INTER-SOCIETY COLOR COUNCIL

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COLOR NAMES PLAN ADOPTED

The Council has adopted, by letter ballot dated May 11, the color names report of the Problems Committee. The names adopted apply officially at the present time only to the colors of drugs and chemicals, but it is hoped that studies during the next year or two will determine that they can be applied generally, with little alteration, to other fields. As soon as the complete report is released -- which will be soon -- committees will be appointed to investigate the applicability of these I. S. C. C. names to many fields of color work represented in the Council.

It may be of interest to note that 5 of our 10 member associations voted unanimously for the report and that two-thirds of the delegates of 4 other member associations and of the individual member group voted for the adoption of the report. There were 25 votes received out of a possible 33 (three voting delegates for each member body and individual member group), and all votes cast were for adoption.

THEATRICAL LIGHTING FILTER DESIGNATION ADOPTED

By letter ballot dated May 11, the Council has adopted the method described in the October number of the J. Opt. Soc. Amer. (pp. 396-7) for designating filters for theatrical lighting. There were 25 votes received out of a possible 33; 24 were cast for adoption, one ballot being marked "not voting".

ASSOCIATION FOR COLOR RESEARCH

This enterprising Chicago group has reported two more meetings since those described in News Letter No. 24. On Wednesday evening, April 12, there was a dinner meeting at Normandy House Restaurant, at which Thomas G. Atkinson, M.D., spoke on the subject "What Constitutes Order and Harmony of Color". This was a return engagement, for Dr. Atkinson gave the group an interesting and valuable lecture during 1938.

On Wednesday evening, May 24, a dinner meeting was held at the same place. Mr. McDonald, a member of the A. C. R., and chairman of its Color Preference project, spoke on the subject: "A Color System Designed for Use by the Home Furnishings Trade". The speaker outlined a practical color system which had been in successful use for some time.

WASHINGTON COLORISTS

The Washington Colorists report a most interesting dinner meeting, held at the Arts Club on April 19. Mr. Frederic H. Rahr, color consultant for PEDAC (Rockefeller Center), was the speaker, his subject being particularly concerned with consumer preferences in color. The group welcomed two new Washington residents: Dr. L. C. Lewis, Council delegate from TAPPI, and Mr. W. B. VanArsdel, member of the Colorimetry Committee of the Optical Society of America.

Mr. A. K. Gaetjens, from the General Electric Company at Nela Park, was an unexpected but very welcome guest. He told the group something about the special experimental unit of fluorescent lamps which had been installed that day in Miss Nickerson's laboratory at the Bureau of Agricultural Economics for investigation in connection with a study of the possibilities of its use in certain grading problems.

BOSTON COLOR GROUP

A meeting of the Boston Color Group was held on May 23 at the Connick Studio, 9 Harcourt Street, Boston, where the group was addressed by Mr. Connick and shown how stained glass windows are made. Part of the great west window of the Church of St. Vincent Ferrer in New York was on display. The group adjourned to Madame Bourguet's, 45 St. Botolph Street, for dinner and election of officers for the ensuing year.

AMERICAN TRADE ASSOCIATION EXECUTIVES AWARD, 1937-8

A pamphlet has come to our attention which describes the purposes, eligibility, conditions of award and award winners of this recognition of outstanding trade association achievement founded in 1929 by Margaret Hayden Rorke, well-known to us all as Treasurer of the Inter-Society Color Council. Winners listed include: National Automobile Chamber of Commerce, National Association of Dyers and Cleaners, American Paint and Varnish Manufacturers Association, Inc., The Cotton Textile Institute, Inc., National Machine Tool Builders Association and National Lumber Manufacturers Association. About five other associations were given Honorable Mention each year.

COLOR TERMS

At the 1939 meeting of the Council, Dr. A. H. Taylor, National Lamp Works, General Electric Co., Nela Park, Cleveland, Ohio, proposed the formulation of definitions of certain color terms. In a letter to him, dated April 20, Dr. Judd, chairman of the Color Problems Committee, suggested as a starting point for consideration, the following definitions. It has been suggested that the Illuminating Engineering Society, through its delegates (Gage, Little, Macbeth, Powell, Slauer and Taylor) give particular consideration to these terms, in order that they may be added to those to be published in the Council's Dictionary of Color Terms. The tentative definitions are:

Color Discrimination is the process of detecting differences between colors.

Color Identification is the process of discovering which of a number of standards is the same color as a given sample; the sample is thereby identified with the name or identifying mark of the standard.

Color Grading is the separation of samples into groups according to color: this may be done either by judgment of closest match to one of a number of working standards of color or by interpolation on a color scale by direct visual comparison of the sample with the working standards making up the scale.

Color Matching is the process of duplicating the color of a sample by means of mixtures of lights, pigments or dyes.

HORTICULTURAL COLOR CHARTS

These charts have been issued by the British Colour Council in collaboration with the Royal Horticultural Society (pp. vii, 100 plates; London, 1938). This is the first of several volumes apparently planned for progressive publication in the future. The first series of 100 charts contains "64 full hues, comprising equal gradations of the spectrum range, and certain lighter tints and deeper full hues." On each page there are printed four samples: Full hue at the bottom, with three graduated tints of the Full hue above. Each page carries the color name and the equivalent British Colour Council, Ridgeway, Repertoire and Ostwald color names for the sample. A brief history of the color name is given; also foreign synonyms (Dutch, French, German, Italian, Latin and Spanish) and horticultural examples for each of the four exemplars. Sheets to be published in future volumes will be related to the first 64 Full hue sheets; that is, they will be "(lighter) tints, (darker) shades, or greyed hues of the 64 Full hues."

While not like the British work in general organization, the Maerz and Paul "Dictionary of Color" seems to be the only publication to which such a work as the former can be compared. It is a large project, and, if the printed colors are accurately named and are reproduced accurately from copy to copy, should be very useful. The inclusion of equivalent names of other color charts or systems is a very desirable feature, as is the inclusion of foreign synonyms. For a British review of the work, the reader may be referred to Nature, March 11, 1939 (pp. 410-11).

NEW DELEGATES

Mr. A. L. Powell, General Electric Company, 570 Lexington Avenue, New York City, very well-known lighting engineer, has been appointed the sixth member of the I. E. S. delegation.

The following six new delegates have been appointed by the A A T C & C: William R. Moorhouse, National Aniline & Chemical Co., Boston, Mass., Kenneth H. Barnard, Pacific Mills, Print Works Div., Lawrence, Mass., Henry F. Herrmann, General Dyestuff Corp., 435 Hudson St., New York City, George A. Moran, The Calco Chemical Co., Bound Brook, N. J., Albert H. Grimshaw, North Carolina State College, Raleigh, N. C., Mary Anna Grimes, Texas Agricultural Exper. Station, College Station, Tex.

We are very glad to welcome the new I. E. S. and A A T C & C delegates and hope that they will be able to take an active part in the work of the Council.

ICI COLOR-STIMULUS MIXTURE CHARTS

The first 1000 copies of the ICI charts have been exhausted. When we last heard from the secretary on this subject (some time ago), there were further orders for 450 copies; and the Editor's laboratory has received an additional 100. The price is $3.50 per hundred or $2.00 per 50 copies; this is cost price, including handling charges. If others wish copies of these large scale charts they should order them from the secretary in quantities of not less than 50 as soon as possible. The charts are 18" x 22". After the present order for 1000 copies is exhausted, it is probable that they will not be available again for some time.

SUMMER COURSE ON COLOR

A course on color will be conducted by Mr. Faber Birren at Boothbay Studios, Boothbay Harbor, Maine, from July 23 to August 5. The course includes optionally morning or afternoon two-hour periods. A prospectus describes the course under the title: Color; its Application to Industry and Art. The subjects listed are:

First week: Color Traditions, Color and Human Vision, The Psychological Elements, Color Preferences and Perfect Color Schemes; second week: How Many Colors Are There, The Physical Effects, The Emotional Effects, Functional Color Uses and New Dimensions for Color. There are also listed three evening lectures. Royal Baily Farnum, Vice President of the Rhode Island School of Design, will talk on "International Design Influences"; William L. Longyear, Design Consultant, New York, will discuss "The Approach and Solution of a Merchandising Problem"; James C. Boudreau, Director of the School of Fine and Applied Art, Pratt Institute, will deal with "The Training of an Industrial Designer." Inquiries about this course in the pleasant surroundings of Boothbay Harbor should be addressed to Frank Leonard Allen, Director, 27 Fairmount St., Brookline, Massachusetts.

WHEN IS RED NOT RED?

In our April number, under the indicated title, we discussed a letter from Mr. Vincent C. Vesce, Harmon Color Works, Inc., Paterson, N. J. We are giving here the somewhat abstracted letter from Dr. Judd, chairman of the Problems Committee, to Mr. Vesce. The letter, dated April 21, has the subject "Color Specification in Legislation"; and besides its color interest has the additional interest of outlining the comparative color functions of the Council and the Bureau of Standards. Dr. Judd wrote: "This will reply further to..... your suggestion that something might be done by the Council through cooperation with the color section of the Bureau of Standards in Washington.

The cooperation offered in the past by the colorimetry section of the ... Bureau... to legislators and executive officers has been to assist them in phrasing color specifications and in setting up working standards of color to carry out their own wishes. Examples of this cooperation are (two cited cases and) definition for the Mississippi State Chemist of the meaning of red in imitation of premium-grade gasoline red. In each of these cases, and this is generally true, care was taken to offer no advice on what range of color should be included in the definition.

..... One of its (the Bureau's) ..... purposes is ..... supplying information and conducting tests..... It might appear, therefore, that the Council should avoid this activity, but there are at least two types of service to be rendered by the Council. First, it might supply information as to what services are or are not available through the Bureau of Standards. Second, it might offer to give advice on what range of color should be defined in any regulation. Such advice would be based upon artistic, psychological and practical information which the Council would be in a position to collect.

The present letter would be an example of the first type of service if you should show it to someone connected with the office of the New York City Fire Chief and Commissioner, and I am sure that there could be no objection if you should wish to do so. Whether any more direct Council action along these lines is desirable will have to be discussed by the Executive Committee and possibly referred to the whole Council.

There are two separate specifications to be considered in connection with the New York City regulations: the first is the specification of a narrow range of red colors to be used in painting vehicles of the Fire Department, Fire Patrol and certain emergency vehicles; the second is the specification of a considerably larger range of reddish colors which shall not be used for other vehicles. The selection of such colors and color ranges is a subject on which the Bureau of Standards has in

the past avoided giving advice; so the Council by supplying color information of this sort might be filling a distinct need."

COLOR VISION NORMALITY OF INSPECTORS

Another letter of Dr. Judd's, under the indicated subject, was written on April 28 in reply to Mr. Ernest M. Loveland, Nutley, N. J. Because of the importance of the subject, it is only very slightly abstracted. "There is no accepted method of determining how closely color inspectors conform to the ICI standard observer. The closest approach to such a method is the wide use of the Ishihara charts (reference given) for the detection of observers departing markedly from normal. It is also common practice to choose from among the members of the staff who can duplicate their own color judgments those who are found by trial and error to respond in the same way as the average customer does. This choice of inspector has chiefly to do with size of color variation to be tolerated rather than normality of color-vision.

In many color comparisons, the two stimuli are essentially the same in spectral-energy distribution; such comparisons can be made by abnormal observers (anomalous trichromats) provided they be not actually color blind (dichromats). The Ishihara charts serve very well to discover observers incapable of making such comparisons.

For color comparisons in which the two nearly equivalent stimuli differ essentially in spectral-energy distribution, a close duplication of the standard observer is required. Observers found to be normal by the usual tests .... will yield importantly different results in such comparisons; and it is usually necessary to have a number of observers (say 5 or 10) make the comparison and take the average. This practice is followed ... in England .... (especially in using the) trichromatic colorimeter. Trichromatic colorimeters are little used for commercial work in this country because of the importance of finding an observer satisfactorily close to the 1931 ICI standard, and also because a trichromatic colorimeter must necessarily yield inferior precision (due to the use of small) .... field size, (larger fields yielding results).... definitely different from (those of) the standard observer since the standard observer applies to the normally pigmented central portion of the retina.

Further information on this subject may be found in a book by W. O'D. Pierce, The Selection of Colour Workers; London: Pitman & Son, 1934. This book was reviewed by our Chairman, Prof. F. L. Dimmick, in the 7th issue of the News Letter, April 9, 1935.

MORE ON COLOR NORMALITY AND DEFECT

In connection with the preceding paragraphs we may note further two papers by Dr. Mary Collins, authority on color blindness: (1) Tests in Common Use for the Diagnosis of Colour Defect. Presidential address by Mary Collins, Section J (Psychology), British Assoc. for the Advancement of Science; report of annual meeting, pp. 207-26, London, 1937. (2) Colour Blindness; Dr. Mary Collins; J. Textile Inst. 30, P20-7 (1939).

HONOR TO DR. ZIGLER

We wish to congratulate a Council delegate, Dr. Michael J. Zigler, on his appointment to full professorship in psychology at Wellesley College.

THE PSYCHOLOGICALLY UNIQUE COLORS

We have received offprint of a paper entitled "The Spectral Location of Psychologically Unique Yellow, Green and Blue", by Forrest L. Dimmick and Margaret R. Hubbard, Amer. J. Psychol. 52, 242-54 (1939). The authors give a table (p. 245) summarizing the experimental results obtained by various authors between 1866 (Helmholtz) and 1935 for the "primary" red, yellow, green and blue of the spectrum; but they state that a careful survey of the literature reveals no adequate experimental determination of the spectral location of the psychologically unique colors. In most cases there has been a failure to distinguish between mixture primaries, invariable hues and psychologically fundamental colors. In a series of experiments, carefully controlled both with respect to the physical stimulus conditions and the psychological conditions of observation, the authors obtained with 10 observers the spectral value for yellow 582, for green 515, and for blue 476 millimicrons, respectively. Red must be obtained by mixing a small amount of blue with spectral red. Its determination requires a different apparatus and will be reported in a subsequent paper. The experimental results lie close to the averages obtained by Judd (Nat. Bur. Stand. LC-454, p. 1-6; 1935; "Hues of the Spectrum Colors") from the values cited by various authors. The authors believe that the validity of those averages depends upon the assumption of the existence of the common factors suggested by the correspondence, an assumption needing experimental verification. They question also the assumption that the spectral locations of the several unique colors will coincide with those of the mixture complementaries or of the invariable hues.

AFFECTIVE VALUES OF COLORS

Dr. J. P. Guilford, a Council delegate from the American Psychological Association, on September 7, 1938, delivered as the presidential address before the Psychometric Society a paper on the affective values of colors, which should be of great interest to persons working with problems of consumer preferences and the like. The paper is called "A Study in Psychodynamics"; it appeared in Psychometrika 4, 1 -23 (March, 1939). The paper reports studies on 316 color samples mounted on mid-gray backgrounds, the whole constituting an extension of previous (1934) studies by the author already reviewed in the News Letter. Samples were selected having hues as near as possible those of the ten major hues of the Munsell Book of Color plus two additional ones in the blue and green regions; this was done in order to cover the color solid adequately. 20 men and 20 women each made two sets of observations. The observations were reduced to graphs of affective value (relative preference) plotted against hue at constant saturation (Munsell chroma), against "tint" (Munsell value) for zero saturation, and against "tint" and chroma for four constant hues. There are also shown "isohedons" (loci of equal affective values) for yellow and for violet-blue colors, utilized by analogy to familiar types of contour lines. The outstanding results are: (1) maximum liking at blue, with secondary maxima at red and green; maximum dislike (minimum affective value) at yellow, with other minima at blue-green and purple; (2) affective value increases with "tint"; (3) colors are most preferred at "tint" levels where they can be most saturated. The "cool" colors, and also the reds, are at their "best" saturations at low values, while the "warm" colors, not including the reds, are at their "best" saturations when light.

TWO NATIONAL BUREAU OF STANDARDS COLORIMETRY SECTION LETTER CIRCULARS

Two Letter Circulars issued recently by the Colorimetry Section of the National Bureau of Standards of special interest to color workers are: (1) Preparation and Colorimetric Properties of a Magnesium-Oxide Reflectance Standard, LC-547 (Superseding LC-395), issued March 17, 1939; and (2) Fluorescence and Phosphorescence, LC-550,

issued April 1, 1939. The second Letter Circular contains an extensive bibliography, including several references on fluorescent lamps.

COLORIMETRY IN PRINTING INKS

An interesting address by our Editor for Industry, Mr. Carl E. Foss, entitled "Colorimetry as Applied to Printing Ink", was given before the Printing Ink Production Club on March 1, 1939. Among other things, it dealt with the measurement of "dry color", opacity, light sensitivity, bronzing and color standards.

GLOSS IN PAINTS

A paper of special interest to color workers in the paint industry is "Development of a Method of Classifying Paints According to Gloss", by Richard S. Hunter and Deane B. Judd, Bull. Amer. Soc. Testing Mat., March 1939, pp. 11-8.

COLOR IN PAPER

A paper of this title, a twelve-minute talk with exhibits given for the Technical Association of the Pulp and Paper Industry by J. A. van den Akker, was part of the popular session, "Color on Parade", of the Inter-Society Color Council meeting on February 23, 1939, held in the auditorium of the Electrical and Gas Association. The paper has recently been published in the Paper Trade Journal, TAPPI section, vol. 67, pp. 235-8 (45-8). In spite of the great interest of the paper for color workers, we shall not abstract it here, assuming that most of our readers had the good fortune to hear the talk at the annual meeting.

COLORIMETRY OF PAPER

Another article of interest in the paper field is by Wm. J. Foote, entitled "An Investigation of the Optical Scattering and Absorption Coefficients of Dyed (Paper) Handsheets and Application of the ICI System of Color Specification to these Handsheets"; Paper Trade J. 108, TAPPI Sect., 125-32 (1939). The measurement of the color of dyed papers by means of the spectrophotometer is discussed, and it is shown how color-stimulus mixture diagrams may be used in color matching. The value of reflectance curves as a means of standardizing colors is emphasized.

BIBLIOFILM OF COLOR BIBLIOGRAPHY

The bibliography on color covering the period approximately 1922 to 1934, compiled by the Editor, is now available in bibliofilm form. It is known as Document No. 1162, and can be obtained for $1.39 from the American Documentation Institute, c/o Science Service, 2101 Constitution Avenue, Washington, D.C. The bibliofilm was copied from an original in the National Bureau of Standards Library. It contains reproductions of 236 pages plus a title page. The references number nearly 2500, and are arranged alphabetically by authors. Many foreign titles are translated, and in many cases titles have been slightly amplified to better indicate the content of the articles.

Additional Bibliography.

(See several references in the paragraphs above).

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