ANNUAL MEETING

The recent annual meetings in New York City were quite successful. At least 150 persons, delegates and members of the Council, registered or were present at one or more of the meetings. Many were present for the OSA color session at the Pennsylvania Hotel on Saturday at which there were several good papers, including an opening one by Frank J. Reilly and a closing one prepared by our Chairman, Ralph M. Evans, but delivered in his absence by Carl Overhage of the Kodak Color Control staff.

On Sunday the Color Blindness subcommittee met in the morning, the Executive Committee in the evening. On Monday, problem-committee reports presented at the Discussion Session proved of very considerable interest to a full house. It looks as if this sort of Discussion Session might well be a pattern for similar sessions in the future, since it gives the entire membership an opportunity to see where the committees are heading, and to take part in discussion of the various problems.

The Business Session was made extremely brief in order that the group might adjourn to the studios of the Columbia Broadcasting Company where Dr. Peter Goldmark had been generous enough to arrange for a special color-television broadcast for the group. Because the number who could be accommodated was limited, no announcement was made until the end of the Business Session. Those present then moved to the CBS building for a five o'clock demonstration. All were interested and most appreciative. (See News Letter No. 68 for an item on color television. The CBS petition then pending regarding standards for color television was turned down by the Federal Communications Commission on March 18. Copies of the Color Television Decision may be obtained from the F.C.C., Washington 25, D. C.) An annual report, containing reports submitted in writing at the annual Business Session will be distributed to delegates and members as usual.

The Popular Session, arranged by the New York Colorists, Elizabeth Burris-Meyer and Dean Farnsworth, Co-chairmen, was held at the Commodore Hotel. With M. Rea Paul as interlocutor, and a panel of specialists to answer questions in a What Do You Know About Color program, an interesting evening was assured. The audience participated very actively in the discussions; and the usual dry wit of Dr. Judd, one of the experts, combined with his precise answers to enliven the proceedings. Besides
Deane B. Judd, physicist, the panel was made up of H. E. D'Andrade, lighting expert; Forrest L. Dimnick, psychologist; and I. H. Godlove, chemist. It was a lot of fun, with serious as well as humorous items sprinkled all through the program. A separate article in this issue by I.H.G. refers particularly to this session and to the color thoughts developed there.

On Tuesday, a Technical Session on Color was held with the Technical Association of the Pulp and Paper Industry (TAPPI). These meetings were well attended, and reports will be published as soon as all the papers are available. Altogether, this Sixteenth Annual Meeting was one of interest and enthusiasm. We missed having with us the Chairman, who was ill; had he been able to be there we could without question say that this was the best meeting so far held by the I-S.C.C.

ISCC COLOR MEETINGS
IN APRIL
A program of the color sessions of the American Ceramic Society meetings in Atlantic City, April 21-25, 1947, together with an invitation for Council members to meet for an Open House at the Medical Research Laboratories at New London, April 25-26, will be mailed to members as soon as possible. This note will advise of general plans, so that the dates may be kept free for all who can plan to be at either or both meetings.

On Tuesday, April 22 at 10:00 A.M., Dr. I. A. Balinkin will give a color lecture and demonstration before the General Session of the American Ceramic Society. On Thursday, April 24, there will be an all-day session on color with the Design Section, arranged by ISCC cooperation. Dr. Balinkin was appointed by the ISCC Executive Committee, of which he is a member, to be chairman of a Program Committee to work with other members of the American Ceramic Society delegation, of which Richard Hunter is the chairman.

At the New London Submarine Base meeting on Friday and Saturday, April 25 and 26, there will be a display of the color- and vision-work of the Medical Research Laboratories; committee meetings will be held, and there will be a display of as much of the outstanding and recent color work as it is possible to get together at this time. Anyone having anything of new or unusual color interest is asked to bring it along for demonstration. Details later.

COLORISTS OF WASHINGTON AND BALTIMORE
The fourth meeting of the fourteenth season of the Washington and Baltimore Colorists was held at 7:45 P.M. on Monday evening, March 24, at Y.W.C.A. Cafeteria, 614 E Street, N. W., Washington, following dinner at 6:30. The bill for the evening was twofold, dealing with two aspects of Natural and Artificial Camouflage. Dr. Herbert Friedmann, Curator of Birds at the United States National Museum, told about natural camouflage, which was a basis for all the work carried out during the war. Natural camouflage, with so little known about the color discrimination of animals and birds, can be said to depend greatly on "ruptive markings and counter shading." Illustrative slides were shown.

The second half of the subject, Artificial Camouflage, was presented by Captain Charles Bittinger, Senior Officer in charge of Camouflage of the Navy Department. The art and science of wartime camouflage is to make an object like a ship blend into the background and thereby hard to see and hit. Good camouflage on ships should confuse not only the shape but also the range, course and speed. In land camouflage, the building or installation must be made to blend into the surroundings so it is not "seen" or to make it look very innocent like a small house. Captain
Bittinger showed slides illustrating these various phenomena in color. Following the talks, he showed colored movies which he took of the atom bomb blasts at Bikini last summer.

NEW MEMBERS ELECTED

The following new individual members were elected at a meeting of the Executive Committee on February 23. We are glad to welcome them to membership in the Council.

Circle-Bar Knitting Co., Ltd., S. C. Mitchell, Kincardine, Ontario, interested in pleasing color combinations for hosiery and proper combinations of colors for marketing;

Maryetta Charlton, Brooklyn, N. Y., interested in color in everyday living; has taught the Ostwald color system at Pratt Institute to children's classes Saturday mornings;

Harriet W. Foster, Bronxville, New York, interested in color blindness and problems concerning the psychological effects of colors; published "A Comparative Study of Three Tests for Color Vision," J. Appl. Psychol. 30, 135-43 (1946);

Henry A. Imus, Psychophysics Section, Medical Sciences Branch, Navy Department, Washington, D. C., interested in color work, particularly in basic research in color vision;

Dorothea A. Jameson, Laboratory of Industrial Physiology, Graduate School of Business Administration, Harvard University, interested in problems of color vision and color photography;

Reginald S. McLatchy, The Nuffield Laboratory of Ophthalmology, Oxford, England, interested in color-vision testing (and a member of the Colour Group of the Physical Society);

Marion Pugh, recently at Eastman Kodak, now working with Dr. Elsie Murray at Cornell University, interested in problems of color limens, color-vision testing, color blindness and memory-color;

M. Catherine Rittler, Institute of Ophthalmology of Presbyterian Hospital, New York, interested in tests for color defective vision and for color aptitude;

Walter A. Taylor, American Institute of Architects, Department of Education and Research, Washington, D. C., interested particularly in color specification, color in relation to space and area, and color education for architects (students and practitioners).

PHILATELIC CENTENARY COLOR EXHIBIT

The following report was made to the last meeting of the ISCC Executive Committee by Mr. William H. Beck in regard to the color display of the Centenary International Philatelic Exhibition, at Grand Central Palace, New York City, May 17th to 25th. The object of the color display is the general education of stamp collectors, dealers and the public in the science of color as it has been applied to postage stamps. The exhibit will be housed in a room approximately 80 feet by 42 feet, constructed for the purpose. It is equipped with necessary lighting and outlets for displays requiring their use.
The exhibition has been arranged to show the various phases of the science of color, beginning with the light sources used under which are viewed stamps mounted on album pages. Then there are shown the usual color-change effects of metameric colors under different illuminants, followed by a display of the transparent pages from "The Human Eye," a Bausch and Lomb publication; then various types of color-vision tests, such as those for color blindness, visual discriminations and deficiency tests, as well as small-color-difference determinations of visual differences as found in postage stamps.

There will be demonstrative displays of the Munsell, Ostwald and Textile Color Card Association systems and collections and the ISCC-NBS system of color names as applied to stamps. There will also be displays of the Ridgway system for stamp collectors; and German, English and French systems which have been applied to stamps. Examples of the mounting of stamps on backgrounds of the colors complimentary to those of the stamps will be followed by displays of the effects of film thickness in relation to the color differences produced in stamps.

Instruments for determining color differences of two stamps will be demonstrated. The use of the Hardy-General Electric spectrophotometer for measurement and specification will be shown along with tristimulus colorimeters for color specification. Also the effect of "Black" or ultraviolet light on stamps with suggestions as to measurement of relative fluorescence of any two stamps; and the effect of polarized light on stamps and what it means when viewing stamps under polarized light. The pigments used in printing stamps will be shown along with their relation to the finished product; also analyses of stamps by the use of the electron microscope. Various phases of color science as they have been applied to stamps by Mr. Beck (hereinafter called "The Exhibitor") will be shown.

Opposite the main entrance to the room there will be displayed a diagram taken from the Optical Society of America's colorimetry report, illustrating the "Concept of Color." This diagram will be approximately 11 feet by 17 feet, properly illuminated; and in the foreground will be a revolving "color tree" of the three-dimensional Munsell type. There will be a lantern-slide projector to show various phases of the exhibits, color systems, etc.; and a moving-picture projector for showing the film on color measurement by means of the Hardy spectrophotometer as developed by General Electric Company and the Research Laboratory of Eastman Kodak Company. There will be books from various companies publishing on the subject of color, as well as books from the library of the Exhibitor. Pamphlets and papers on color will also be made available.

The object of introducing the Inter-Society Color Council into the exhibition is to show that the science of color as applied to postage stamps is not the work of a particular individual actively interested but the result of the combined effort of many minds over the past two or three decades, this work resulting in the development and coordination of the various arts and sciences into an orderly method for the evaluation of stamp colors.

There will be a lecture hall constructed adjacent to the color exhibit and the following members of the Inter-Society Color Council are scheduled to read papers of an elementary nature on the science of color for the public.

Dr. Deane B. Judd, Introduction to Color, Tuesday 2-3 P.M.
Dr. I. H. Godlove, Color for the Layman, Tuesday 3-4 P.M.
Dr. H. Nelson, Visibility of Colors of Stamps with Change of Illuminant, Tuesday 4-5 P.M.
Miss Dorothy Nickerson, Color and Its Description, Tuesday 5-6 P.M.
Dr. F. L. Dimmick, Color Aptitude Tests, Friday 3:30-4:30 P.M.
Dr. E. I. Stearns, Pigments and their Use in Printing Stamps, Friday 4:30-5:30 P.M.

The arrangement of the lecture hall is under the direction of Mr. W. Boggs of the Philatelic Foundation, who has been in contact with the speakers. Within a short time the arrangements should be complete. It is expected that there will be a request made to the Exhibitor for a speaker on color for a national (NBC) broadcast some Saturday morning. Details are not definite as yet, but the Exhibitor has suggested the appointment of some one so that the broadcasting company can follow up at once with final arrangements.

Anyone reading this report who desires to cooperate by exhibiting or aiding in operations should get in touch with the Exhibitor, Mr. William H. Beck, 4502 Main-field Ave., Baltimore 14, Maryland.

COLOR GROUP OF THE PHYSICAL SOCIETY

The report on Defective Colour Vision in Industry, prepared by a special subcommittee, was discussed at a meeting of the Group on December 19. (Copies of this report may be obtained direct from the Physical Society, 1 Lowther Gardens, Prince Consort Road, London, S. W. 7, at 3s. 6d.) On Wednesday, January 29, a lecture on The Use of Colour in Factories was scheduled for delivery before the Group by Mr. H. D. Murray, well known worker in the color field. The abstract states that "The generalized problem is to relate the colour (especially in respect to lightness) of the immediate background of the material being fabricated to that, on the one hand, of the material itself and, on the other, to the colours of the more distant background (comprising the floors and walls of the factory and the bodies of any other machines within the field of view of the worker) in such a way as to enhance acuity of vision and to reduce visual fatigue."

COLOR HARMONY IN THE BIBLE

"There were white, green, and blue, hangings, fastened with cords of fine linen and purple to silver rings and pillars of marble; the beds were of gold and silver, upon a pavement of red, and blue, and white, and black, marble." ... The Book of Esther, 1, 6, describing the banquet hall of King Ahasuerus.

CONTEMPORARY COLOR GUIDE

We have recently received announcement of the publication of her most recent book by Elizabeth Burris-Meyer, Consulting Colorist, of Elizabeth Burris Associates, 220 Madison Avenue, New York 16, N. Y. According to the announcement, Contemporary Color Guide: How Controlled Color Contributes to Modern Living; Thirty Plates in Color, is a companion piece to the author's Historical Color Guide and, shows thirty pages of planned color schemes, as did its predecessor. The new schemes are not formulas for the decoration of the rooms we live in, but are a demonstration of how effective planned color may be. These are schemes for the rooms in which we pass most of our lives. The rooms of our houses and offices are naturally included, but in addition some of those other rooms in which we spend so much time, such as the physician's waiting room, the stairway, the reception room to a big corporation, the lounge of a ladies' club, the theater and the kitchen that is becoming a living room.

Our psychological responses to color under different conditions are responsible for the success or failure of the decor of a room. These fundamental psychological
responses to color have been used as a basis for the selections in the color plans in Contemporary Color Guide. Color combinations which soothe under trying conditions, relieve the strain of fatigue, give an illusion of space to small areas, warn of danger, create an air of gracious living or warm hospitality have been used in this text. The schemes are planned to indicate the direction of the line of thought to be followed by anyone about to decorate an interior, design a decorative fabric, wallpaper or floor covering.

For example, a specimen plate in full color suggests a scheme for a theater lounge in a gay musical theater where the typical audience is pleasure bent. Theater lounges should be airy, provocative rooms in which people gather between the acts for conversation—to see and to be seen. Every theater has a personality of its own and a distinctive audience which should serve to some extent to indicate the color range for its lobby and lounge. Esoteric nuances of greys will suit certain theaters and their audiences, while they could be too precious and impersonal for others. The gay one of the specimen plate has the walls and carpet of bright red (Munsell 5 R 4/14), drapery gray glass cloth (N 4/7), furniture dark and richly carved mahogany (RPR 3/4), upholstery in chartreuse (6 CY 7/8), yellow and green golds (3 Y 7/10 and 5 Y 9/12) and red gold (5 YR 6/12). Indirect cove lighting falls on a deep gray ceiling (N 4/7), and direct light is used in planned conservation areas established by the arrangement of the furniture. Such a setting is a good foil for the audience emotionally, and as a background to the blacks and whites and sharp colors of evening dress. Since a variety of surface textures is essential to the success of a room scheme, an accompanying text suggests the materials which might be used to carry out each specific color scheme.

The background and achievements of Mrs. Burris-Meyer, long a Council member and very active in the New York Color Associates, has too well known to most of our readers to require repetition here. They assure the reader, however, of an authoritative work well able to round out the author's list of published works. Publication is by William Helburn, Inc., 15 East 55th Street, New York 22, N. Y.; price, ten dollars (pre-publication price, nine dollars).

**TCCA ACTIVITIES**

The Textile Color Card Association of the U.S., Inc., has been unusually active in recent months; and we have received bulletins of their work which would in themselves make quite a report.

Several reports were received late in January just too late for inclusion in the January News Letter; now, two months later, they are a little out of season. For this reason and because of the press for space by other matter, we shall be forced to sketch rather briefly the important activities of the TCCA.

First, and now somewhat late, we must mention the five new colors of the Confidential Advance Hosiery Card for Spring 1947. According to Margaret Hayden Rorke, managing director, three of these were created specifically for nylon and two for silk and rayon; the former group includes Sun Shadow, a softened beige, Tropic Blush, a "sunburn" type, and Brown Magic, while the latter group includes Spring Beige and Charmtan, the latter a smart versatile shade for general town wear. Bulletins issued by the Association to its members offer a coordination guide indicating the close tie-up of the five new hosiery shades with the costume and show colors highlighted in spring and summer fashions for town, country, travel and resort wear. Unfortunately, we do not have the space to reproduce these valuable data here.

Other bulletins covered the Men's and the Woman's Shoe and Leather Colors for Fall
1947. Ten men's and eleven women's colors were adopted by the Tanners' Council of America, the National Shoe Manufacturers Association and the National Shoe Retailers Association in cooperation with the Textile Color Card Association. Of the men's colors, four repeated colors, Boulevard Brown, Brandy Tan, Indian Tan and Tawny Tan and also Black were adopted for street and general wear. Chosen for heavy rugged types were the repeated colors, Ruddy Wine and Golden Harvest, Boulevard Brown in a grain version, a new golden tan and a new "natural" shade. The repeated color, Cabana Brown, is listed for casual type shoes. Of the women's colors, the "town group" comprises Glacé Chocolate, a rich new color of high fashion significance, and the repeated colors Town Brown, Gypsy Brown, Amber Brown, Cherry Red, Fiesta Wine and Black. In the "casual group" are the repeated colors Tropic Sand, Rancho Tan and Liberty Red, as well as two colors, Cocoa Tan and Country Grey, selected from the men's collection for Spring 1947.

The colors of the Confidential Advance Woolen Collection for Fall 1947 include first a group of cool misty pastels called Icetones, embracing Iced Peach, Vapor Blue, Snowy Pink, Mauve Glass, Frappé Lime, Golden Snow, Crystal Aqua and Frost White. These are especially interesting as a sophisticated color motif for dresses to complement darker fur coat shades. Keyed to a gayer mood are the clear glowing Winter Sun Colors, comprising California Citron, Florida Rose, Pacific Turquoise, Cuban Orange, Carib Gold, Atlantic Emerald, Indies Red and Mexican Sapphire. Cited among important basic color developments for fall are Bois de Rose, Mahogany, Burnt Brandy and Peach Tan, Glacé Chocolate in the brown gamme, the lighter Cream Taffy, and the more subdued Cloud Taupe and Florida Sand. In the high-fashion violine family are Oriental Amethyst, California Plum, Crushed Mulberry and Mauve Pink. Winter Wine and Frosty Rose are mellowed vintage tones. Much stress is placed on Victorian Green, other greens being Pinebud, Olivemoss and Linden Green. The continued style acceptance of greenish blues is reflected in the new variations, Blue River and Autumn Aqua. Completing the list are Ship's Blue, Southern Blue, Steel Grey and Pearlmist.

Somewhat similar groupings are found in the advance collection of 1947 Fall Rayon Colors. Here the group of Crystal Pastels, decidedly feminine in their appeal, comprise Glass Green, Rock Crystal, Quartz Pink, Crystallino Blue, Coralsheen, Yellow Lustre, Limpid Mauve and Aquaglant. These colors are of significance for evening and resort wear, blouses and lingerie. More radiant and festive in spirit are the brilliant Gala Hues, including Cocktail Lime, Glamour Rose, Gay Turquoise, Romance Gold, Magnetic Orchid, Dramatic Green, Dashing Red and Gala Blue. In the basic groups of tone on tones many new color trends are apparent. Among these are the Fragonard Rose and Gobelin Pink, inspired by rare French tapestries, Directoire Green, a bottle green, and the lighter Beauvais Green. Reminiscent of a past era are Attar of Roses and Henna Spice, while the violine range of the Mauve Decade are recalled by Wistaria Blue, Parma Iris, French Lavender and Regency Violet; and related colors are Paris Cyclamen and Riviera Orchid. As in the case of the wool colors, greenish blues still are favored, and here include Blue Teal and Aloha Aqua. Blues include Sunlit Blue and Melloblue, while the new colors of the "neutral" and gray range embrace Brown Cocoa, Champagne Gold, Frappé Mocha, Vanilla Blond, Ash Pearl and Taupe Haze. More vibrant in character are the glowing Roseflame and its darker complement, Sparkling Claret.

**REPORT ON SKIN LIGHTENING**

Just too late for review in the January News Letter, we received a Report of Studies on Nadinola Bleaching Cream by D. F. Nealon of the National Toilet Company, Paris, Tennessee; the report embraces a method of recording and measuring the skin lightening.
effects and a report on six group experiments, an analysis of consumer complaints, and a medical bibliography on uses of mercury in dermatology. The first report is one of twenty pages, including five figures and a number of tables of results with different groups of observers. Basically, the method of study was the measurement of the relative density of skin coloring by photographing the skin of subjects against a background of segments of gray colors running from black to white, these segments each having known Munsell value and reflectance, permitting interpolation. Illumination, shutter speed, focus, distance, exposure, etc., were all rigidly controlled and maintained uniform throughout the test. Photographs were made at the start, after two and four weeks, and at the end of a test. During the course of the work, certain changes in photographic procedure were made at the suggestion of Dr. H. Tuttle of Eastman Kodak Company and Drs. Judd and Hunter of the National Bureau of Standards.

It is interesting to note in the report that the whole range of human skin color, from the darkest negro to the fairest blonde, is included between 2 Munsell value steps. For this reason finer steps than a Munsell value step were desired; and a visual unit, called a "shade," such that 40 shades was equivalent to 2 Munsell value steps, was defined. In the range of reflectances from the highest (7.15 M. V.) to the lowest (5.80 M. V.)—reflecting white skin, there are 26.5 "shades," and one percent reflectance change corresponds to 1.75 shades.

Following the tabulation of each group of measurements there is a brief discussion; on page 16 there is a summary of all results that is followed by four pages of further discussion. Final conclusions were as follows: (1) There is considerable normal variation in the reflection of light from the human skin; (2) both sides of the face do not show identical pigmenitary changes, nor do they respond uniformly to treatment; (3) the shade of the skin does not automatically denote its normal oscillation nor its potentiality to pigment change; (4) treatment with Nadinola Bleaching Cream containing 3% Ammoniated Mercury showed definite lightening in tests made during winter months; (5) the results were more pronounced in winter than in summer months; (6) treatments during the summer months with Nadinola Bleaching Cream containing 1% Ammoniated Mercury also showed definite lightening of the skin, but less than with 3% of the compound. The data were insufficient to show whether the lower result was caused by the reduction in the Ammoniated Mercury or by excessive and uncontrollable pigmentation due to strong sunlight during the 1% experiment.

This drop in the amount of active ingredient, when it was discovered that more was being used than is necessary, is reflected in the interesting analysis of consumer complaints, running over the period 1927 to 1943. During this period, while sales were going up, the number of complaints dropped from one for each 5,736 packages sold in 1927 to one for each 50,896 packages sold in 1943.

SWISS COLOUR ATLAS From Mr. Walter Granville, well-known individual member and ASTM delegate, we have received a review of The Swiss Colour Atlas, the review being dated February 12, 1947. Mr. Granville's review is somewhat too long to give in full, so we have taken the liberty of abstracting the essential matter. The present edition is the 1946 "Edition Chronos," but the color charts are apparently the same as in the original edition as they are all marked "Schweizer Farbenatlas (1. Teil) 1945, von Dr. Aemilius Muller, Winterthur" (Switzerland.)

The Atlas is a spiral-bound book 14 1/4" x 13 3/8" consisting of two pages of
English text, five stencils, a moveable gray scale, and 33 color charts based on the Ostwald color system, the 24 Ostwald hues being claimed to be equally spaced visually. The hue circle is shown on the first chart. The next 24 charts show modification of each of the 24 full colors with white and black. The arrangement is similar to the Ostwald triangle, except that there are two additional "shadow series," making a total of 45 different colors in each triangle. With the ten steps in the gray scale, a total of 1090 different colors is presented. Each of the remaining eight charts shows a 24-step hue (isovalent) circle for eight different positions in the triangle. The chips in the triangular arrangements are 1 1/8" square. In the other charts they are shown as radial segments with an inner arc radius of 2 7/16" and an outer arc radius of 5 1/2". All are "hand-painted" matte surfaced papers mounted on white board. The arrangement is claimed to be superior to Ostwald's in showing additional colors in the orange and brown sectors which are important in fashion, in a spreading of the hues which are very close, especially in the blue-green sector, and in the feature that colors located opposite one another are "substantial (subtractive) complementary colors which are more familiar to the painter or dyer," the text stating "for further details, see 'ABC der Farben,' Zurich, 1943." The system of notation is not the conventional Ostwald one, but while it is given in detail by Mr. Granville, it will not be reproduced here.

In addition to the "isotone," "isotint," and "shadow" series of colors which Ostwald regards as important in developing color harmonies, the Swiss atlas suggests the following additional three series:

1. The "Fog series," the five members of which are found on a straight line from the full color to the middle member of the first shadow series, with other recommended series, lighter and darker, being parallel to this middle one;

2. the "light series," the middle one of which is found on a straight line from the middle member (Atlas color /41) of the dark-clear series to the lightest member (4/45) of the first shadow series; and

3. the "darkening series," the middle one of which is found on a straight line from the middle member (Atlas color /45) of the light-clear series to the darkest member (4/57) of the first shadow series. It is stated that "the light series represents perhaps the most beautiful, and because the richest in contrasts, the most comprehensive shade-equal colour, which will find ample possibilities of application."

Under three headings, Mr. Granville has given in detail a brief analysis of the system of color-order used in developing the Swiss Atlas. These headings are: (A) Constancy of hue in any one triangle; (B) Spacing of the colors in the hue circuit; and (C) appearance and technical excellence. Under "A," the text is interpreted to mean that the colors in any one triangle are the result of simple colorant mixture in which the modifications of the full color are made by taking a colorant matching the full color and diluting it with white and black pigment. Thus, no attempt was made to maintain the Ostwald concept of constant hue. Inspection shows that neither dominant wavelength nor hue in the Munsell sense was kept constant. Mr. Granville shows this by giving a table in which, for five Swiss Atlas hue numbers (e.g., /35) the ranges in corresponding dominant wavelengths (e.g., 469-486 mμ for /35), in Ostwald (Color Harmony Manual) steps (e.g., 13-17) and in Munsell hue steps (e.g., 6B - 7.5 PB) are given.

Under analysis "B," Mr. Granville finds that the claim of equal visual spacing for
the 24 full colors is not justified. This is clearly developed in a second table by comparison with the "pas's" of the Color Harmony Manual (Ostwald). For Swiss Atlas hue notation at each 2 1/2 steps (#30, 32 1/2, 35, etc.), the corresponding Manual steps are: 1, 2, 2.2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 12.3, 12.7, 13, 14, 15, 16, 20, 21, 22, 23, 24, 0.5, 1.5. While there is good agreement in the ranges corresponding to the Manual's steps 3 - 12, 13 - 16 and 20 - 24, there is crowding at 12 - 12.3 - 12.7 (the Atlas steps 27 1/2 - 32 1/2), and spreading out at 16 - 20 (the Atlas steps 42 1/2 - 45). The claimed spreading in the browns and oranges is seen to be due to the use of a different concept of hue than Ostwald's, in developing the triangles, and to the additional two shadow series in each triangle, rather than to an improved spacing of the hues.

Mr. Granville praises highly the appearance and technical excellence of the Atlas. Moreover, with some exception as noted, the hue spacing in the full color circle is quite good, and the orderliness of the spacing in any given triangle is very good. The departure from the Ostwald concept of hue causes many of the shadow series to exhibit considerable range in dominant wavelength, and for this reason part of the concept of the Ostwald shadow series is lost, and therefore no estimate of the constancy of colorimetric or excitation purity was made.

The cost of the Swiss Colour Atlas, Edition Chromos, published by Dr. Aemilius Muller, Winterthur, Switzerland, is $98.00 in the United States.

COLOR CONVERSION
CHART Through the courtesy of Mr. Walter Granville of Container Corporation of America, we have recently received a copy of the convenient Color Conversion Chart prepared by the Armour Chemical Division of Armour and Company, 1355 W. 31st Street, Chicago 9, Illinois. This is an interconversion chart for comparing the scales of several color systems used for specifying the colors of oils and related materials. It is stated that the data was developed from original work by the Armour Chemical Laboratory and by rechecking previously published data. The chart is designed to make possible a comparison of color "intensity" only between color systems "since color shade differences are too complicated to present in simple chart form."

Under 19 reference marks, A to S, are given the corresponding ratings of the following color specification systems: Lovibond 5 1/4" column, Lovibond 1 1/4" column, Natl. Pot. Assn. (N.P.A.), Fat Analysis Committee (F.A.C.), Union Colorimeter A.S.T.M., Gardner Standards 1933, Potassium Dichromate-Sulfuric Acid Grams K₂Cr₂O₇ per 100 ml. H₂SO₄, Gardner-Holdt Standards 1921, Hellige Varnish Comparator 1930, Hellige Stock-Doebert, Parlin or Cargille Standards, Pratt and Lambert Standards and DuPont Colorimeter. The scales are all shown in parallel horizontal lines on stiff cardboard, 3 1/2" by 11" in size.

DEFINITION OF ESTHETICS We recently received from Elsie Murray, our well-known psychologist member, a brief note calling attention to remarks of hers, written in 1930, of which she was reminded by our critique of Meier's book in the September, 1946, News Letter. The articles in question are in the American Journal of Psychology, 42, 640-44 (Oct. 1930) and 43, 290-92 (April 1931); the latter was a rejoinder to a reply by R. K. White and C. Landis to criticisms by Dr. Murray in the former article, which was entitled "Some Uses and Misuses of the Term 'Esthetic.'"

Lacking her pungent style, rising to its best in this field (esthetics), which Miss Murray states is her favorite subject, the Editor does not hope to review adequately her arguments. She does not so much attack White and Landis as the delineation of
the concept of esthetics which they imply or illustrate. The chief conclusion of these authors was that (in a restricted range) there is a tendency for familiarity to produce pleasure and for unfamiliarity to produce displeasure or dislike. White and Landis worked with silhouetted profiles; and "duped by the chance discovery of a correlation between deviation and dislike" they "exuberantly forecast the discovery of an 'optimal' human profile, to serve as an artistic standard of comparison" and heralded the wide application of their method to landscape and design, and a quantitative method of "esthetics."

Dr. Murray believes that here are implied two misconceptions. First, the identifying of esthetics with the science of criticism and of norms; and second, the confusion of esthetic appreciation with mere pleasurable feeling. Of the latter, she says "The healthy reviving zest for the grotesque, the tragic, the ugly, the uncanny, cuts clean across it." She points out that conformity to a standard instead of furthering esthetic appreciation often acts as an obstacle. "Yet, curiously enough, once the inertia of perception is discounted or overcome, it is departure from, rather than conformity to, the accepted norms of composition and design which is potent to evoke the most dynamic esthetic effect, and is the source of highest artistic power." For the rest of the argument, we suggest that you read Dr. Murray's criticism, the reply and the rejoinder.

COLOR TERMS IN PAINTERS' TITLES
In the Color Information Please program of the New York Color Associates and the ISCC at Hotel Commodore, New York, February 24, it fell to the lot of the Editor to answer questions concerning hue terms in the titles of famous paintings. Curiosity led him to see later how frequently hue or color terms are used in their titles by painters. It was thought this might throw some light on the question of the degree to which painters are color-conscious. The results of the survey were very surprising. Examining the titles of his collection of reproductions, totaling an estimated twelve to fifteen thousand, with possibly an average of nearly three words to the title, the Editor found the word "green" appearing only five times; and of these the "green" in Van Gogh's "The Green Corn" may refer to the growing or unripe aspect of the corn rather than to its hue. There is also, however, the "Ballet Girl in Green-Blue Holding a Red Fan" by Louis Kronberg, the modern rival of Degas. In answering the question, "Why are blackberries red when they are green?", the Editor touched on the above-mentioned origin of "green" (growing), which was dwelt on at length by W. D. Whitney's classical "The Life and Growth of Language" (Appleton, 1898), pp. 14-7, 83 and 138. Indeed, the identical question itself is found on page 86 of that book.

The first-mentioned question, successfully answered, was: Give the color name which completes the following phrases naming a famous painting:

Gainsborough's "The _______ Boy";
Whistler's "The Little _______ Girl";
Lawrence's "The _______ Boy."

The color terms correctly filling the blanks are, respectively: Blue, White and Red. It was mentioned at the quiz that there are two Lawrence Red Boys. These were Master Lambton and Master Annesley. It might also have been said that Whistler painted a second White Girl, not called "Little." But to give our readers the other results of the survey, we proceed to place after the following hue or color terms the names of the painters using them among the 12,000 to 15,000 estimated reproductions examined. Numbers in parenthesis refer to repetitions of the given term in different titles.

Rose or Rosy: Braque, Derain, Innes, and Antoinette Schulte. Sargent's "Carnation Lily, Lily Rose" might possibly be added here; also Picasso had a Rose period (1905-6).

Pink: Wm. M. Chase, Jos. De Camp, G. Pene Du Bois, R. Henri, Laurencin, Matisse, Pascin, H. V. Poor, Speicher, M. Sterne; and there is also the famous lassie, "Pinkie," of Lawrence. J. Alden Weir used Rose-Pink.

Orange: none.

Brown: R. Breinin, Raeburn and Romney.

Cream: Bellows.

Cafe-au-lait: Pissaro.

Blond: Lawrence B. Smith.

Brazen: Bronzino and Rubens.

Yellow: Braque, Holbein the Elder, Picasso, M. Soyer, Gertrude Schweitzer; and there is also Reginald Marsh's inimitable "High Yaller" (a negro lassie).

Gold or Golden: Abbey, Cranach (?), Dan Lutz, Tintoretto (?). The question marks are because, when the Bible speaks of the Golden Calf (Raphael, De Jode, Tintoretto, etc., the richness and sheen, rather than the color, are important.


Blue: Bellows, Cezanne (3), Chagall (2), P. Clemens, Corot, Derain, G. Pene Du Bois, Gainsborough, Lenner, Walt Kuhn, Luks, Franz Marc, Picasso (2), Prendergast, Renoir, Sarah H. Robertson, Margaret Sargent, Speicher (2), M. Sterne and Whistler. We may add that Picasso's "Blue period" was from 1901 to 1904; also that none of the "Blue Four" (Klee, Feininger, Jawlenski and Kandinsky) are listed here - but this may be because the Editor has too few reproductions of their paintings.

Purple: A. B. Carles and J. Binford.

Black: Bellows, Cranach, Dürer, Fine, R. Henri, John Kane, Walt Kuhn, Luks, Modigliani, Rembrandt, Sargent (2), Lawrence B. Smith, Whistler, Zuloaga. There are also the compound terms Black and White (Glackens), Flesh Color and Black (Whistler) and Scarlet and Black (O. B. Bluemner); and there is also Rattner's "Should One Paint the Sky Muddy and Black?"

Dark: Fletcher Martin.

Gray: Innes, John Marin, Niles Spencer and Rembrandt; and Beige Grey: Kandinsky.
Silver: Groll, along with such terms as Whistler's "Nocturne, Blue and Silver," Emily Court's "Blue and Silver" and Seyffert's "Rose and Silver." Whistler, it might have been added above, painted a "Nocturne, Blue and Gold" and a girl's portrait Study in Rose and Brown.

White: Bellows (2), Brackman, Carroll, Constable, Gauguin, R. Henri, Adolf Hitler (of all terms - white!), Kessett, Kroll, Kronberg, Kuhn, Manet, Matisse, Moretto da Brescia, O'Keefe, Oudry, John Sloan, R. Soyer, Speicher, G. F. Watts and Whistler (2).

Fair: Wm. Blake, Fragonard and Rembrandt.

Pale: Rembrandt, West and the painters of the Fourth Horse of the Bible, the Pale Horse of vengeance or pestilence: P. von Cornelius, Legros, Alfred Rethel, G. F. Watts, etc.

Plaid: R. Henri; Rainbow: Rubens; Multicolor: Kandinsky (if we had more Kandinsky reproductions, we would surely find more color titles there); and the paintings of Joseph's Coat of Many Colors, as one by Ford Madox Brown. Finally, we have Gardner Symons' "Opalescent River."

Inspection of the list removes at once any suspicion that color terms in the titles indicate that the painter is especially color-conscious. For while it is true that some portraitists and painters known as tonalists rather than as colorists, and painters apparently using color only as a minor aid to drawing (J. L. David, Ingres, etc.), do not appear in the list, it is also true that the great quadruplevirate of Venetian colorists (Giorgione, Titian, Tintoretto and Veronese) appear hardly at all - and we have whole books to consult on two of these. This last fact may be connected with the fact that painters of the Renaissance painted almost exclusively Biblical and mythological subjects, where the interest was in character and subject matter; and they lost credit as painters only insofar as their literary and sentimental values outstripped their technical and plastic ability and creative imagination. It is notable that in Clifton Barby's "The Bible in Art," showing over seven hundred famous Bible paintings, color terms appear in titles, as in "The Rider on the Pale Horse..." or Bronzino's or Rubens' "Worship of the Brazen Serpent," less than a dozen times in all.

QUESTIONS OF ETHICS

The Editor wishes to acknowledge the fact that at the Color Information Please program on February 24 his own ethics were perhaps not up to the standard set by Dr. Judd. The latter, when asked to answer a written question, said it would be unfair to answer, since the question was submitted by him originally. The Editor was asked to answer the question, "What is memory color?" The reply given was, "A pigment of the imagination." This reply was not original with the Editor. It had been reported to us that this quip was due to a student of Professor Nelson's, who knew that the invocation of mere memory was anathema to her teacher.

The reason for the Editor's taking credit momentarily for wit which he does not possess, was the belief that a greater consideration was involved. This was the belief that such an evening as planned could only be successful if it were started off with a laugh, with the tempo maintained and, if possible, enhanced. To stop proceedings at once after the first question, in order to give credit, would have slowed down the tempo. In fact, when the Editor was asked to serve on the panel, he refused in writing, saying that a witty person, which he is not, should be
selected. He was overruled, probably on the grounds that a duller foil is needed to set off the wittier experts.

On the other hand, the Editor found it necessary to take credit for some ignorance too. This was very unfortunate, because the Editor has so many really dead or non-reflecting facets in that brilliant which represents his feebly shining erudition that he is loath to admit any pseudo-dull faces. But it happened that in answering a previous question about color systems, a member of the panel had inadvertently failed to mention the excellent Color Harmony Manual of the Container Corporation of America, though we knew he had great respect for it. In answer to a later question, therefore, the Editor did mention this excellent work, instead of Ostwald, on whose writing the system was based. So we meekly bowed our heads when a member of the audience reproved us for our ignorance of Ostwald. To have mentioned our articles on Ostwald (in the News Letter and elsewhere), would also have slowed up the tempo! Our guests must be amused, as well as informed. Long live the laugh!

It remains now for Professor Helson to name his witty student, whom we understand to be also quite modest.

BIBLIOGRAPHY

T. L. Jahn; J. Opt. Soc. Amer. 36, 76-82 (Feb. 1946); visual critical flicker frequency as a function of intensity

T. L. Jahn; J. Opt. Soc. Amer. 36, 83-96 (Feb. 1946); brightness discrimination and visual acuity as functions of intensity

B. K. Johnson; "Practical Optics"; The Hatton Press Ltd., London; pp. 190; 15 s. net (1945); brief review in Nature 157, 145 (Feb. 9, 1946)


L. A. Jones & G. C. Higgins; J. Opt. Soc. Amer. 35, 435-57 (1945); 36, 201-27 (Apr. 1946); photographic granularity and graininess; I, relationship between granularity and graininess of developed photographic materials; II, effects of variations in instrumental and analytical techniques

L. A. Jones & R. N. Wolfe; J. Opt. Soc. Amer. 35, 559-69 (Sept. 1945); method for the measurement of the energy distribution in optical images


R. N. Jones; J. Amer. Chem. Soc. 67, 2127-50 (1945); some factors influencing the ultraviolet absorption spectra of polynuclear aromatic compounds; I, a general survey

W. N. Jones Jr.; Chem. Rev. 36, 291-313 (1945); the sulfur dyes (review with 84 references)

D. B. Judd; Amer. Dyestuff Rptr. 33, P 231, P 292 (1944); introduction to, and final summary of the Inter-Society Color Council Discussion Session on Small Color Differences, March 1944 (joint session with AATCC and FPVPC)

D. B. Judd; Med. Physics 1944, 265-75; color vision
D. B. Judd; Inter-Society Color Council News Letter No. 57, pp. 8-9 (Jan., 1945); classification of types of vision (and comparison with Farnsworth's proposed terms)

D. B. Judd; J. Opt. Soc. Amer. 35, 199-200 (1945); standard response functions for protanopic and deuteranopic vision

S. L. Judkins; Movie Makers 21, 57, 72-3 (Feb. 1946); Ansco Color movie film

P. Karrer; Vierteljahrschr. naturforsch. Ges. Zürich 90, 1-26 (1945); the known natural carotenoids and their absorption spectra (lecture)

H. Kautsky & G. O. Müller; Naturwiss. 30, 315 (1942); chemiluminescence of absorbed dyes (letter)

W. J. Kenney; Internatl. Photographer 17, 18, 20, No. 11 (Dec. 1945); glossary: three-color process terms

H. Ketcham; Text. Col. Converter 63, 12-3 (Feb. 1946); use color as your sales agent

W. F. Kieffer & J. M. Resko; J. Chem. Educ. 22, 385-6 (1945); colored signal smokes; a demonstration

I. K. Kipriianov et al.; J. Genl. Chem. USSR 15, 200-6, 207-14 (1945; English summary); color and structure of cyanine dyes; I, (with E. D. Sych) thiocarbo cyanines with electropositive substituents; II (with I. K. Ushenko) thiocarbo cyanines with electronegative substituents

P. Knapp (to Du Pont Co.); U. S. Pat. 2,339,340 (1944); fugitive coloring of cellulose acetate filaments with Naphthol Green B

D. P. Knowland & W. A. Holst; Amer. Dyestuff Rptr. 34, P 166, P 426 (1940); report of AATCC Committee on Transference of Color

L. Koch; Amer. Ink Maker 24, No. 1, 27, 29, 31 (1946); systematic identification of organic ink colors and their bases

N. J. Kremli; J. Opt. Soc. Amer. 35, 249-57 (April 1945); recent studies on the fluorescence of glass

A. E. Kromer; Official Digest Fed. Paint Var. Prod. Clubs No. 252, 2-9 (1946); pigment colors (review)

E. H. Land & C. D. West; Colloid Chemistry (J. Alexander, Ed.) 8, 160-90 (1946); dichroism and dichroic polarizers

H. H. Lerner; J. Photog. Soc. Amer. 12, 354-8 (July 1946); Casparcolor and the new color process

H. A. Lesser; Amer. Ink Maker 23, No. 11, 27-30 (1943); invisible or sympathetic ink

Lever Bros., Unilever Ltd & P. W. Tainsh; Brit. Pat. 566,810; improving the whiteness of materials (including use of blue-fluorescing material)
G. N. Lewis & M. Calvin; J. Amer. Chem. Soc. 67, 1232-3 (1945); paramagnetism of the phosphorescent state

G. N. Lewis & H. Kasha; J. Amer. Chem. Soc. 66, 2100-16 (1944); phosphorescence and the triplet state

G. N. Lewis & M. Kasha; J. Amer. Chem. Soc. 67, 994-1003 (1945); phosphorescence in fluid media and the reverse process of singlet-triplet absorption

G. N. Lewis, D. Lipkin & T. T. Hagi; J. Amer. Chem. Soc. 66, 1579-83 (1944); light-absorption and fluorescence of triaryl methyl free radicals

T. Liang & H. Piéron: Compt. rend. 221, 56-8 (1945); the specific influence of monochromatic illumination on the lag in visual sensation

P. C. Livingston; Lancet 247, 33-6 (1944); visual problems of aerial warfare; I, "night" studies on the dark-adapted eye

M. D. Lobard; Text. World 95, No. 10, 133, 190, 192, 194, 197 (1945); dyeing techniques can minimize gas-fading of (dyedings on) acetate


D. L. MacAdam; J. Opt. Soc. Amer. 35, 615 (1945); note concerning the maximum luminous efficiency of radiant energy

D. L. MacAdam; J. Opt. Soc. Amer. 35, 616 (1945); notes on "a photoreceptor mechanism for the modulation theory of color vision" by Glenn A. Fry; reply by Fry, p. 617

D. L. MacAdam; J. Opt. Soc. Amer. 35, 670-75 (1945); colorimetric specifications of Wratten light filters

J. H. MacGregor & C. Pugh; J. Soc. Dyers Col. 61, 122-5 (1945); dyeing of nylon with direct-cotton dyes in the presence of cationic soaps

A. McLean; Amer. Dyestuff Rptr. 34, 311-4 (1945); pigment printing and dyeing; past, present and future (lecture)

J. H. McLeod; J. Opt. Soc. Amer. 35, 185-6 (1945); a graphical correlation of transmittances and thicknesses in optical filters

S. H. MacNeill & G. J. Koch (to Eastman Kodak Co.); U. S. Pat. 2,388,858 (1943); device for testing stereoscopic vision or exercising this faculty

F. Mäder; Helv. Phys. Acta 18, 125-57 (1945); universal apparatus for spectral and integral light and color measurement

R. Maingot; Photog. J. 85 A, 255-6 (1945); the lighting and blending of color (studio portrait color photography)

M. G. Mellon; "Colorimetry for Chemists" (1945); 131 pp.; review in ISCC News Letter No. 64 (March 1946), p. 6.

A. Mellor & R. J. Mann (to British Celanese Ltd.); Brit. Pat. 570,380 (1945); two-toned fabrics.

Metropolitan Life Insurance Co., Industrial Health Series Bull. No. 4; Methods of Testing and Protecting Eyesight in Industry; 70 pp. (1945); review in ISCC News Letter No. 60 (July 1945), 10-11.

P. Hounie; Compt. rend. 221, 64-6 (1945); chromatography and mesomerism; the relation of the color of halochromism to (chemical) constitution in the group of carotenoids and vitamin D.

P. L. Hounier; Amor. Dyestuff Rptr. 34, P 208-10 (1945); Canadian Text. J. 62, No. 24, 38-43 (1925); the pad-steam continuous dyeing process.

W. E. Meyer & R. M. Roberts (to Parker-Wolverine Co. & Owens-Corning Fiberglas Corp.); U. S. Pat. 2,371,458 (1945); machine for fabricating camouflage.

L. Michaelis & S. Granick; J. Amer. Chem. Soc. 67, 1212-9 (1945); the metachromasy (variability of color) of (adsorbed) basic dyes (Boer's law failure due to aggregation, and prevention).


P. Moon & D. E. Spencer; J. Opt. Soc. Amer. 34, 319-29 (1944); on the Stiles-Crawford effect.


P. Moon & D. E. Spencer; J. Franklin Inst. 242, 111-41 (1946); light distribution in rooms.

P. Moon & D. E. Spencer; J. Appl. Physics 17, 506-14 (1946); approximations to Planckian distributions (replacement for colorimetry of Planck's equation by simpler ones that can be analytically integrated).

N. Mooney Jr.; Camera (Baltimore) 67, 76, 111 (1945); sunsets—Cavalcade of Color for your camera.

S. N. Newhall; J. Opt. Soc. Amer. 36, 60 (1946); concerning the color of the Purkinje blue arcs (short note).
D. Nickerson; Rayon Text. Monthly, Nov. 1945; are new colors limitless? (theoretical pigment limits and Munsell limits of chroma at various points in the surface-color solid; contrast of green and purple regions with yellows)

D. Nickerson; Text. Research J. 16, 74-83 (1946); selected references relating to the field of color science

S. Mitikine; J. phys. rad. 4, 223-30 (1943); theory of photodichroism produced in colored gels, coloring stable to light

J. L. Niven & R. H. Brown; J. Opt. Soc. Amer. 34, 733-43 (1944); visual resolution as a function of intensity and exposure time in the human fovea

R. T. O'Connor & H. E. Jefferson; J. Opt. Soc. Amer. 34, 540-42 (1944); arc source for ultraviolet absorption spectroscopy

C. R. H. Oehlcke; J. Soc. Dyers Col. 61, 306-10 (1945); the colouring of plastics

W. H. Offenhauser Jr.; J. Soc. Hot. Pict. Engin. 45, 113-34 (1945); some notes on the duplication of 16-mm. integral tripack color films

H. C. Olpin & S. A. Gibson (to British Colannese Ltd.); Brit. Pat. 569,557 (1945); process for improving the gas-fading fastness of dyeings

R. H. Oermann; J. Franklin Inst. 239, 70 (1945); review of J. S. Friedman’s "History of Color Photography"

R. H. Osborn & W. C. Kenyon; Indus. Engin. Chem., Anal. Ed. 18, 523-30 (Sept. 1946); a general method of color grading (includes distinction of color grading and color specification)

A. Palme; Amer. Photog. 40, 28-9 (July 1946); speedlight and photoflash

S. Parthasarathy; Phil. Mag. 35, 510-14 N (1945); theory of light scattering

W. R. Payne & J. W. Payne; Brit. Pat. 564,701 (1944); method of coloring polymethyl methacrylate resins for use in surgical and dental prostheses whereby life-like tissue and tooth colors are produced


Philadelphia Paint and Varnish Production Club; Amer. Paint J. 30, No. 6 A (Convention-at-home Daily), 19 (1945); proposed standards for determining the degree of color change of paints and enamels (study based on use of Munsell system)

R. W. Pickford; Nature 156, 506-7 (1945); darkened violet in color vision

R. W. Pickford; Nature 157, 700 (May 25, 1946); factorial analysis of colour vision