MILEY'S PROCESS OF COLOR PHOTOGRAPHY.

FOR two years or so Mr. Miley, a photographer of Lexington, Va., has been using a process of color photography which seems to present distinct advantages over any process heretofore devised, and which promises to make color photography a complete success. Mr. Miley is a skilled photographer, and has spent much of his time in experimentation, often with no little success. His process of color photography is the outcome of some of these experiments, and can not be considered as a development of any of the other processes in use, none of which has such practical possibilities. Mr. Miley has made and sold many of these color photographs during the past two years, while he has, at the same time, been experimenting to improve the process. It is only recently that he has been prevailed upon to take out patents. A paper on Mr. Miley's work was read before the Chemical Section at the recent meeting of the American Association in Washington by Professor W. G. Brown, and specimens of the work in its various stages were exhibited, and I am permitted to give a description of his process to the readers of SCIENCE.

Negatives are prepared by the tri-color process, using three sensitized plates and three screens, red, green and violet, respectively. For the red screen an orthochromatic plate, flowed with a cyanin solution, is used; for the green screen an orthochromatic plate, and for the violet screen a plain gelatine bromid plate. There are thus obtained three negatives, varying in density in the different areas according to the color values of the three primary colors in the corresponding areas of the object taken.

Prints are made from these negatives by the use of bichromatized gelatine pigment paper (carbon tissue). The pigment papers used are red, yellow and blue. The blue paper is printed from the red screen negative, the red paper from the green screen negative, and the yellow paper from the violet screen negative. These three printed films are then superposed upon transfer paper, the result being a color photograph, imitating the colors of the object with a marvelous degree of fidelity. This process has been used to copy oil paintings, which will probably in the future be its greatest value, as well as to reproduce flowers and fruit in their natural colors. To obtain most accurate results great care and much experience are necessary. In Mr. Miley's hands the process seems exceedingly simple. The points along which experience is most necessary, and along which also improvements may be made, seem to be the following: choice of screens so as to give the full color value of the object; corresponding choice of pigment papers to match the effects of the screens; choice in time of exposure through the different screens, so as to attain the true color value of the object; density of printing films; order of superposition of films.

While great improvements will be made in the future, the process itself can no longer be considered in its experimental stage, as it has now been in commercial use for upwards of two years. It constitutes one of the greatest advances in the history of photography.

JAS. LEWIS HOWE.

CURRENT NOTES ON PHYSIOGRAPHY.

PHYSIOGRAPHIC DIVISIONS OF KANSAS.

AN essay by G. I. Adams under the above title indicates the salient characteristics of several natural areas, and illustrates their boundaries on a map (*Bull. Amer. Geogr. Soc.*, XXXIV., 1902, 89–104). One here finds good illustration of the value and aid of physiographic explanation as a means of geographic description; the reason for this being that the relief of the state is on the whole moderate, and the elements of form hardly pass beyond the range of plain, hill, escarpment and valley, so that empirical description is baffling and confusing. The divisions proposed are all based on structure as modified by erosion and deposition. Cherokee lowland, a subsequent lowland twenty-five miles wide, crossing the southeastern corner of the state from Missouri to Oklahoma, is generally worn down to low relief on a belt of weak coal measures, but preserves occasional sandstone mounds on the divides; its streams flow in wide, flat-bottomed valleys bordered by low gentle slopes, the whole area