

# INTER-SOCIETY COLOR COUNCIL

## NEWS LETTER

NUMBER 161

September-October 1962

### ISCC MASS MEDIA

The ISCC has 29 member bodies. The printer runs 675 copies of the Newsletter. These figures are not impressive enough to excite the imagination of a journalist. But like so many statistics they conceal the true situation.

The 675 copies of the Newsletter go to the world's most influential color specialists - both in the Member Bodies and in the Individual Member Group. Secondly, if an item from the Newsletter is picked up by the journals of the Member Bodies, or if a communication from ISCC is printed in the journals of the Member Bodies, the audience would jump from 675 to 159,520!

This interesting bit of information was obtained by the Secretary, Ralph Evans, at the request of the board. He polled the 29 Member Bodies, asking for the circulation of their journals. Twenty-seven responded. Upon tabulation, he was surprised by the total, 159,520.

### NEW MEMBERS

The following applications for individual membership were accepted at the last Board of Directors' Meeting held in Rochester, New York, on October 2, 1962.

#### Individual Members

Miss Joyce M. Betty  
9470 Independence Road  
Miami 57, Florida

Mrs. Lucille Chandler  
Clemson College Ext. Service  
Home Economics Division  
Clemson, South Carolina

Mr. L. F. C. Friele  
Weteringlaan 12  
Delft, Netherlands

#### Particular Interests

The particular study of color beneath the aura of nature's manifest patterns relative to effects on integral application to architectural interiors.

To further acquaint myself with the physiological, psychological and social aspects of color which will be applicable in writing authentic material for lay persons. The material to be used as guides in planning color combinations for home interiors.

Colour measurement and its technical application, uniform colour scaling, whiteness evaluation, colour fastness.

(Cont'd.)

Individual MembersParticular Interests

Miss Joyce M. King  
Corning Glass Works  
Houghton Park  
Corning, New York

To collect, maintain, and disseminate color information and data.

Mr. Guillermo Marconi  
Rua Dr. Satamini 158 (Apt. 501)  
Rio de Janeiro, Brazil

Colorimetry, color reproduction, metamerism in color printing.

Mr. Walter Stern  
R. Loewy/W. Snaith, Inc.  
425 Park Avenue  
New York 22, New York

Reproduction of specified colors through graphic arts; control

Mr. Benjamin J. Trombetta  
2250 East Ontario Street  
Philadelphia 34, Pennsylvania

Use in plastics. Currently, I am concerned with color matching and color science with the use of instrumentation; this includes spectrophotometry, color measurement with a tristimulus colorimeter and the calculation of color differences and setting up specifications and color tolerances.

Mr. Homer S. Vandersall  
Allied Chemical Corporation  
Plastics Division  
2829 Glendale Avenue  
Toledo 14, Ohio

Formulation and control of color in amino molding compounds.

Mr. Benjamin E. Werremeyer  
880 Lake Shore Drive  
Chicago 11, Illinois

Color trends in home furnishings and color usage in schools and industry.

COMMERCIAL APPLICATION OF THE  
WORK OF SUBCOMMITTEE ON  
PROBLEM NUMBER 23

The Newsletter received an item from the newspaper, "Home Furnishings Daily," concerning the commercial application of the work done by Subcommittee 23. The application was made by the Chairman, Everett Call. The columnist, Betty Morris, wrote, "Giant Strides were taken during the past year to solve the age-old problem of color identification - giving both manufacturers and retailers hopes of bringing order out of chaos."

The Newsletter received an item from the newspaper, "Home Furnishings Daily," concerning the commercial application of the work done by Subcommittee 23. The appli-

Perhaps the committee did not feel that their work was quite so important, but it must be gratifying to them to have it heralded so by such an important journal. The article points up the cooperation between ISCC and the National Bureau of Standards to develop a color naming system which has corresponding identification in CIE and Munsell systems. Color space is divided into 267 zones varying in hue, saturation, and lightness. Samples representing the centroids of these color zones have been produced (230 of the 267) and are available through the Bureau.

Mr. Call, Call Marketing Services, uses these 267 designations to classify colors of consumer products. The advantage of the system for collection of historical information on color trends is that information from many sources can be collected and compiled according to the ISCC-NBS designations. Heretofore, this has not been possible because of the diversity of color names and the tendency for different markets to develop their own peculiar classification systems. Using this common specification system, Mr. Call is able to combine information from paint sales and textile sales into one classification.

Market trends are very important to retailers, manufacturers and materials producers. They feel that the wrong choice of color in their products may mean serious losses in sales and surplus merchandise. Mr. Call pointed out in the article that this system will allow all three to speak the same color language for the first time.

#### FORUM ON AESTHETICS AND STYLING

Many members of the Board of ISCC have expressed a concern for an area of communication which they feel is important, and which they feel is not adequately covered by the Newsletter. The Newsletter has tended to cover the technical and scientific aspects rather well, but the problem of communication between artists and scientists has been extensively (but not adequately) discussed--particularly in the area of aesthetics and styling.

We have in the Council just the people who are best qualified to address themselves to a forum on this important subject. In fact, the Council is unique in this respect. We bring together artists, architects, interior designers, industrial designers, and package designers. Among us are some of the world's best known designers who can represent the position of the aesthete admirably. On the other hand, we have the colorists and production people in textiles, ceramics, paints, packaging, paper, printers, printing inks, printing, photography, and television. All these are concerned in one way or another with design and aesthetics. Coordinating organizations such as the Color Association of the United States work between these groups and are sensitive to the aesthetic needs. The technological and scientific societies such as American Society for Testing and Materials, Federation of Societies for Paint Technology, Illuminating Engineering Society, Optical Society of America, Research and Engineering Council of the Graphic Arts Industry, and others are less directly concerned with the subject but could be more effective in providing a service if the problems and needs of aesthetics were better understood.

Color itself is a chameleon-like concept. Writers have pointed out that the chemist sees color as a chemical formula; the physicist sees it as light; the physiologist sees it as ocular activity; and the artist sees it as paint mixtures. Before effective communication can take place among these diverse viewpoints, it is necessary for each to see the subject with the other's attitude. The problem here may be just that.

This view was taken by Dick Hunter (ISCC Board Member) who says, "Although we have all spoken many times of these differences in point of view, I have never seen an attempt to tabulate them. I thought, therefore, that the enclosed tabulation might be of interest to you. I am sure that you and others in the ISCC will have improvements to suggest."

POINTS OF VIEW OF THE DIFFERENT ARTS AND SCIENCES  
CONCERNED WITH COLOR

I. Vision and Perception (Physiology and Psychology)

Seek answers to the following questions:

1. How does the eye perceive color?
2. What are the color response functions of the normal eye, and the color-blind eye?
3. What are the laws and data of additive color mixture?
4. What are the phenomenological features of color vision and how are these explained by theories of color vision?

II. Art and Architecture

Seek answers to the following questions:

1. What are the accepted principles of color harmony?
2. How may the phenomena of vision and perception be used and enhanced in art and architecture?
3. What new and better colored materials are supplied for the artist and the architect by materials technology?

III. Design and Marketing

Seek answers to the following questions:

1. How may principles of color harmony and design be used in product design?
2. What types of color harmony, design and use are preferred by the consumer?
3. What are the color trends of fashion and styling and how should these be surveyed and recorded?

IV. Color Specification and Instrumentation

Seek answers to the following questions:

1. How are color scales created from data of additive color mixture?
2. What are the features needed and available in various color scales?
3. How are instruments designed and built to measure color in its different modes?
4. How are materials prepared and measured for color?

V. Production and Control of Color in Lights and Materials

Seek answers to the following questions:

1. What are the optical phenomena responsible for color stimuli?
2. What are the relationships between formulation and color of materials? (Subtractive color mixture, Kubelka-Munk)
3. What production factors affect the color of light, films, and other color modes?
4. What procedures are useful for the quality control of color?

With this beginning, we should like to open the forum on aesthetics. We invite you to express your views on the subject and to take exception (or agree with) points of view expressed in this column.

#### ANNUAL MEETINGS

#### MEMBERS OF INTER-SOCIETY COLOR COUNCIL

Member Societies	Date and City
American Association of Textile Chemists and Colorists Lowell, Massachusetts	October 30 to November 2, 1963 Boston, Massachusetts September 25 to September 26, 1964 New York, New York October 14 to October 16, 1965 Chicago, Illinois
The American Ceramic Society Columbus, Ohio	April 28 to May 2, 1963 Pittsburgh, Pennsylvania
The American Institute of Architects Washington, D. C.	May 5 to May 9, 1963 Miami, Florida
The American Oil Chemists' Society Chicago, Illinois	April 22 to April 24, 1963 Atlanta, Georgia September 20 to October 2, 1963 Minneapolis, Minnesota
American Psychological Association Washington, D. C.	August 29 to September 4, 1963 Philadelphia, Pennsylvania
American Society for Testing and Materials Philadelphia, Pennsylvania	February 4 to February 8, 1963 Montreal, Quebec, Canada June 23 to June 28, 1963 Atlantic City, New Jersey February 3 to February 7, 1964 Philadelphia, Pennsylvania June 21 to June 26, 1964 Chicago, Illinois
Federation of Societies for Paint Technology Philadelphia, Pennsylvania	March 27 to March 29, 1963 Atlanta, Georgia October 28 to October 30, 1963 Philadelphia, Pennsylvania

Member Societies	Date and City
Folding Paper Box Association Chicago, Illinois	March 25 to March 27, 1963 Chicago, Illinois
Gravure Technical Association New York, New York	March 5 to March 7, 1963 Chicago, Illinois
Illuminating Engineering Society New York, New York	September 8 to September 13, 1963 Detroit, Michigan
National Paint, Varnish and Lacquer Association Washington, D. C.	October 27 to October 29, 1963 New York, New York
National Society of Interior Designers, Inc. New York, New York	June 27, 1963 New York, New York
Optical Society of America Washington, D. C.	March 25 to March 27, 1963 Jacksonville, Florida October 23 to October 25, 1963 Chicago, Illinois April 1 to April 3, 1964 Washington, D. C. October, 1964 New York, New York
Research and Engineering Council of the Graphic Arts Industry, Inc. Washington, D. C.	May 20 to May 22, 1963 Chicago, Illinois
Society of Motion Picture and Tele- vision Engineers New York, New York	April 21 to April 26, 1963 Atlantic City, New Jersey October 13 to October 18, 1963 Boston, Massachusetts April 12 to April 17, 1964 Los Angeles, California September 27 to October 2, 1964 New York, New York

Member Societies	Date and City
Society of Plastic Engineers, Inc. Stamford, Connecticut	February 26 to March 1, 1963 Los Angeles, California January 28 to January 31, 1964 Atlantic City, New Jersey March 2 to March 5, 1965 Boston, Massachusetts
Society of Photographic Scientists and Engineers Washington, D. C.	April 29 to May 3, 1963 Atlantic City, New Jersey October, 1963 Washington, D. C. April 23 to May 2, 1964 New York, New York May 15 to May 21, 1965 Cleveland, Ohio
Technical Association of the Graphic Arts Rochester, New York	June 3 to June 5, 1963 New York, New York
Technical Association of the Pulp and Paper Industry New York, New York	February 17 to February 21, 1963 New York, New York

Prepared by Richard S. Hunter. Address information to: Richard Hunter, President, Hunter Associates Laboratory, Inc., 5421 Brier Ridge Road, McLean, Virginia.

#### THE COLOUR COUNCIL OF CANADA

The ISCC Newsletter continues to receive "Colour Comments" from the Colour Council of Canada. In it we learn that many of our friends continue to be active in color. C. R. (Charlie) Conquergood, Ralph L. Conquergood, W. E. Carswell, and Gene W. Butt are on the executive committee.

At their October meeting Mrs. Alice Payne Stark gave a "masterpiece" presentation, "Colour Palette." Her palette is lighting, and her medium is color photography. At the November meeting Dr. Clare E. Robinson, Chief of the Mental Health Services, Toronto Department of Public Health, talked about "Colour and Mental Health."

U. S. colorists who wish to attend the Colour Council meetings will be welcome. For advance information write to Secretary-treasurer, A. P. Hayward, Colour Council of Canada, 103 Walnut Avenue, Toronto 2B, Toronto. The new meeting place of the Council is the Faculty Club, 41 Willcocks Street.

SYMPOSIUM ON COLOR BY THE  
SOCIETY OF DYERS AND COLOURISTS  
AUTUMN, 1963, IN ENGLAND

The following is a letter to ISCC from  
the Society of Dyers and Colourists:

"The Society is proposing to hold a Symposium in the Autumn of 1963, probably in September, and we feel that the subjects to be covered will be of considerable interest to many of your members. The Symposium will deal with the photo-chemistry of coloring matters and the substrates to which they are applied and quantitative methods of color assessments and formulation related to such substrates. It is hoped to include some contributions on fastness assessments, since these will in general be relevant to both the main themes.

"We are sending letters of invitation to those whom we think might have papers to offer and we are also inserting a general invitation in the Newsletter. We should be very grateful if you could draw the attention of your members to this Symposium, particularly any who are likely to be visiting this country next year and who might be willing to offer a paper. It would very much help our Technical Papers Subcommittee if prospective contributors could let us have synopses (not exceeding 300 words) by 10th December 1962."

For further information write to M. Tordoff, Editor and Technical Officer,  
P. O. Box 244, Deane House, 19 Piccadilly, Bradford 1, Yorkshire.

THE COLOR ASSOCIATION  
OF THE UNITED STATES

Some time ago the Newsletter received a clipping from the New York Times. We were pleased to see it because it credited the work of Midge

Wilson and the Color Association. The following are excerpts from the item:

"The woman who bought an orange dress this spring, when the stores were flooded with orange dresses was acting just as a long list of experts predicted she would. These experts, including color consultants, fashion coordinators, textile manufacturers, store buyers and executives, dress designers, psychologists, advertising specialists, market researchers, and others, anticipated the shopper a year in advance. They decided upon orange while she was buying last spring's pink; they decided next spring's big color--probably yellow.

"'A woman who wants a color other than the season's favorite can get it,' said Miss Midge Wilson, executive director of the Color Association of the United States, Inc. 'There always are lots of colors. It's just that one color always seems to outstrip the others.'"

Joint Effort

"The Color Association was founded in 1915 by people who believed that the use of color plays an important role in merchandising a wide variety of products. Its membership has grown until it now includes every conceivable industry--manufacturers of automobiles, aircraft, clothes, boxes, enamelware, rugs, plastics, soaps, china, and books.



"The Association does color research, studies trends and people's tastes, and issues forecasts of future colors to its members who are free to use or discard its information. Its color sources are a secret, but the colors that will tend to dominate any market are selected by committees that always are composed of competing members in a particular industry.

"It's so expensive to do business that competitors have to get together," Miss Wilson said. "There has to be broad agreement. You couldn't have three big companies pushing dark, murky tones and three pushing bright ones. However, going in the same general direction does not mean that each manufacturer cannot have his own variations."

#### FEDERATION OF SOCIETIES FOR PAINT TECHNOLOGY

The 40th Annual Meeting of the Federation was held in St. Louis, Missouri, Chase-Park Plaza Hotel. As usual, the meeting reflected the importance of color, and as usual, members of ISCC were called upon to elucidate the subject. Meetings were held October 15, 16, and 17. On Monday, October 15, a panel on "The Fundamentals and Problems of Color" was held. S. Leonard Davidson, National Lead Company, was the moderator. Panelists were Miss Ruth M. Johnson, Pittsburgh Plate Glass, whose topic was "Pitfalls in Color Specification"; Fred W. Billmeyer, Jr., duPont Company, Plastics Department, whose topic was "The Systematic Description of Color"; and Max Saltzman, National Aniline Division, Allied Chemical Corporation, whose topic was "Colored Organic Pigments, Too Many or Too Few?". Brief abstracts were published in Official Digest, Vol. 34, No. 452, September 1962, pp. 932-933.

#### HARRY HELSON RECEIVES APA HIGH AWARD

Harry Helson--ISCC veteran and John C. Peterson Regents' Professor of Psychology at Kansas State University, Manhattan--was awarded the Distinguished Scientific Contribution Award at the American Psychological Association Meeting in St. Louis, Missouri.

"This is a signal honor for Dr. Helson, and Kansas State University is proud of his achievement and in this well-earned recognition," commented William Bevan, dean of the School of Arts and Sciences.

As a recipient of this award, Helson is invited to address the APA at its annual meeting and in addition receives \$1,000.

Helson, both an experimental and theoretical psychologist, has specialized in the field of perception, particularly psychophysics. His outstanding contribution is his formulation of the adaptation-level theory. His numerous publications include articles in leading psychological, physiological, and engineering journals as well as monographs and invited chapters in a number of books on vision and psychological theory. He is well known in ISCC for his color work. Currently he is editor of "Psychological Bulletin."

In the spring of 1961 Helson came to Kansas State as a visiting professor from the University of Texas, where he had been a member of the faculty since 1951. He held previous academic appointments at a number of outstanding educational institutions and other appointments as visiting professor at such universities as Cornell University, University of Southern California, Harvard University, and the University of California at Berkeley.

COLOR MEASUREMENT AND  
SPECIFICATION COURSE

The New York Paint, Varnish & Lacquer Association and the New York Society for Paint Technology is again sponsoring the course in "Color Measurement and Specification." It is being held in the Metal Work Gallery at Cooper Union Museum; Monday evenings (October 22, 1962 to December 17, 1962 at 7 - 9 p.m.). This is an elementary course designed to acquaint the student with the principal systems for analysis of color differences by instrumentation, their relationship to the Munsell system, and the equations for conversion to CIE tristimulus values and chromaticity coordinates. The use of computers for color matching is explained. Examples of everyday color matching problems are used as the basis for the lectures.

Mr. Richard S. Landry of Davidson & Hemmendinger, color consultants, is the principal lecturer. Mr. Landry was first lecturer in this course given last year and has presented this work in courses at Davidson & Hemmendinger.

Dr. Milton Stecher of the Cooper Union Physics Department lectured on the Physics of Color. This lecture was held in the Physics Lecture Room and all of the characteristics of color described by Dr. Stecher were covered by demonstrations. Dr. Stecher lectured on November 12, 1962 (5:00 - 6:30 p.m.).

Mr. R. S. Hunter, President of Hunter Associates Laboratory, Inc., will present the lecture on "Optical Properties in Appearance Attributes of Finishes." Mr. Hunter has developed the Hunter Reflectometer and other instruments for the measurement of appearance attributes of materials. Mr. Hunter will lecture December 3, 1962 (7:00 - 9:00 p.m.), at the Cooper Union Museum.

The registration fee is \$15.00 per student with a maximum registration permitted of 40 students. At the present time, students are limited to members of the paint and varnish industry in the New York City area and to students at universities. Course prerequisites are a course in college physics on "Electricity and Light" and/or a knowledge of color matching problems in the paint industry.

For information contact:

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Sandoz, Inc.  
61 Van Dam Street  
New York 13, New York

(212 ALgonquin 5-1700)

S. L. Davidson  
National Lead Company  
1030 State Street  
Perth Amboy, New Jersey

(201 VALley 6-6000)

COLOR  
ENGINEERING

The Kinelow Publishing Company, Wilton, Connecticut, announced a new magazine, Color Engineering--a publication to serve the needs of the industrial color field. Regular monthly appearance of the controlled circulation trade magazine starts with the January 1963 issue. Members of ISCC will receive copies with no charge. Color Engineering is the first periodical to cover the field of industrial color.

The magazine will cover color problems occurring throughout industry and manufacturing and will report on means for coping with color problems which have been evolved by colorists, color engineers, color checkers, color mixers, and others in plastics, textiles, foods processing, rubber, paints, varnishes, ink - in papermaking, leather tanning and processing, and other fields.

In addition, Color Engineering will report on related problems of toxicity, stability, opacity and transparency, surface character and quality.

Color Engineering will serve management, mill and factory heads, and their color control people, as a forum for all aspects of industrial color. There will be research reports on problems in color technology, case histories on how color problems were solved or eliminated, news of color checking equipment: the colorimeters, spectrophotometers, matching and comparing units. There will be reports on production and manufacturing equipment for blending, mixing, dyeing, pigment grinding, rendering and compounding. Additionally, here, too, will be found information on pigments, dyes, lakes, toners and myriad color rawstuffs compiled, edited specifically for colorists.

News and events of legislation affecting colorists' reports of literature and book reviews in their fields will be included. The editors will periodically present special issues and roundups of where-to-find and where-to-buy industrial color goods of every nature.

The editors invite editorial contributions from members of ISCC. They are seeking articles and features on as wide a variety of industrial color subjects as possible. The scope is quite unlimited at present, and subjects can include original research papers on or in the industrial color field; specific color-in-industry and manufacturing problems and how they have been overcome (case history type of presentation), or might be overcome (theory); - in short, any item or subject that would be of interest to colorists and color engineers. Color Engineering, as the name suggests, will be engineering-slanted; consequently articles should be semi-technical and "practical" rather than "pure research" in orientation - but this is by no means a hard and fast rule...

Photographs, artwork, charts and diagrams are, of course, desired along with submitted manuscripts. The editor will work with you on a personal basis should you have any ideas for articles, or subject matter you would like to discuss beforehand.

Address manuscripts to Bernard W. Powell, Editor, Color Engineering, Wilton Center, Wilton, Connecticut.

HANDBOOK OF COLOR SCIENCE  
A BOOK REVIEW

Handbook of Color Science (in Japanese).  
(Ed) Color Science Association of Japan,  
Nankodo Company, Ltd., Tokyo, 1087 pp., 1962.

The extensive use of color in modern technology, not only for identification and aesthetic purposes, but also as a tool (for example, spectroscopy in determination of molecular structure) is evidenced in the extensive coverage of the Handbook of Color Science. Separate chapters are devoted to signal lights, photography, television, lithography, ceramics, industrial products, housing and buildings, and foods, drugs and cosmetics. In order to utilize color optimally in the applied fields listed above, a knowledge of the physical characteristics of light, the biological properties of the organism, and psychological factors affecting color perception is necessary. That is, the sensation evoked in the organism is the end product of primary interest. This interdisciplinary nature of color has been accepted for a long time. The Color Science Association of Japan has done a creditable job of selecting and publishing, in one

source, the vast literature from the various sciences involved in a "complete" science of color. There are some noticeable omissions; for example, a chapter is devoted to color rendering, but unfortunately the psychophysical studies on contrast and adaptation effects, an area of investigation popular in Japan today, has been neglected.

Concepts used in colorimetry, photometry and its related background materials, and the different systems for classifying and designating colors are extensively covered. Mathematical descriptions of the color systems, rather than a reliance on verbal descriptions, are emphasized. The chapters on water-soluble dyes and pigments, as well as foods, drugs, and cosmetics, are centered around molecular structures rather than qualitative color distinctions.

The review of psychophysical methods presented in the appendix is a good introduction to basic techniques used in investigations of responses elicited in humans. The other half of the appendix dealing with transformation equations for trichromatic coordinates is necessary for any handbook concerned with color measurement. Unfortunately, the index does not do justice to the extensive coverage of this handbook. The illustrations at the beginning of each chapter depicting the chapter contents were highly entertaining to the reviewer, probably because of agreement with his association of chapter content and the related sketch.

In short, the handbook appears to be primarily designed for researchers interested in the use of color in industry, but would be beneficial as background material for investigators in any of the disciplines concerned with the science of color. A translation of the table of contents follows: 1) What is light and color?; 2) Lighting; 3) Color systems; 4) Color mixture; 5) Color sources; 6) Color differences; 7) Psychology of color; 8) Visual mechanisms; 9) Color rendering; 10) Color harmony; 11) Glossiness; 12) Chemical spectroscopy; 13) Water soluble dyes; 14) Pigments; 15) Filters; 16) Signal lights; 17) Photography; 18) Television; 19) Lithography; 20) Ceramics; 21) Foods, drugs, and cosmetics; 22) Color harmony for industrial products; 23) Color harmony in construction (housing and buildings); 24) Color naming; 25) Japan Industrial Standards (JIS).

Gary T. Yonemura

COLOUR TECHNOLOGY  
A BOOK REVIEW

COLOUR TECHNOLOGY FOR ARTISTS, CRAFTSMEN & INDUSTRIAL DESIGNERS by F. A. Taylor, 140 pages, London, Oxford University Press, 1962, \$4.80.

It is indeed a great disappointment to find that this book on the technology of color contains importantly inaccurate and confusing statements about topics and terms on which there is wide general agreement. For instance, on page 18, in describing the three main attributes of color, there is the following sentence under the term hue: "White is different in hue than black or gray." On the same page, under a description of the term saturation are the following two sentences: "In the case of a shaded or neutralized color, the luminosity of the color is reduced. In the Munsell System this attribute is described as chroma (full or reduced)." Here the author seems to be confusing luminosity with saturation.

Under these circumstances, this reviewer found it extremely difficult to take this book seriously and impossible to read it through. One would be far better advised to read some of the standard works on color that have originated in England such as the writings of W. D. Wright, or J. Scott Taylor's English translation of Ostwald's Color Science, and that extremely informative "Report on Color Terminology" prepared by a committee of the Color Group and published by the Physical Society in 1948.

Walter C. Granville

#### REFLECTIONS AND TRANSMISSIONS

New publications are being started every day. Failures in periodical publication, although alarming to some, are not keeping pace with starts. At one time we worried about keeping up with the published papers. Now we worry about keeping up with the periodicals. In view of this, I should not be enthusiastic about the appearance of a new publication. Nevertheless, I would like to call your attention to a new one by Hunterlab, or, more precisely, by Dick Hunter. It is "Reflections and Transmissions." The following is Paragraph 1 from Volume 1, Number 1, June 1962:

"This issue of Reflections inaugurates what we hope will be a helpful series of bulletins for persons concerned with the TECHNOLOGY OF APPEARANCE. By appearance we mean color, gloss, luster, opacity, texture, haze, transparency, translucency, etc. Scientific instruments and techniques developed by us are used in the following fields: paint, paper, plastics, textiles, food, graphic arts, cosmetics, soaps, detergents, waxes, metals, ceramics, pigments, leather.

Reflections will feature current Hunterlab research and design on instruments and applications; improved techniques for preparing specimens and taking useful measurements of them; schedules of meetings and other technical activities relating to the field of appearance technology; and data on new technical articles, published specifications, test methods and the like."

Incidentally, Reflections discusses a new Goniophotometer, a much needed addition to appearance instrumentation.

#### THE INTERCHEMICAL IPI COLOR FINDER

Many individuals have developed color systems. In fact, there are a profusion of color systems ranging from the artist's color wheels to the elaborate internationally accepted systems such as Munsell and Ostwald. Most inventors of color systems find that the most difficult job is not devising the organization, but producing the physical samples-- the color chips. The German D. I. N. system was described in Newsletter No. 133, January 1958, pp. 8-10; chips are still being produced to complete its final chart. It took Munsell and his staff many years to produce the Color Atlas. Many color systems depend on charts which cannot be duplicated without considerable difficulty and expense, and therefore have limited usefulness. Many such systems have been produced by halftone printing--a highly unreliable system for precise duplication.

It is encouraging to find a color system published by a company with a long history in color, backed by an individual who is known and respected for his work in color. Such a combination is found in the work of Lew Wurzburg and Interchemical Corporation in the development and production of the Color Finder. The system is useful to the printer who has to select inks from a limited number of basic ink colors. The physical samples can be used in the selection of a color or in the matching of a color. The formulation on the back is a rather good guide to the mixtures of eight basic ink colors plus black and white. The mixture steps are in simple quantities, enabling easy interpolation between steps.

Just how useful the system will be remains to be seen, but the convenience of the Finder combined with the formulation will make the job of selection of inks and mixtures much easier for many applications--at least for printers. The Color Finder may become as useful to the printer as the multitudinous paint selectors and mixing schemes are to the paint dealer.

Prices for the Color Finder are:

- \$10.00 per set (coated and uncoated edition) or \$5.00 per book
- 8.00 per set when 2 sets (4 books) are purchased
- 6.00 per set when 5 sets (10 books) are purchased
- 4.00 per set when 10 sets (20 books) are purchased

#### LIGHTING AS VISUAL DESIGN

An interesting article by Gerald Ewing, lighting consultant and member of ISCC, appeared in Contract, June 1962. In this article Mr. Ewing stated, "It is generally known that the appearance of any color is affected by its surrounding (a color appears more intense when surrounded by its complement) and it is usually realized that different light sources (spectral distribution) can change the appearance of colored material (the difference in appearance of navy blue cloth under daylight and artificial light).

"However, the great importance that the direction of light (in relation to the object and the observer) has on color perception, is seldom realized. So little is this understood that we often see art galleries illuminated by large luminous ceiling areas of diffused light. The combination of direct and reflected glare from this type of lighting casts a veiling haze on the pigments and prohibits the observer from ever seeing the true purity of the painting's color. Diffused light when used as the only light source has exactly the same colorless effect on objects and paintings that an overcast sky has on nature. This creates a gray-day effect both in nature and architectural interiors. Often, because of the slick, clean cut appearance of the 'luminous ceiling,' this form of lighting has been used indiscriminately in all types of interiors. Without the necessary relief and variety when used in conjunction with other types of lighting, it produces a dreary environment. We now have a large segment of the population confined in offices and public buildings destined to spend their working days in this bland, gray-day atmosphere.

"There is no simple method or certain formula for success in lighting design other than the hard-earned ability learned through experience. Lighting design, like musical composition, is more of an art than a science, a fact that is now beginning to be realized. We have just passed through an agonizing period in which simple formulas of mechanical measurement were used as a basis for lighting design. The combination of scientists and artists has now discounted this 'engineered lighting' approach and it seems certain that good results from this new direction will begin to appear before long."

## MISCELLANY

Bell Ringers ..... Reporter, Bell Telephone Laboratories,  
May, 1962.

Color is comparatively new to the telephone booth. It originated when a forward-thinking young man, whose name is lost to history, thought that people might be more attracted to a booth painted a bright color. His suggestion of painting a booth red was initially frowned upon, but eventually he championed his idea into reality. A bank of telephone booths at a busy commuter location was chosen for the test. Half of the booths were to be painted an "unoffensive red" and the other half to be left in their natural wood finish. However, by accident the booths were painted a bright fire-engine red in flaming contrast to the drab booths beside them. In the first month, revenue from the red booths increased 50 percent. Unwilling to accept the obvious fact, the defenders of tradition requested that the booths be interchanged on the basis that traffic at one side of the station was heavier than at the other. The result of the shift was a corresponding shift in revenue, which left opponents of the red booths demanding that all the booths be painted red, hoping to prove once and for all that the increase was not directly related to the color of the booths. The result of the final test was a 50 percent increase of revenue for all the booths, and tradition toppled in the red face of irrefutable evidence.

On Seeing Red ..... by J. R. Nortman from the April 1962 issue of Scottish Field magazine.

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LIST OF ARTICLES ON  
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The Litho-Printer, 3, No. 10, pp. 539-542 (October  
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