black and white, making

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** Some members of the Committee do not agree with this statement.

the rental cost of prints nearly equal to what exhibitors are accustomed to pay.

It is not believed, however, that color pictures will ever be produced and released at the same cost as a similar subject in black and white. That this is so follows from the fact that by whatever color process pictures are produced on the screen, there must be present, in the observer's mind, pictures that are made up of two or three separate components, *each photographed individually by light of different colors and each group of two or three representing only a single frame in black and white.* Such a multiplication of images must be more expensive at some part of the process, whether it be in studio technic, negative or positive materials, in projection, or in all four.

The definite trend toward the additive processes seems to be a step in the right direction, since it appears to be directed toward the type of process that will give the best *color*, and so be the most likely to make colored pictures a necessity to the theater manager. It brings with it, however, the problem of somehow increasing the amount of light available for projection, since all pictures using the additive process in projection must *of necessity* use as many times more light as there are picture units and as much more as is required by the fact that the colors employed do not transmit 100 per cent of the light of the wavelengths used. That this brings up a rather serious problem for large theaters goes without saying. If it can be solved, however, the way appears to lie open for better color than has ever before been shown in production, and at a relatively low cost.

It might be added that there has been an equally definite trend toward the belief that the public will be won only by a process using three fundamental colors, rather than the two now available by commercial methods. The Kodacolor film has already been commercially released by Eastman Kodak as 16 mm. and it is understood that it is being constantly improved. Technicolor, Brewster Color, and others are also examples of concerns working to this end. The last two concerns are reported to be working on subtractive methods. Any three-color subtractive methods as yet available have appeared to be rather costly as regards sensitive materials and equipment necessary. If these items could be cut down, it is quite possible that a subtractive method having nearly, if not equally, as good color as any additive one, would be the most satisfactory, since no changes of importance in the projectors would be necessary.

In any case, those who have been fortunate enough, in the privacy

of their laboratories, to see how beautiful the most ordinary sets can be made by the use of color photography will never give up the belief that, in the not too distant future, a process will be developed that will make the movies so attractive that, if people will not pay more, at least more people will pay as much to be entertained by them.

NEW COLOR PROCESSES

Vocolor.—This process uses color wheel projection which draws down one picture at a time, but which by optical means shows two pictures superimposed on the projection screen. Black-and-white films may be shown on the same projector without affecting the sound, as the speed of the film through the projector is standard.

The negatives are made in the usual Kinemacolor manner, one exposure at a time, and fringing is noticed.

Colorfilm.—This method uses double-coated film for the positives. The film is first printed and developed in the usual way. Both sides are toned red with uranium. All treatments so far are done by immersion. The side that is to be blue-green is then passed over wicks that feed a solution of iron and acid to one side of the film, converting the red tone to blue (U. S. Patent No. 1,633,652).

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