(This is Dr. Judd's copy)

INTER-SOCIETY COLOR COUNCIL

NEWS LETTER NO. 82

MAY, 1949

News Letter Committee:

Faber Birren
I. H. Godlove
Deane B. Judd
Dorothy Nickerson

I. H. Godlove, Editor
General Aniline & Film Corp.,
Easton, Pennsylvania

Dorothy Nickerson, Circulation Manager
Box 155, Benjamin Franklin Station
Washington 4, District of Columbia

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Address the Circulation Manager

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OUR EDITOR ILL

Dr. Godlove, editor of the News Letter and present chairman of the Council, has been ill since early April. For a long time he has been pushing himself on the many projects that interest him, and Nature has finally caught up with him. Fortunately, although exhaustion made it necessary to hospitalize him and provide three shift of nurses, all tests so far have proved normal. We hope for him a period of rest and convalescence that will soon bring him back to his usual vigor.

Until Dr. Godlove can resume the editorship, the News Letter Committee will do its best to carry on for him. We ask your cooperation in supplying items of color interest. These should be typed in duplicate and sent to the secretary (address above) well before the first of the month of publication. Items for July should be sent as much ahead of July 1 as possible.

DELEGATES APPOINTED FOR NEW MEMBER BODIES

We welcome the following persons to the Inter-Society Color Council membership as delegates, each representing the member body which appointed him. This list includes addresses so that it may be used in conjunction with the present membership list.

AMERICAN DESIGNERS' INSTITUTE
Miss Ann Franke, Secy., 305 East 63rd Street, New York 21, N. Y.
Delegates: *Mr. Scott Wilson, Ch., 16 East 53rd Street, New York 22, N. Y.
*Miss Ann Franke, 305 East 63rd Street, New York 21, N. Y.
*Mr. Paul Wrablica, 104-23 37th Drive, Corona, Long Island, N. Y.

THE AMERICAN INSTITUTE OF ARCHITECTS
Mr. Walter A. Taylor, Dir. Dept. Education & Research, 1741 New York Avenue, N. W. Washington 6, D. C.
Delegates: *Mr. Waldron Faulkner, Ch., 1200 - 18th St., N.W., Washington 6, D. C.
*Mr. Alden B. Dow, 315 Post Street, Midland, Michigan
*Mr. Kenneth C. Welch, 1340 Monroe, N.W., Grand Rapids 2, Michigan
Prof. Jean Labatut, Princeton Univ. School of Architecture, Princeton, N.J.
Mr. John G. Meem, Box 628, Santa Fe, N. M.

AMERICAN INSTITUTE OF DECORATORS
Mrs. M. M. Girard, Ex. Secy., 41 East 57th Street, New York 22, N. Y.
Delegates: *Mr. Karl Bock, Ch., 1390 Lexington Avenue, New York 28, N. Y.
*Miss Gladys Miller, 535 Fifth Avenue, New York 17, N. Y.
*Mr. William C. Pahlmann, William Pahlmann Associates, Inc.
218 East 58th Street, New York 22, N. Y.

NATIONAL ASSOCIATION OF PRINTING INK MAKERS INC.
Mr. David H. Sloane, Secy., 1440 Broadway, New York 18, N. Y.
Delegates: *Mr. C. R. Conquergood, Ch., Canada Printing Ink Co., 15 Duncan St., Toronto, Ontario 2, Canada
*Mr. G. L. Erikson, 3800 Chester Ave., Cleveland 14, Ohio
*Miss Bettye Stout, Sun Chemical Corp., 10-10 44th Ave., L.I.City 1,N.Y.
Miss Dorothy Dolton, 420 W. 24th Street, New York 11, N. Y.

SOCIETY OF INDUSTRIAL DESIGNERS
Mr. Philip McConnell, Ex. Secy., 48 East 49th St., New York 17, N. Y.
Delegates: *Mr. Egmont Arens, Ch., 480 Lexington Avenue, New York 17, N. Y.
*Mr. Harper Richards, 161 East Superior St., Chicago 11, Illinois
*Mr. Viktor Schreckengost, 2366 Noble Road, Cleveland 21, Ohio
Mr. Peter Muller-Munk, Clark Bldg., Pittsburgh 22, Penn.
Mr. Hudson Roysher, Chouinard Art Inst., 2723 W. Sixth St., Los Angeles 5, Calif.

*Voting Delegates

PHILADELPHIA-WILMINGTON COLOR GROUP

The Philadelphia-Wilmington Color Group met on February 2, 1949 at the Woodmere Art Gallery in Chestnut Hill. Dinner and inspection of the gallery preceded the meeting. Two excellent collections were on exhibit: Italian Art from the Charles K. Smith Collection and Paintings and Drawings of India by Edith Emerson, Curator of the Gallery.

Mr. Walter Granville gave an excellent lecture on Color Organization. He explained the basic organization of the Munsell, Ostwald and colorant-mixture systems and then emphasized the advantages and limitations of each. The comparisons were drawn around the three chief reasons for use of color organization systems: illustration of color gamut, description and proper or harmonious use of color. His illustrations of the effects of illumination, background and psychological factors on the use of the color system charts were most interesting. Numerous questions after the lecture showed the great interest of the group in this topic.

Certainly, all present gained a better understanding of the particular advantages of each type of organization and a realization that the practicing colorist will, at times, need to use all three methods.

On May 3rd the Group met at the Engineer's Club in Philadelphia for the last meeting of the current year.

A group of thirty had dinner together and then held a short discussion session devoted to plans for next year. The current committee chairmen will function during most of next year under the leadership of Mr. Ralph Pike. Early in 1950, new chairmen will be selected. The meetings for next year will be on the same general topics as during this year: Coloramts, Measurement, Psychology, Physiology and Applications

of Color. Based on the broad foundation established this year, the discussions will be somewhat more detailed and technical to suit the interests of the group. It was generally agreed that the first year was very successful and that a good start has been made towards fulfilling the obvious need for more discussion of color problems in the Philadelphia-Wilmington area.

The feature speaker of the evening was Mr. Carl Foss, well-known color consultant, lecturer and I.S.C.C. member. He spoke on the "Aims of Color Research."

Color problems can be generally divided into two major scenes of activity. There are the formulation, testing, measurement specification and manufacturing problems which occur "behind-the-scenes," and the "before-the-scenes" problems of selection and use of colors to produce desirable effects. Mr. Foss explained that the emphasis in color research so far has been chiefly on the production phases and that it is now time to encourage much more scientific investigation of the factors involved in the end use of color. For example, the pigments used, method of manufacture, or the specifications for a colored paint are all of minor importance if the product is not appropriate to the desired application. Manufacturing, inventory, and merchandising problems require limitation of the colors in any line of products to a relatively few of the available colors - it is vital to successful business that the colors selected have a maximum probability of usefulness. Thus, it is important for the producer of colored products to come out from "behind-the scenes" and learn methods of evaluating accurately the factors involved in the selection of colors by the customer. It is not sufficient to know the fact that certain classes or groups of people prefer certain colors or combinations of color in the average situation - we must learn how an individual mind reacts to colored materials to be able to select the most desirable colors for new applications. There are many situations where a rather wide latitude in choice of color can be permitted and others where even minute differences will destroy the appropriateness. If the color matcher, for example, can recognize and appreciate the importance of the variables controlling these situations, he can concentrate his efforts where they will be most productive as to satisfied customers - i.e., to maximum utility and sale of the product.

Mr. Foss, who is one of this country's principal authorities on color-order systems, discussed briefly the inadequacy of present systems to meet the end-use problem. Organization of color according to colorant composition, dominant wave lengths, hue or value series are of great importance in the "behind-the scenes" problems but are not entirely adequate to the more important "before-the scenes" field of color work. There is need for a fresh point of view in color order systems to develop groupings which will more adequately guide those confronted with the intricate problems of color selection - to show how colors can be combined in large groups with a maximum "appropriateness" or "naturalness." In this system, it will not be sufficient to consider color samples individually. Colors are used in combination with different materials, areas, illuminations, etc. and for various purposes by individuals with varied preferences. The emphasis of color research should be directed more towards these "before-the-scenes" problems now that the "behind-the-scenes" problems are progressing so well.

NEW YORK COLORISTS

On February 3, the New York Colorists met at the National Arts Club, with Faber Birren in charge. Walter Granville discussed color systems, the same talk as that reported for the Philadelphia-Wilmington group on February 2.

We have also the following announcement of a meeting held on April 12 at the

Advertising Club, 103 East 35th Street, a meeting of the New York Colorist Group and the New York Business Paper Editors. (Elizabeth Burris-Meyer reports it was a most successful meeting.)

"Mr. Arthur T. Dobbs, formerly a top-flight printing technician in England, and authority on the graphic arts, will survey recent significant developments in the field of natural color photography and reproduction by letterpress, gravure, and photolithography in a talk on COLOR UNDER CONTROL.

"Valuable advances which have contributed both improved fidelity in color reproduction and reduced costs in obtaining color effects in printed media will be described. A collection of up-to-date specimens of color printing created by different processes will illustrate the talk, and factual data on price elements will be included.

"Mr. Dobbs will describe how some of the new and appealing effects are achieved, using electronic and photo-mechanical controls to secure uniform, speedy and economical production. Reproductions in four colors show effects comparable with results hitherto requiring at least six printings.

"The meeting is under the direction of Howard Ketcham, color and design engineer, whose discussion of the immense possibilities in color printing currently available stirred great interest at a luncheon meeting of the Business Paper Editors. The trade group was so intrigued with his report on new vistas in the field of color, and its economic feasibility through new technical developments, that the joint meeting has been arranged at the behest of Mr. C. W. Bendigo, Editor of Textile World and program chairman for the publications group."

WASHINGTON-BALTIMORE COLORISTS

The last meeting of the 1948-49 season was held on Monday evening, April 11, at the Arts Club. As announced in the last News Letter, Faber Birren was the speaker. The meeting was well attended and Mr. Birren's talk well received.

The following Colorists members have been appointed to arrange a program for the next season: Francis Scofield, Waldron Faulkner, Josephine Grove Brennan, Mildred H. Trimble, and John C. Richmond. The committee plans to meet on May 16.

PHYSICAL SOCIETY COLOUR GROUP

The ninth annual general meeting of the Physical Society Colour Group was held on Wednesday, March 30, 1949, in the Lecture Room of the Royal Photographic Society. Seven Science meetings were reported held during the 1948-49 season, attendance averaging 48 members and visitors. Two joint meetings with other societies or groups were held, and a Summer Visit was made to the Sun Engraving Company in July. The Royal Institute of British Architects is now a Participating Society of the Group. Sales of the Report on Colour Terminology and the Report on Defective Colour Vision have been considerable and continue at a steady rate.

The 44th Science meeting, held on February 12, was a joint meeting with the British Psychological Society on "The Techniques and Methods of Interpretation of Experiments in Colours." Papers were contributed by Mr. W. A. Allen, Mr. R. C. Oldfield, Dr. R. W. Pickford, Dr. L. C. Thomson and Dr. W. D. Wright.

The 45th Science meeting was scheduled for March 30. The subject, Photoelectric Spectrophotometers and Tricolorimeters, was introduced by Dr. T. Vickerstaff, with discussion announced by Mr. H. G. W. Harding (National Physical Laboratory),

Mr. J. R. Stansfield (Hilger and Watts Limited), Dr. A. Sommer (E. M. I. Research Laboratories), and Mr. G. T. Winch (The General Electric Company).

At the end of the meeting the new Hilger Uvispek photoelectric spectrophotometer was to be demonstrated by Hilger and Watts Limited. This meeting was arranged to explain the difficulties which may be encountered by those contemplating work with these instruments, and to compare the advantages and the disadvantages of different methods.

IES MEETING AT FRENCH LICK SEPTEMBER 19-23

The National Technical Conference of the Illuminating Engineering Society is scheduled for French Lick, Indiana, September 19-23. One session will be devoted to color, the program having been arranged by the Inter-Society Color Council at the request of the Illuminating Engineering Society. Norman Macbeth, appointed by the ISCC as chairman of a committee to arrange this program, announces that plans for the session include the following speakers: Isay A. Balinkin, Deane B. Judd, and Ralph M. Evans, each talk to be fully illustrated. Dean Farnsworth, chairman of the IES Color Committee, will serve as chairman of the meeting.

Council members who can are cordially invited to attend this meeting. Several already plan to go and we hope there may be others. French Lick is a beautiful resort spot, and this looks like one color meeting where there should be plenty of time for sports activities for those who can plan to go.

Details of the general conference plans may be obtained directly from the IES secretary, Mr. A. D. Hinckley, 51 Madison Avenue, New York 10, N. Y. The French Lick Springs Hotel will be available to the IES group for this meeting, and reservations for rooms must be requested on forms circulated from IES headquarters. Copies will be forwarded to non-members who wish to attend the Conference as guests. We understand that special rates granted for the Conference will range from $9.00 - $12.00 American plan.

AIA MEETING -- CORRECTION

Julian E. Garnsey, of Princeton, New Jersey, color consultant to architects and industrial firms -- our long-time member -- was one of five speakers on the color program of the AIA program held at Houston, Texas, March 15-18. Omission of his name from the list appearing on page 13 of the March News Letter -- No. 81 -- was completely by error. Mr. Garnsey's subject, Color in Architectural Practice, closed the color sessions with what was probably the liveliest, certainly the closest home to the architect, of any talk in the series. Any one in the Houston audience who saw the March News Letter would certainly be quick to note the omission of Mr. Garnsey's name from our list.

And speaking of Mr. Garnsey, we have wanted for some time to bring our readers up to date on his present activities -- in fact we asked him many months ago for information on recent projects.

Mr. Garnsey, a Harvard Phi Beta Kappa, served in the First Division, A E F, in the first world war and came home with a Croix de Guerre and five campaign ribbons. Since then he has engaged in color consultation for large architectural and industrial projects, among which are the University of California at Los Angeles, the Dallas Centennial Exposition, the New York World's Fair, Metropolitan Life's five housing projects, Socony-Vacuum's service stations and the Oregon Journal building in Portland. From 1942 to 1945 he taught as Associate Professor in the Princeton

University School of Architecture. He does a good bit of writing for architectural publications, and of lecturing around the country. Recently he spoke at the National Electrical Manufacturers' Association convention in Chicago on "A Little Light on Color."

DECORATING WITH COLOR

The minutes of the 1949 annual meeting of the Inter-Society Color Council, which readers have now received, contain in Appendix A a statement from each of our four new member-bodies describing each organization, its purposes, membership, mode of operation, etc. With the statement supplied by Mrs. M. M. Girard, secretary of the American Institute of Decorators, was the following item prepared by Miss Gladys Miller of AID (also of IES). We believe News Letter readers will be interested to hear directly from such a well known spokesman for the decorators. Miss Miller's report, Decorating with Color, follows:

A successful and well trained decorator has a native and well developed color sense. But rarely does the average decorator realize that he uses a definite color palette, whether consciously or unconsciously, regardless of the client's taste or preference. Nor does the average decorator realize to what extent his choice of color is influenced by prevailing color trends or fashions. Few, if any, decorators have been taught to analyze consumer acceptance trends, with regard to either color or style.

The machinery for doing this is new to our time. Decorating schools rarely teach it, and up to now decorators have not found such knowledge advantageous or necessary to their success. Few clients have articulate color preferences. The decorator thus creates from one to many color schemes appropriate to the type of furnishings in use. The inspiration may come from some possession of the client, a collection of delft plates, a Chinese bowl, a fine water color or oil painting. The idea may come from a new coloration in a wall-paper, a fabric or a rug.

If the colors desired are not available in the open market, the decorator may have white materials dyed to his or her specifications. Some manufacturers will screen print or weave materials in accordance with the decorator's order. The client, of course, pays extra for this special service, and for the exclusiveness.

Decorators fail to realize that only a few follow an independent color pattern. All, at one time or another, use the color palette popular at a given period. Why? Consumer acceptance moves in definite but as yet uncharted cycles. To meet public demand manufacturers in the trade must be alert and keenly sensitive to the shift from one color palette to another. A decorator in New York orders a fabric dyed a blue; next week a decorator in Dallas orders another blue. Before the month is over, 15 orders have come into one fabric house, ten to another, twenty to another. A trend toward blue is in embryo.

The dye manufacturer senses the trend. His records show that this is the first demand for blue in seven years. Blue is to be the next fashion. And colors which harmonize or contrast with blue will soon be in demand. The fabric houses immediately include a blue coloration in the next design they create. The creative designer of fabrics and wall papers also has his color ear to the ground. Good designers are good only if they're alert to trends-- but with this they must also have creativeness and research ability.

The designer may go to the Virgin Islands and return with a feel for tropical

colors. He may go to Mexico or Guatemala and see for the first time black and brown used beautifully and effectively together. He may spend hours in a Museum, and for the first time see a new color nuance in a Chinese vase or a Persian miniature-- perhaps a news story in a morning paper may have interested him in the people and the country. He may have spotted something unusual at the ballet. Source inspiration is as endless as it is unpredictable.

All of this finds itself interpreted in the new materials presented by the trade. The decorator senses the new and the fresh and is in turn inspired by them. The cycle begins to move. In a short time, various shades and tints of blue appear in fabrics and wall papers, regardless of their price. There will be more subtle and discriminating use, perhaps in the cut order lines-- the drawing may be finer, the base material have better quality-- but the commercial lines will reflect the trend. And much will be good.

For years the decorator's use of color was one of his main assets in the competitive market. In the future he must work to excell-- the use of color is decorative, but it is also scientific, and now the decorator has competition among designers and engineers, as well as the amateur consumer, who should not be belittled or maligned. An amateur studies for the love of a subject, and, not rewarded by being paid, expects reward in the way of pleasure.

Climate has influence on color use. Decorators specializing in store decoration are careful to use color contrast in backgrounds. No sky is as blue as the sky in Texas or Arizona. No people wear more colorful clothes. The shops have neutral backgrounds, or backgrounds of sky blue or foliage green. The same background for homes would be as logical.

People living in Kansas and Nebraska have protested the pure colors popular in our present decorating trends. Why? Many people have underestimated this protest. It does not stem from any lack of progressiveness. The atmosphere in these areas is grayed by dust in the air. The eye protests too great a color contrast in the home. To use pure colors effectively in these sections requires greater knowledge of color on the part of consumer and decorator.

If there is one color trend popular throughout the nation, it is the use of green in some form or another. Green from the dark forest, through the empire, the bronze to the light lime-- green on the blue, green on the yellow side.

That blues are a new trend is obvious. Gray has had a wide acceptance, and will continue. There will be more greige and by 1950 beige will supplant gray. Black is everywhere, and very effective with brown. There are slight suggestions that the pure color palette so popular may have passed its peak, that more subtle and more grayed colors may become popular.

Color has become a workable tool. Architects, engineers, decorators, manufacturers, consumers, psychologists and psychiatrists are on the threshold, asking for knowledge. Doctors are interested-- they have learned that color in homes, hospitals, and public buildings has great therapeutic value. They have learned that a wise use of color will lessen fatigue, will relax or stimulate, will lessen tension and foster confidence-- will destroy fear.

But people have a tendency to avoid things they do not know. That is true of engineers, who see the scientific side of the problem and overlook the beauty.

Decorators, on the other hand, approach the subject emotionally, and overlook the scientific aspect.

And all forget the cost of adequate distribution, which is the problem of the manufacturer. To put a new color into paint is costly. To weave thousands of yards in a new carpet or upholstery fabric in a new color, without knowing its saleability, has, in the past, been a real gamble.

The Twentieth Century is the Age of Color. How and why we use it, as well as where, demands concentrated study by a large group of serious people. Only through thoughtful pooling of information and knowledge can we learn to employ color to its fullest scope-- for the good of all.

VOGUE - April 15
A COLOR NUMBER

The April 15 issue of Vogue Magazine was a "Color" number, with about a dozen items on this subject, beginning with "Vogues-eye view of colour in your life." We were interested to find included an article by Faber Birren -- At the Mercy of Color -- in which he discusses the effect of color on people, and the connection between color and the human organism. Another interesting item was a series of pages proclaiming "White is a colour," "Black is a colour," and "Grey is a colour"!

VILLALOBOS
COLOUR ATLAS

Professor C. Villalobos-Dominguez of Buenos Aires, Argentina, has been a member of the Inter-Society Color Council since 1945. We were therefore more than usually interested to receive for review a copy of his newly published Atlas de los Colores, Colour Atlas, with Spanish and English text, published by El Ateneo, Buenos Aires, 1947. Many News Letter readers may have received a sample sheet from the Atlas in advertising its availability in this country through Stechert-Hafner, New York, $30.00 per copy. The following description and discussion of the Villalobos Atlas has been prepared by Carl E. Foss at the editor's request.

The Villalobos Color Atlas is produced by letter press printing with halftone screen plates. The same format is used for each of 38 hue charts all of which have the same 21 step neutral series at the left hand edge of the chart. Each hue chart has 12 vertical, and 19 horizontal, series of chromatic samples, with 191 variations shown for each hue. This provides a total of 7279 samples (191 x 38 + 21 = 7279) in the atlas. Each color sample is 1 centimeter square and has a 1/8 inch hole punched through for comparison purposes. The pages are slightly larger than 8 x 12 inches.

The hue charts represent planes radially arranged around a neutral pole. The color solid the charts illustrate is a right cylinder with white and black on the top and bottom faces. The cylindrical surface is the location of all colors of maximum saturation. Horizontal series at the same position in all of the charts are intended to show colors of the same lightness. The term "isovalent" is used to designate this parameter which is notated from 1 to 19 from dark to light, the white of the paper is notated 20 and the black is notated 0. The vertical series are designated "isochrome" and are notated in degrees from 1° near gray to 12° at the maximum saturation. The neutral series is notated 0°. It should be noted that the isochrome series do not illustrate constant saturation. This is most evident in the 12° series where what is normally a curve on a hue plane is straightened to a vertical line to fit the right cylinder representation.

An unusual feature about this Atlas is that the color variations for each hue are

not produced by the screen variations of a maximum color and black singly and in combination. The authors were aware of the restricted color gamut of this usual procedure and used instead three maximum colors, one a tint, one a strong color and one a deep tone. By overprinting screens of one color over a solid area of the next lighter color they were able to produce a remarkable maximum saturation series. This three-component plan is also used to minimize the screen pattern, and the gray series is similarly produced from a light gray, a medium gray and a black.

Overprinting in this manner also increased the glossiness of the color patches and this contributes to the attainment of high saturation in the maximum series. This multiple component printing procedure requires a separate set of plates for each hue where the maximum color occurs at different lightness positions.

While the Atlas has the most extensive color gamut ever shown in a printed work of this sort, a number of difficulties have developed in its production which may be noted. As the number of color components is increased, the control of the resultant color becomes increasingly difficult, and when extremely light tints are used in typical printing inks, the color stability is also a problem. These factors have caused trouble in the light regions of many of the charts. The color change due to the aging of the printing ink vehicle is most noticeable in the hues from blue green, blue, purple, to redpurple where the light tints are used. The authors have made certain attempts to correct these errors with little success. Certain sample areas have been cut out and others marked out.

For many uses however, the shortcomings are not serious. The Atlas can serve as a reference work much as a number of previous color collections, but it is not as much a contribution to color knowledge as the authors indicate in the text. Perhaps the principal error in the text is the attempt at a combination of several separate phases of color; i.e. color notation, colorant mixtures, and color harmony into one general case.

The authors have included a glossary of terms and conversion tables for the previous works of Ridgway and Saccardo.

COMPARATIVE LIST OF COLOR TERMS

CORRECTIONS

The new COLOR TERMS report has been well received, with many copies already purchased for technical libraries of schools and industry. Copies are still available at two dollars each from the secretary's office. Check should accompany all orders.

The following corrections should be noted:

p. iv The definition for I.C.I. LIGHTNESS is omitted. The word LIGHTNESS should be changed to HUE, since the definition given is for HUE. The following definition should be added to the I.C.I. terms:

LIGHTNESS: The attribute of an object-colour perception that permits it to be classified as equivalent to some member of the series of greys ranging from black to white.

p. 8 The TAPPI definition for BRIGHTNESS: change the blue specification to 457 mμ.

NEW COLOR HARMONY MANUAL

The Container Corporation makes the following announcement of a new Color Harmony Manual, an enlarged and improved third edition in loose-leaf form, edited by

bert Jacobson. Walter C. Granville, Carl E. Foss, $113.38, from Color Standards partment, Container Corporation of America, 38 South Dearborn Street, Chicago 3, linois:

he third edition of the Color Harmony Manual is an ideal instrument for colorists. provides a set of standards for artists and educators, it helps in the discovery d invention of harmony, and serves as a means of specification and coordination printing, painting, dyeing, and design generally.

hen in 1946 it was evident that the first Color Harmony Manual was becoming well tablished, work was begun on the production of this third edition. Practical exrience suggested many important improvements, and such a number of modifications sed on modern technology have been adopted that it may be fairly described as a rther development of the Ostwald system.

Recent research in colorants has made it possible to extend the color range in ny regions without sacrifice of permanence and other stability factors. Many of ne original colors have been relocated for better interrelation of the various cales and to provide a more useful sampling of the color domain. In particular, he light clear series in the red to purple region have been made much clearer, hile small gains of a similar nature have been made in most other hues.

The new Manual has 943 colors--an increase of 263. These extra colors were seected on the basis of their general industrial usefulness and are marked in accordnce with the Ostwald notation.

The color chips were made by spraying a mat, pigmented lacquer of appropriate olor to one side of a sheet of clear, transparent cellulose acetate. This prodides a washable color standard. Furthermore, the double surface feature--mat on ne side and glossy on the other--makes for easier comparison to materials of diferent textures. The color chips are hexagonal in shape, which not only distinuishes them and this edition from the others, but also forms compact triangles in hich the monochromatic relationships are more readily apparent.

A complete new text, written for the third edition, accompanies each Manual. Fully llustrated, it explains the theory in detail, as well as the methods of discovering armonious combinations.

Completely revised and considerably enlarged, this new edition is the most generaly useful collection of organized color chips that we know. The Color Harmony anual should serve successfully to meet the growing and critical demand for color oordination in art, education, production, and merchandising.

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ditor's note: The production of this new edition is a beautiful job. Word decription of the new form is so inadequate that we asked for copies of the enclosed eaflet for distribution to News Letter readers so that they might see what the new harts look like.

e understand too that ICI data, based on spectrophotometric curves, will be made vailable in the near future, and that in cooperation with the Martin-Senour Paint ompany paint formulas for matches to the colors in this edition will be published. ws Letter readers will be informed as soon as publication of either of these ries becomes available.

ADAPTATION AFFECTS NEUTRAL POINT

Reprints of a paper by Helson and Michels in the December 1948 Journal of the Optical Society have been received. The subject, The Effect of Chromatic Adaptation on Achromaticity, is one that is important both in theory and practice of colorimetry. Defining the neutral point of the eye for all states of adaptation is one way to gain information that may help to obtain a better correlation between color specification and colors as they are perceived under all conditions of adaptation. In this study the whole retina was flooded with strongly chromatic light by the means of placing the observer in front of a white-lined booth which was flooded with strongly chromatic light from a filter and lamp unit mounted above and behind the observer. Observers were asked to make a central spot (which was the exit pupil of an especially-constructed colorimeter) neutral by turning handles which regulated the amounts of light from the three primaries of the colorimeter. This was done with yellow, red, green, and blue backgrounds at various levels of luminance. When the results of repeated settings by three observers were averaged and plotted on the ICI chromaticity diagram, it is found that the achromatic points fall on a straight line between the background point and the achromatic point for a dark surround. A formula for "adaptation ratio" is given as a convenient measure of the achromatic point for a given surround chromaticity. These data agree with the generalizations drawn from studies on reflecting samples performed previously by Helson and by Judd. The generalizations are those involved in a description of "adaptation level." It is interesting to note that D. L. MacAdam, in his paper, "Measurements of Influence in Local Adaptation on Color Matching," at the March O. S. A. meeting, reported comparable results.

THE COLOR OF LIFE

The book by Arthur G. Abbott with this somewhat enigmatic title (McGraw-Hill, New York, 1947, Pp xxi + 294, with seven illustrations in chromatic color, $6.00) has been reviewed by Dr. Judd, our Editor for Science, who reports as follows:

The Color of Life summarizes in a very readable way nearly everything about color that would concern the average newspaper reader with little or no technical interests. The material appears to have been gathered from the Encyclopedia Brittanica supplemented by uncritical reading of various magazine articles, handbooks and textbooks, and by writing to a large number (96 acknowledged) of people having specialized knowledge of some aspect of color. The enormous task of organizing the material has been well done. The book is divided into seven parts: The Foundations of Color, Colors by Nature and How Produced, Colors by Man and How Produced, Guides to Use of Color, Colors for Everyone, Relation of Color to Man's Progress, and References.

This book will be of little concern to students of spectrophotometry, goniophotometry, colorimetry, psycho-physics, or theories of color vision. These subjects are all disposed of in two pages. The author is not too sure what color is. He says (p. 1), "Without light there would be no visible evidence of color." This statement seems to imply that there are invisible evidences of color, and the author goes on (p. 16) to state, "..science has demonstrated that color also exerts influence in ways independent of vision, as is described in later chapters." The later chapters did not seem to the reviewer to deal with color apart from vision, and indeed, the dictionary definition quoted (p. 101), seems to exclude such a thing.

The nonpedantic reader will thank Mr. Abbott for his organization into understandable terms of a great mass of information on color embracing light, gems, plant pigments, birds, fishes, dyes, coal tar, paint, cosmetics, glass, enamel, china, fireworks, lamps, wood finishes, cement, photography, printing, terms, harmony, contrast,

therapy, symbolism, temperature impression, advertising, food, camouflage, phosphors, codes, and dry cleaning. The summaries given generally escape being misleading even when the author is on obviously unsure ground. Some outstanding exceptions are the statement (p. 20), "All colors by moonlight tend to look like dark or violet blue; ... this is probably due to the absorption by the moon of most of the long rays from the sun and the reflection of short rays," and the statement (p. 21) "the rainbow ... forms an arc across the field of vision in conformity with the earth's curvature." The facts are, of course, that the spectral composition of moonlight and sunlight are almost identical, and the arc of the rainbow has nothing to do with the shape of the earth. Among much correct material, Mr. Abbott has summarized some incorrect.

The author is most at home in his discussion of the selection of colors to produce harmonious combinations for interior and exterior decoration. He has plainly had experience with this controversial subject, and his opinions are worth considering even on the part of those who hold conflicting views. The Chapter on Special Uses of Colors Today is a remarkable compilation of the many ways color enters modern life, much of it presented in the form of direct quotations from newspaper and magazine articles and from correspondence.

Under references are listed about 100 organizations concerned with development and use of color, about 200 manufacturers of pigments and dyes, and about 200 references to the literature. In addition there are about 200 more literature references, not all different, throughout the text.

The chief fault of the book is the indiscriminate selection of sources of information. The author of the book is not an authority on the subject. He does not say to the reader, "I repeat this interesting color statement to you because I know that it is correct," but rather, "This color statement is so startling that it makes news right or wrong, and here is who said it first." He points out as one school of thought (p. 12) that people born with color blindness can be cured by training, but he fails to point out that this view flies in the face of the scientific facts. It must be admitted, however, that the book amply serves its avowed purpose "to present a variety of facts, theories, experiences, and observations about color that will be interesting and useful to a large number of people." No claim is made that the treatment is authoritative.

LETTER-TO-THE EDITOR

The following letter from Lt. Comdr. Dean Farnsworth presents a subject that could bear thoughtful discussion in the News Letter.

Dear Editor:

An article in the recent American Optical Company house organ, "Vision," Volume 33, No. 1, is commendable because it ties in pseudo-isochromatic plates with standard illumination. A picture is shown of the test being given under a New London-Macbeth Easel Lamp. However, the piece revives some of the errors in the first manual of instructions issued by the A.O. Co., which probably reached an all time high for nonsense and nonsequiturs.

The third paragraph of this article parrots a tiresome statement often found in the literature of color blindness: "Color deficiencies may be classified as acquired or congenital. It is well known that...." etc., with the usual business about tobacco and drugs.

I don't believe that it is well known. I challenge this entire idea that color blindness - in the sense in which we universally use the term - can be acquired. I have yet to find a single believable case in the literature since 1855 of a case of acquired color blindness or color deficiency. If any of the readers of this News Letter know of such cases, I think it is time that we were hearing about it. If anyone knows how to produce color blindness, it would be of inestimable value in research projects concerned with the mechanism of color vision.

We are not here, of course, interested in reports on color fields. We are interested in people who could pass color blindness tests before a certain time in their life and could not pass them afterwards. We are assuming, of course, that their acuity and "light sense" remained unchanged, for it would be absurd to use the term "color blindness" to designate vision due to cataract, loss of eyes or heminopia. We are here concerned with color deficiency of the type which is tested on the customary tests for color deficiency. If cases of acquired color deficiency cannot be discovered or produced, I think it is high time that we gave up repeating the century old superstitution that it can be acquired as a "well known fact of color blindness." (Signed) Dean Farnsworth, Lt. Comdr., H(S), USNR

The above letter was sent to Dr. Judd who replied that he thought this an excellent subject for discussion in the News Letter. As a contribution to such discussion he supplied the following references which are among 166 he found in his bibliography on color blindness.

E. L. Atkinson, Snow-blindness; its causes, effects, prevention and treatment, Brit. J. Ophth. 5, 49 (1921)

Best and Haenel, Rotgrünblindheit durch Schneeblendung, Klin. Mbl. Augenh. (1) 48, 341 (1910)

Birch-Hirschfeld, Weiterer Beitrag zur Kenntnis der Schädigung des Auges durch ultraviolettes Licht, Z. Augenh. 20, 1 (1910)

Bregmann, Ueber Grün- und Violettsehen bei Tabes dorsalis, Deut. Z. Nervenh. 26 (1904)

H. R. Crosland, A case of achromasia with complications, Amer. J. Psychol. 35, 593 (1924)

C. Hess, Untersuchungen über Hemeralopie, Arch. Augenh. 62, 50 (1908)

C. Hess, Zwischenstufen zwischen partieller und totaler Farbenblindheit, Arch. neerl. de Physiol. 7, 179 (1922)

R. Hilbert, Die Pathologie des Farbensinnes, Klin. Monstabl. Augenh. 45, 518 (1907); 47, 220 (1909)

R. Hilbert, Zur Kenntnis der pathologischen Farbenempfindungen, Zentr. Augenh. 34, 33 (1910)

R. Hilbert, Ueber den Zusammenhang der physiologischen mit den pathologischen Farbenempfindungen, Klin. Mbl. Augenh. 49, 270 (1911)

J. Hirschberg (Total color blindness of both eyes from a blow on the head), Centralbl. Augenh., p. 200 (1906)

J. E. Jennings, (Monocular color blindness noticed after a blow on the head), Amer. J. Ophth. 8, 384 (1925)

M. Karbowski (Pathology of color vision), Graefe's Arch. Ophth. 139, 480 (1938)

H. Köllner, Unvollkomener Farbenblindheit bei Sehnervenerkrankung, Z. Sinnesphysiol. 42, 15 (1907)

H. Köllner, Die erworbene Violettblindheit von klinischen und physiologischen Gesichtspunkt, Z. Augenh. 19, Ergänzungsheft (1908)

H. Köllner, Erworbene totale Ferbenblindheit mit Bericht über einen weiteren Fall, Z. Augenh. 21, 193, 309 (1909)

H. Köllner, Untersuchung über die Farbensinnstorung bei Netzhautablösung, Z. Augenh. 17, 234 (1907)

H. Köllner, Die Beziehungen Zwischen der Störung des Farbensinnes, im Gefolge interner Erkrankungen, Berliner ophth. Ges. (July, 1908)

H. Köllner, Die erworbenen Rotgrünblindheit als dichromatisches Farbensystem, Z. Augenh. 22, 103, 336 (1909)

H. Köllner, Zur Entstehung der erworbenen Rotgrünblindheit, Z. Sinnesphysiol. 44, 269 (1910)

H. Köllner, Ueber die Unterscheidung der erworbenen Rotgrünblindheit von der angeborenen Protanopie under Deuteranopie, Z. Augenh. 23, 97 (1910)

W. Lohmann, Ueber die nach Schneeblindheit beobachtete Rotgrünblindheit, Arch. Augenh. 79, 35 (1915)

W. Schulz, Über den Einfluss des Alkohols auf das Farbensehen, Pflügers Arch. 164, 274 (1916)

W. Schulz, Neue Untersuchungen über den Einfluss von Digitalis und ihr botanisch oder wirkungsverwandter Pflanzen auf die Farbenempfindlichkeit des menschlichen Auges. Pflügers Arch. 163, 511 (1916)

Armando Tarducci, La fisiopathologia del senso cromatico (Spinelli, Florence, 1917)

Toulant (Dyschromatopsia following neuroretinitis) Soc. d'Ophth. de Paris, p. 11 (January 1926)

P. J. Waardenburg, Beitrag zur Vererbung der familiären Sehnervenatrophie (Leberschen Krankheit), Klin. Mbl. Augenh. 73, 619 (1924)

Complete references are given above to 27 most recent papers, and Dr. Judd says he will be glad to supply the 137 additonal titles, all since 1855, to anyone interested.

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Any reader who has something to say on this subject is invited to continue the discussion.