

Inter-Society Color Council *Newsletter*

NUMBER 198
January - February 1969

ANNUAL MEETING PROMISES VARIETY

General plans for the 1969 Annual Meeting of the ISCC, to be held at the Statler-Hilton in New York City on April 14-15, have been announced by Karl Fink, General Chairman. In addition to the presentation of the Godlove award and the customary business meeting, subcommittee meetings on problems, and the banquet, plans have been made for a Forum, films on color education, a talk on the history of the Munsell Color System, a symposium on Color Instrumentation, and a pre-banquet reception with a surprise cocktail hour demonstration. The tentative schedule is as follows:

Monday:

9:00 a. m. - Noon. Meetings of Subcommittees for Problems 10, 18, 22, 24, and 25.

12:00 - 1:30 p. m. Luncheon for Officers, Board Members, and Delegates.

1:30 - 2:30 p. m. Meetings of Subcommittees for Problems 7, 16, 21, 27, and 30.

2:45 - 5:00 p. m. Forum on "Assorted Points of Hue," Midge Wilson, Chairman.

Topics:

How to Dye Happy (it can be a problem); What Became of the Man in the Gray Flannel Suit (color does make the man); Seeing is Believing (how the Braniff color explosion spread from people to planes to the new International Airport); The Little Red Schoolhouse and How It Grew (color in our environment); and Even the Couch is Colored (a psychological look at color).

Evening:

Presentation of motion pictures on the subject of color education. Milo Folley, Chairman.

Tuesday:

9 - 11 a. m. Business Meeting

11:00 a. m. - 12:30 p. m. History of the Munsell Color System, by Dorothy Nickerson.

Afternoon: Symposium on Instrumentation, Ruth Johnston, Chairman.

Evening:

Reception and surprise demonstration.

Banquet.

Presentation of Godlove Award to Harry Helson by Deane B. Judd.

Banquet speaker: Jack Lenor Larsen, fabric designer, on "Color: Program and Prophecy."

FIRST AIC CONFERENCE DRAWS LARGE RESPONSE

Professor W. D. Wright, President of the International Colo(u)r Association (AIC), reported at the Williamsburg conference in February that the call for papers for the first meeting, in Sweden, June 9-13, produced an overwhelming response. This fact augurs well for the quality of the meeting, and should provide added incentive--if any is needed--for those who might be vacillating about attendance.

Also at the meeting in Williamsburg, Anders Hård extended a charming and cordial welcome to the ISCC.

NEW MEMBERS

The following applications for individual membership were accepted at the meeting of the Board of Directors held in New York City on January 14, 1969.

Individual Members and their Particular Interests

Mr. John R. D'Aiuto
21 Cressida Dr.
Old Bridge, N.J. 08857
Color Measurement and dye process control.

Mr. Ronald H. Bourque
Fitchburg Paper Co.
P.O. Box 503
Fitchburg, Mass. 01420
Formulation and cost.

Mr. Robert W. Burnham
Research Laboratories

Bldg. 81
Eastman Kodak Company
Rochester, N.Y. 14650
Psychophysical relationships between visual and photographic variables.

Mr. Louis Davidoff
2715 E. 3rd Avenue
Denver, Colorado 80206
Vast--as related to our interior design projects. We do large commercial projects that affect many people for long periods of time and send all the information we can gather on the subject.

Mr. Matthew Foley
The Space Design Group
8 West 40th Street
New York, N.Y. 10018
Psychology of vision and perception and the environment.

Mr. John T. Gimpel
Gibson Greeting Cards, Inc.
2100 Section Road
Cincinnati, Ohio 45237
For the betterment of our products and to be able to better predict popular colors a year in advance. Also, better knowledge of new advances in printing inks.

Mr. Ralph A. Johnson
Sheller Globe Corporation
1641 Porter Street
Detroit, Michigan 48216
Development and control of colors of paints and plastics for automotive products. Art -- painting.

Mr. John A. Keitch
58 Butterfield Rd.
Wheathampstead, Hertfordshire
England
Instrumentation applied to the varied problems of color matching and color control in the plastics industry.

Mr. C. D. Leigh
Tenneco Chemicals, Inc.
600 California St.
San Francisco, California 94108

Mr. Herral Long
2027 Robinwood Avenue
Toledo, Ohio 43620
Photography, color reproduction, holography, "light art." Teaching photography and related areas such as light art. Am also interested in any systems that will convert other energy to light or perceptible images, i. e., thermography, sonar holography.

Mrs. Patricia Paterson
Plastics Color Division
P.O. Box 159

Somerset, N.J. 08873
Pastes, Concentrates, and Dry Colors (in that order).

Mr. Jack Peret
Apt. 1A Maplewood Gardens
S. Central Avenue
Spring Valley, N.J. 10977
Computer color matching.

Mrs. Tracy Shoor
Naval Submarine Medical Center
Human Factors Engineering Branch
Naval Submarine Base New London
Groton, Conn. (Box 600) 06340
(1) Color specifications for tests used to determine type and degree of color defective vision. (2) Spectrophotometric analyses of various types of optical media. (3) Specifications for colors used in coding.

Mr. Otho E. Smith
Genesco, Inc.
111 Seventh Avenue N.
Nashville, Tenn. 37202
Color measurement and problems with shading of textiles and leather from batch to batch.

Dr. Robert Summitt
Michigan State University
Dept. of Metallurgy
East Lansing, Mich. 48823
Research in optical properties of pigments and other inorganic solids, teaching undergrad. and grad. courses in color science.

Mr. Charles D. Sweeny
16 W. Church St.
Lock Haven, Pa. 17745
Measurement and control by instrumental means.

Major Kenneth A. Turner
Box 282, WBGH
El Paso, Texas 79920
The problems of restoring teeth in an esthetic manner with dental ceramics and matching the colors etc. of the natural teeth in the mouth.

Mr. E. Carl Zibell
The Glidden Co.
11001 Madison Avenue
Cleveland, Ohio 44102
Instrumentation, standards, styling.

JO ANN KINNEY RECEIVES AWARD

Dr. Jo Ann Smith Kinney, chairman of delegates from the American Psychological Association to the ISCC, has received the high honor of being named one of six Government career women selected to receive the ninth annual Federal Woman's Award. These awards are given annually to career women in Government for high achievement in the various posts which each holds in

Government. They are nominated for the honor by Government agencies, and from the list of nominees -- this year a total of 104 -- six are chosen by an independent panel of judges. The winners were honored at a banquet on March 5 at the Statler Hilton Hotel in Washington. The fields represented this year were cryptology, diplomacy, law, management, personnel administration, and psychology.

Dr. Kinney is the youngest of this year's recipients. She is described as the "top expert on underwater vision in the United States." Her career began at the Naval Submarine Medical Center in 1949 as a research psychologist, where she worked for many years with our well-known ISCC friends, Dean Farnsworth and Forrest Dimmick, when they were active heads of the vision work in New London. Dr. Kinney is now head of the Center's Vision Branch. At the recent ISCC Technical Conference on Visual Perception held at Williamsburg she led the discussion on color blindness with an excellent summary paper.

JOHN YEATMAN BECOMES DIRECTOR OF USDA LABORATORY

John N. Yeatman, Research Food Technologist with the Agricultural Research Service, U. S. Department of Agriculture, and a voting delegate from the Institute of Food Technologists, became Director of the Color Research Laboratory in the Market Quality Research Division in July 1968. Located at Beltsville, Md., the laboratory develops color specifications for a variety of agricultural products and determines the relationship of color and appearance to product quality. Investigations are also being conducted on environmental lighting for subjective color inspection, on the development of color standards, and on techniques for objective measurement.

ISCC CONFERENCE ON PERCEPTION

The Special Technical Conference on Visual Perception at Williamsburg in February was a highly successful affair despite the elements. Unfortunately, some registrants from the northeast and one of the principal speakers, Edwin H. Land, were unable to reach Williamsburg, but for those who were able to attend, the meeting was very rewarding. Architects, artists, chemists, designers, engineers, physicists, psychologists, and other species listened intently, questioned critically (and sometimes persistently), and gained from their experience.

Ralph M. Evans made the first presentation, an excellent illustrated lecture dealing with the variables of color, which he described as being five in number: hue, saturation, brightness, lightness, and gray content. The second part of his lecture dealt with the phenomenon of "fluorescence" and was a summary of three articles that have appeared in the Journal of the Optical

Society of America, supplemented by data from a fourth article that is to appear in the same journal in May of this year.

On Monday evening, Professor W. D. Wright, of the Imperial College of Science and Technology, and President of the International Color Association, presented a cogent summary of visual adaptation. He discussed light and dark adaptation, as well as color adaptation, and treated relationships among these phenomena and eye movements, stabilized images, color constancy, and neural structure.

As mentioned earlier, Dr. Land's Lecture, scheduled for Tuesday morning, had to be canceled, but two very effective substitutes were arranged on the spot for Tuesday afternoon. Anders Hård, of the Swedish Colour Centre Foundation, gave a lucid description of the Natural Colour System, developed in Sweden. Sherman L. Guth, of Michigan State, presented a stimulating illustrated lecture dealing with his research in color variables. Dr. Guth described in detail his experimental procedure and the use of factor analysis in his investigations.

Professor Glenn A. Fry, of Ohio State, made the presentation on Tuesday evening. His subject was "Border Phenomena," a highly specialized subject that was unfamiliar to many of those present, but he was able, nevertheless, to provide an interesting and informative talk. The Mach phenomenon, which plays a large part in these investigations, was introduced for the first time to a significant part of the audience.

The last session, on Wednesday morning, was devoted to "Color Blindness." Jo Ann Kinney, of the U. S. Naval Submarine Medical Center, led the discussion with an excellent summary paper, and Helen Paulson, also of the Center, provided informative data from their work.

The tone of the conference was one of scholarly professionalism, with views in depth of selected aspects of perception. There were, no doubt, those who were disappointed that the conference did not have greater breadth, but the field is so extensive that there is no possibility of embracing the whole in any three-day meeting. A series of such conferences on visual perception is clearly indicated, provided the character of the meetings can be maintained at the high level achieved in this one.

ISCC COLOR INFORMATION BUREAU

At a recent meeting the ISCC officers and Board approved the formation of the ISCC Color Information Bureau. The purpose of the Bureau is to encourage and assist exhibitors, authors, lecturers, teachers, and schools to communicate color information, and to improve the quality and effectiveness of exhibits, lectures, articles, books, movies, and

color courses.

The Scope approved by the Board proposes:

1. To develop a library for the loan or sale of color illustrations in the form of printing plates, slides, movies, and printed materials.
2. To solicit artifacts and provide technical assistance to museums.
3. To subsidize and provide technical assistance to colleges and universities which wish to expand or improve teaching and research in color.
4. To produce audio-visuals for loan or sale, including movies, slide presentations, and displays.
5. To develop a list of audio-visual materials and teachers' aids available from any source.
6. To establish a list of speakers to be provided on request.
7. To subsidize publishers of books and articles on color and to provide technical assistance when appropriate.
8. To survey the teaching of color in schools and to recommend a course of action of ISCC, if appropriate.

Work of the Bureau will be carried out by Groups. Some of the Groups which will be formed are:

1. Museum
2. Audio-Visuals
3. Library
4. Education
 - a. College
 - b. Elementary
5. Catalog of illustrations
6. List of speakers
7. Publishing
8. Exhibits (tentative)

It is the duty of the immediate Past President to chair the Bureau. It is my responsibility to organize the Bureau and start some of the Group projects. If you are interested in participating in some Bureau project, please write to me.

Warren L. Rhodes
Engineering Sciences Department
Xerox Corporation

Xerox Square
Rochester, New York 14603

If you know someone who should be a Group chairman, send me that information.

This is an important new area of activity for ISCC. It opens exciting possibilities. I can foresee that the Color Information Bureau will become as important as the ISCC Problem Committee, and I am sure it will carry the prestige of ISCC.

Warren L. Rhodes

LIAISON WITH MEMBER-BODIES AND INDIVIDUAL MEMBERS

In a continuing effort to stimulate and coordinate the work being done by the diverse groups and individuals in the ISCC, the Board of Directors frequently discusses ways of maintaining active interest and participation by all concerned. As a result of the latest discussion, at Williamsburg on Feb. 11, it was decided that additional formal means for communication should be provided in the form of liaison responsibilities for particular Directors--one for Member-Bodies and one for Individual Members. The responsibility for Member-Body liaison was assigned to the current vice-president (at this time, R. M. Hanes) and that for Individual Members to W. N. Hale.

It is to be understood that these new arrangements are in no way intended to supplant existing procedures, such as, for example, that for handling color problems, as specified in the by-laws.

The liaison members would like to hear from any and all members and delegates with regard to any aspect of the Council's operations. Suggestions about annual meetings, committee work, awards, conferences, publications, or any other relevant matters will be welcome. A summary of communications will be made to the Board of Directors, generally at each Board meeting.

Individual members may write to Nick Hale at the Munsell Color Co., Inc., 2441 N. Calvert St., Baltimore, Md. 21218, or meet with him at the forthcoming annual meeting between 9 and 11 a. m. on Monday, April 14 in Empire Suite A, Statler-Hilton.

Delegates may write to R. M. Hanes at the Johns Hopkins University Applied Physics Laboratory, 8621 Georgia Ave., Silver Spring, Md., 20910, or meet with him at the forthcoming annual meeting between 11 and 12 a. m. and between 1:30 and 2:30 p. m. in Empire Suite A.

CMG ACTIVITIES

The Color Marketing Group will hold its Spring Meeting at the Plaza Hotel in New York, March 30--April 1. The theme of the meeting is "Color Is My Bag" and is dedicated to the marketing of color. Special consideration will be given to the "under 30" market, and a look into the future of marketing color will be provided by the most successful color marketers on today's scene. Subjects to be covered in depth are: textiles, cosmetics, and corporations. The Color Mart and the Workshops will be featured again, with many special surprises promised.

Information concerning the program may be obtained from either of the co-chairmen (Martha Jungerman and Jack Sideman) or from the Color Marketing Group, 1000 Vermont Ave., N. W., Washington, D. C. 20005.

CMG officers, directors, and committee heads for 1969 include many ISCC members. Beatrice West, chairman of the ISCC delegation from the AIID, is the new President. Other officers are: Vice-President, Boyd Kimmins; Secretary, Sharon deLeon; Treasurer, William Stark. Daisy Goldsmith and Kenneth L. Kelly, both ISCC delegates from CMG, are members of the Board of Directors. Other Board members are J. Gibb Brownlie and William M. Mair.

FSPT ANNUAL MEETING

The 1969 Annual Meeting of the Federation of Societies for Paint Technology will be held from Nov. 5 to 8, 1969, in Chicago.

A feature of the meeting will be a Gadgets and Gimmicks competition, a popular display of labor-saving devices, test methods, short cuts, etc.

The Roon Foundation awards will be continued for the best technical papers offered for presentation at the meeting.

PDC SEMINARS IN PACKAGING

The Eastern Chapter of the Package Designers Council held a seminar devoted to Hardware and Household Packaging in New York on Feb. 26, 1969. This, the fourth seminar in a series of carefully documented, illustrated explorations of vital areas of packaging and package design, featured a double-screen, multiple-speaker presentation by Montgomery Ward's top design team.

Future programs to be held at the United Nations Association of the USA Auditorium are as follows:

March 26--Leisure Time Packaging.

April 30--What Are The Consumer's Needs in Packaging?

Information can be obtained from Mrs. Glory Harris, Package Designers Council, 299 Madison Ave., New York, N. Y., 10017, (212) MUrray Hill 2-1980.

SPE "COLORING OF PLASTICS IV"

The Society of Plastics Engineers held a technical conference entitled "Coloring of Plastics IV" on Jan. 21, 1969, in Cleveland, Ohio. Seven technical papers plus a panel discussion were scheduled for the one-day meeting:

"Effect of TiO₂ on Weathering of Polyolefins"
William E. Dills and Thomas B. Reeve, E. I. duPont de Nemours, Inc.

"Pigment Dispersion Technology: A Critique"
Fred E. Petke, Fred H. Levey Company

"Dissolving Pigment Chip Dispersions"
William D. Wiest, Holland-Suco Color Company

"Color Effects by Painting Plastics"
Roger F. Hruby, Bee Chemical Company

"Comparative Performance of Color-measuring Instruments"
Fred W. Billmeyer, Jr., Rensselaer Polytechnic Institute

"Progress in Colorimetry of Plastics"
George W. Ingle, Monsanto Company

"Color Instrumentation in Industry--Today and Next Year"
Robert S. Foster, Borden Chemical Company

Panel Discussion--Color Instrumentation

Chester Harris
Instrument Development Laboratories
Kollmorgan Color Systems Division

Charles G. Leete
Hunter Associates Laboratory, Inc.

Ralph Stanziola
Davidson & Hemmendinger
Kollmorgan Color Systems Division

STANDARDS COMPLETED BY TAPPI COMMITTEE

At the meeting of the Optical Standards Committee of the Technical Association of the Pulp and Paper Industry in New York on Feb. 18, the following standards were completed and await only final action.

Charts for light-scattering material

Terminology of optical measurements related to appearance evaluation of paper

Illuminants for visual grading and color matching of fluorescent papers

Light sources for evaluating papers containing fluorescent whitening agents

CURRENT STATUS OF PROBLEM 18

At the last meeting of the subcommittee in May 1968, a review was made of the latest measurements of spectral radiance factor and a report on the inter-laboratory test was distributed. It was then decided to conduct another broader interlaboratory test. The objective of the new test is to evaluate instrumental variables and to apply such measurements to highly chromatic fluorescent samples.

Twelve members volunteered to participate in the new test. The test samples, kindly donated by various members, were distributed among participants. Each person received 4 plastic samples, 4 fabric samples, 2 white fluorescent papers, and 3 highly chromatic ink samples. Along with samples each participant received also a calibrated tungsten source and reference standard material.

Spectral radiance factor data will be measured on all samples and with various instruments using a 3000 K source and also, when possible, with a filtered xenon source that simulates D6500 illuminant. Specifications for filters to be used were supplied.

As soon as the data are received they will be analyzed statistically, and the results of this analysis will be presented at the next Inter-Society meeting on April 14, 1969.

It is satisfying to find a great interest in this problem, not only here but also abroad. Dr. Stenius and Dr. Berger indicated their desire to work with the committee.

Franc Grum

THE COLOUR GROUP (GREAT BRITAIN)

Science meetings for 1969 have been announced as follows:

January 8--Colour Rendering

Miss M. B. Halstead--The Assessment of Colour Rendering.

Dr. S. T. Henderson--The C.I.E. Test Colour Method.

Dr. J. L. Ouweltjes--Chromatic Adaptation and Colour Rendering of Light Sources.

February 5--Professor W. D. Wright--The Origins of the 1931 C.I.E. System

March 5--Mr. A. Cuthbert--Yellow, A Key to Constant Hue.

Mr. H. L. Gloag--From Grey to Clear.

The Annual General Meeting of the Group will be held on May 7, 1969.

ISCC AND COLOUR GROUP TO MEET INFORMALLY IN JUNE

President Billmeyer has announced plans for a joint meeting of the ISCC and The Colour Group (Great Britain) to be held in or near London on Tuesday, June 17, 1969. The meeting will be an informal affair, with discussion centering about the papers presented at the First Congress of the International Colo(u)r Association (AIC) on June 9-13. All interested members are invited to attend.

The exact place of meeting will be announced later.

DR. JANET HOWELL CLARK DIES

Funeral services were held on February 17, 1969 at Old St. Paul's Church in Baltimore for Dr. Janet Howell Clark. Mrs. Clark was known to many early ISCC members for her studies of light, ultra-violet, and x-rays, and also for her interest in problems of color-blindness and its testing.

Mrs. Clark, a 1910 graduate of Bryn Mawr, received her doctorate in physics from Johns Hopkins in 1913. After teaching at Bryn Mawr and Smith College, in 1916 she won a fellowship for a year's research at Mount Wilson Observatory. In 1917 she married Dr. Admont H. Clark, who died in 1918 during the influenza epidemic. They had one daughter. Mrs. Clark returned to teaching, first as a member of the original staff of the Johns Hopkins School of Hygiene, where she specialized in studies of the biological effects of radiation. In 1935 she became headmistress of the Bryn Mawr School in Baltimore, and three years later became dean of the College for Women at the University of Rochester where she remained until 1952. On her return to Baltimore she lectured for a time at the School of Hygiene. She died, at the age of 80, in her home in Roland Park.

Dorothy Nickerson

MARGARET HAYDEN RORKE

From the New York TIMES and the Washington POST we have learned of the death in North Hollywood, California, of Margaret Hayden Rorke of a cerebral thrombosis at Hollywood Presbyterian Hospital on March 2, 1969. She was 85 years old. She leaves three sons, James H., Edward F., and Hayden Rorke, movie and television actor.

Mrs. Rorke, who retired in 1954 after 36 years as managing director of the Textile Color Card Association of the United States, was well known in the color field, a dynamic and colorful, red-haired personality. A leading figure in the organization of the TCCA (now the Color Association of the United States), Mrs. Rorke was also active in the formation of the Inter-Society Color Council; her Association was one of the eight original ISCC Member Bodies.

Mrs. Rorke was present, representing her Association, at the preliminary conference on organization of an "Inter-Society Committee on Color Specification" (February 26, 1931 at the Museum of Science and Industry, New York City, Dr. L. A. Jones, acting chairman), and took an active part in the subsequent formation of the Council. She was present at its first meeting (September 21, 1931) which elected Prof. E. N. Gathercoal chairman and appointed a committee to prepare a constitution and by-laws. At that first ISCC meeting Mrs. Rorke was one of three delegates elected to the Executive Committee. At a meeting held December 29, 1931--officially recorded as the "First Annual Meeting of the Inter-Society Color Council"--she again represented the Textile Color Card Association of the United States, and continued to do so until her retirement in 1954.

At this "first annual meeting" not only was she re-elected a member of the Executive Committee, but she was appointed chairman of the Committee on Color Problems. This committee's first progress report, published in ISCC Bulletin No. 1, June 7, 1932, closed with these words: "Is it any wonder that your committee believes that its future is destined to be an adventurous one! At least it is confident that its activities are going to lead it into interesting, colorful, and uncharted seas, from which, let us trust, industry, science, and art, may find new continents of helpful guidance."

At the second annual meeting, December 28, 1932, Mrs. Rorke was elected treasurer of the ISCC, a post that she held until a period of considerable illness in 1939. In 1940 her report to the ISCC of her association's activities indicated that as soon as the new edition of the TCCA Standard Color Card was issued, she intended, with the consent of her directors and those of the National Bureau of Standards, to have spectrophotometric measurements made at NBS under a TCCA fellowship so that CIE color data and ISCC-NBS color names for the TCCA standard colors might be

published. It was felt that this would be a major forward step in the field of color standardization. By 1943 a TCCA research fellow (Mrs. Genevieve Becker Reimann) started work at NBS. In 1944 and 1945 Mrs. Rorke reported to the ISCC not only on the war-time activities of her Association, but also on the progress being made in preparing spectrophotometric measurements and Munsell notations for the Ninth Edition TCCA Standard card--which now included a number of U. S. Government color standards that she had worked on with the military. In 1946 the annual ISCC meeting included a Discussion Session and Exhibit, co-sponsored by the TCCA and the AATC&C, on the resulting "Colorimetric Standardization of the TCAA Standard Color Cards."

In ISCC News Letter No. 112, May 1954, Dr. Godlove, in reporting on Mrs. Rorke's retirement and her intention of establishing her future home in California, said of her: "Mrs. Rorke's dynamic personality, her erudition in many areas of the field which touched her life work--esthetic, creative, commercial, practical--and her lively imagination, which succeeded so well in bringing an aura of romance into the seasonal mode color-names for promotional work and thus brought exaltation to the souls of many romance-starved women--all these will be long remembered by her TCCA and ISCC friends. And of recent years her practical common sense has been of great aid to the Armed Services in various color standardization and esthetic problems bordering their fields."

Though we have seen little of Mrs. Rorke in the past 14 years, many of her ISCC friends have kept in touch through visits or an exchange of Christmas cards. My own last memory of personal contact is suitably light-hearted, for she helped to make it a real party when she joined us at a reception for West Coast ISCC members that ISCC officers arranged at the Ambassador Hotel in Los Angeles at the close of the 1955 fall meeting of the Optical Society. She looked well and happy, and we were glad to welcome an old friend, and introduce her to West Coast members as a recent newcomer to Hollywood.

Many memories are stirred as we take note of her death. Her memory will remain with us; no one who ever knew Margaret Hayden Rorke can possibly forget her.

Dorothy Nickerson

FRIELING BOOKS ON COLOR

Two publishers' brochures describing books on color by Dr. Heinrich Frieling have been received in the N. L. office. Dr. Frieling is the director of the Institute for Color Psychology in Marquartstein/Upper Bavaria and instructor at the Advertising Institute of Munich. The contents of these works, as presented

in the advertising material, sound so interesting that they are reproduced here in considerable detail so that N. L. readers who do not read German can obtain an impression of the range of interest in the field of color in Germany.

Readers should understand that the following are not critical reviews. Your editor would welcome such critical reviews from anyone who is sufficiently conversant with German to review the material without undue struggle.

Gesetz der Farbe, by Heinrich Frieling. About 330 pages with 57 black and white and 22 colored illustrations. Linen binding, about 89 DM. Musterschmidt-Verlag, Göttingen, Frankfurt, Zürich. 1967.

(This) book contains a wealth of new scientific knowledge and surprising insights. Taking into account the most important scientific and artistic viewpoints, the author, in his own words, evolves a new color concept which should become familiar to anyone dealing with color. The particular merit of the work that yields the key to the application of color lies in his capability of being able to apply the knowledge gained to practical work.

The extensive material (statistical and experimental), published here for the first time, to a considerable measure, makes it possible to check up on and reproduce what has been said at any time by the manner in which it is presented. Completely new is the derivation of psychological qualities of "appearance" from pure phenology. Here a new color system was created which, as a novelty, can lay claim to coming closest to the psychological facts.

Contents

I. Color as a phenomenon between light and darkness.

1. The eye, light, and the color phenomenon.
2. Ordering and classification of the color world.

II. Color in its natural meaning.

1. The principle of color in natural realms. The worlds of plants and animals, and the external color of humans.
2. The personal and symbolic meaning of color. Preference, sexual divergence, significance in symbology and art, mystical and astrological color ordering.
3. Artistic evaluation and the relative effect of colors. Combinations, spatial experience, heat and cold, heaviness and lightness, internal and external experience.

III. Color and its causal relations with man.

1. Psychosomatic effect of color.
2. The problem of synesthesia and color association.

IV. Color experience in its concrete relation to life.

1. Color in architecture. Factories, hospitals, schools, etc.
2. Color in advertisement.
3. Color in fashion.

Farbe hilft verkaufen, by Heinrich Frieling. Musterschmidt-Verlagsbuchhandlung, 138 pages, 10 illustrations (8 in color), numerous tables. DM 38.

Although there can be no doubt as to the importance of color and shape in packaging and advertisement, there is still no book in the German literature that gives special treatment to these problems or that relies on specific experiments or experience in this respect. In the New World the situation is considerably better: the American as a born salesman has in his sober fashion dealt very seriously with the question of the role played by color and shape in success, and there is, e. g. , in the Color Research Institute in Chicago, headed by Louis Cheskin, an advisory center of significant prestige, standing heads above the level of a simple interrogation institute because of its test methods. Cheskin has correctly recognized that what people say to a person has nothing to do whatever with betraying the decision they make when purchasing. The opinion of a man that is expressed on the basis of consciousness or, perhaps, even on the basis of a more or less malicious deception, cannot be compared with the true buying impulse that comes from the depths of his consciousness.

Therefore, the testing methods of sales psychology, of which Hoffstätter's polarity profile must be considered as a component, cannot consist in interrogations aimed at the intellect, but must be of a more indirect nature in order to find motives and designs.

Contents

I. General

Brief color theory; perception and feeling qualities of colors; extrasensory relationships; associations with time, space, shape, etc. ; personal color preference and aversion.

II. Special

Trade marks and house colors; colored ads and posters; TV and film ads; color design of packages and products; color and clothing; etc.

TEXTILE CHEMIST AND COLORIST

We were pleased to see the first issues of the new bimonthly Journal of the American Association of Textile Chemists and Colorists, Textile Chemist and Colorist. The paper, print style, and format are nice, and the color photographs on the covers lend a very professional look.

The first issue contains two articles of particular interest to ISCC members: Gunter Wyszecki, a Director of the Council, writes in his usual precise style about "The Degree of Color Metamerism and its Specification," a paper presented at the AATCC's 1968 technical conference in Montreal. His abstract reads:

"The concept of metamerism and its definition is discussed briefly in terms of the spectral reflectance characteristics of colored materials, the spectral power distribution of the illuminant and the color-matching properties of the observer's eyes.

Various ways of defining a degree of metamerism are explained and methods outlined that are potentially useful to specify the degree of metamerism. The Colorimetry Committee of the Commission Internationale de l'Eclairage (CIE) is currently studying several methods with the view to arriving at one or more that are suitable for practical applications and can be recommended internationally."

W. B. Prescott and E. I. Stearns (known to all of us as the 1967 Godlove Award recipient) offer an extensive and well-written paper on "Colorimetric Evaluation of Oil Stains." Again, the abstract follows:

"The purpose of this paper is to predict from optical principles the color of cloth, thickness of cloth and color of background which will permit the smallest amount of mineral oil in a spot to be determined.

"It is found that the fabric should be opaque for maximum effect but a black background is preferable if the cloth is semi-transparent. For colorimeters operating on a linear potentiometer principle, the optimum color is gray with a reflectance of 41.4%. For the General Electric spectrophotometer that operates with a Martens photometer, the optimum color is gray with a reflectance of 33.3%. For visual evaluation a gray should have a reflectance of 19%.

"A method is described for determining the concentration of any dye formula having a fixed ratio of dyes which will produce the maximum visual effect of an oil stain on opaque fabrics. An SOB index (soil on black) is proposed to give the relative visibility of oil on any particular fabric.

"An F factor is proposed to give the relative visi-

bility on different fabrics."

While the second issue did not contain articles directly on color or colorimetry, we are certain that many ISCC members will not want to miss what is covered in this promising new journal.

From our vantage point of a good many years' publishing in a comparatively minor way, we can point out an interesting innovation and a few minor faults which we hope are soon corrected:

A dual system of pagination is used in which each page (including advertising) is numbered consecutively within that issue (1-108 in vol. 1, No. 1, 1-52 in No. 2), while technical articles are numbered consecutively throughout the volume (1-39 in No. 1, 40-66 in No. 2). My only objection is that the two numbers are reversed on facing pages (Ed Stearn's article starts on 64/25 and continues on 26/65, for example), and the boldface type used for the issue pages (here underlined) isn't quite distinct enough so that this alternation is easily recognized.

The first issue sent me, rather well thumbed, has begun to fall apart, apparently through faulty binding. Nowhere is it stated clearly who the Editor is; at least, the anonymity may shield him from complaints to some extent. I have only one more: we are consistently referred to as the Inter-Society Colour (not Color) Council, which will probably please our overseas members but really is not correct.

Fred W. Billmeyer, Jr.

STILL MORE ON THE KRÓMSKÓP

I was intrigued with Mr. Wineburgh's illustration of the Krómskóp (News Letter 195). His illustration shows additive color mixture of images projected with red, blue, and yellow lights. I found the reference to the Ives' Krómskóp in The Book of Photography, by Paul Hasluck (Cassel and Company, New York, MCMV, pp 426, 427). "Reflectors of Color Glass. . . are arranged so that they reflect red and blue transparencies. . . . Another plain reflector is placed. . . to throw light through the green transparency." It is possible that a green glass should have been placed in front of the open zone in the rear of the Krómskóp illustrated. It seems possible that the green glass was erroneously replaced with a yellow mirror. I propose this possibility because apparently there was a common confusion of additive and subtractive primaries in the early days of photography. In printing for instance (and in the photographic literature), red is often used to refer to magenta and blue is often used in reference to cyan. This is partly due to the poor spectral quality of early pigments and dyes when magentas were more nearly red and cyans more nearly blue.

Ducos du Hauron is credited by some authors with the invention of the chromoscope. (History of Three Color Photography, E. J. Wall, American Photographic Publishing Company, Boston, 1925, pp 105-151.) du Hauron also is said to have anticipated stereo color photography using chromoscopes. He suggested using only three positives for stereo. Red and blue are to be seen with one eye. The stereoscope pair plus the yellow record is seen with the other eye. Here it is clear that either du Hauron or Wall had confused additive and subtractive color mixture, substituting yellow for green.

Mr. Wineburgh stated that the color viewed under these circumstances was very good. Although I find it difficult to predict how the substitution of yellow for green might affect the results, it would be interesting to see it first hand.

A further interesting note is that Curtis Corporation until very recently (and perhaps they still do) sold the Curtis Color Analyst, a version of the chromoscope. These were used extensively in the newspaper industry where positive color separation reflection prints are commonly used for photoengraving.

W. L. Rhodes

NEW RECORDING SPECTROPHOTOMETER AVAILABLE FROM KOLLMORGEN COLOR SYSTEMS

Kollmorgen Color Systems has announced the availability in North America of the new TRILAC Recording Spectrophotometer. TRILAC is produced by Laboratoires d'Etude et de Realisations d'Equipements Scientifiques (LERES) of France, who have announced their intention to become associated with the Kollmorgen Corporation.

TRILAC has been under evaluation at Kollmorgen's Davidson & Hemmendinger Color Center since mid summer, 1968. According to a Kollmorgen spokesman, test results continue to indicate that this instrument has the basic accuracy, precision, and photometric stability required for critical color measuring applications. TRILAC is a continuous recording spectrophotometer which can perform both reflectance and transmittance measurements and can be used in conjunction with the Davidson & Hemmendinger digital integrator to provide tristimulus values.

The standard instrument incorporates an integrating sphere which is recommended for most applications. In addition to the sphere, a fluorescent attachment is available as an optional accessory for illuminating the sample with white light from a xenon lamp. Kollmorgen stated that TRILAC has one unique feature that has not been commercially available until now. This feature permits measuring samples under various angles of illumination and viewing. Such measurements will be of

considerable interest to those involved with materials designed to change color with varying conditions of illumination and viewing, such as paints and plastics that contain metallic particles. It was emphasized by the Kollmorgen spokesman that a great deal of work is necessary on the evaluation and use of this new measurement feature before any definite conclusion or recommendation can be made. However, it is significant that such measurement can now be made and will permit research and study on the matching of samples that exhibit this "flop" characteristic.

More information on this new instrument, TRILAC, may be obtained by writing to Kollmorgen Color Systems Marketing, 67 Mechanic Street, Attleboro, Massachusetts 02703. Tel. (617) 222-3880.

THE BOARD OF DIRECTORS DELIBERATES

In recent meetings, members of the ISCC Board of Directors have expressed the thought that the members of the Council might like to know a little more about what goes on in a Board meeting, and that a Newsletter item based on this idea might serve the purpose of informing the membership in advance about coming Council events to which more complete publicity would be given elsewhere and at a later time.

Accordingly, I would like to give the reader an idea of what goes on in a typical Board meeting, basing my comments on the Minutes of the meeting of 14 January, 1969. If the idea and my comments have merit, we would like to hear about it, so that we can judge whether or not to prepare similar articles (not, of course, repeating the routine items of business) on a continuing basis. A note to me, to the Editor, or to the Secretary's office would be appreciated.

The Board of Directors meets three times a year, normally: in September, January, and just prior to the annual Council meeting in the spring. In addition, a series of special meetings to discuss long-range planning was initiated in 1967. The second of these was held at the time of the Williamsburg Symposium on Visual Perception a few weeks ago. A report of its content could not be prepared in time for this issue of the News Letter.

Regular meetings of the Board are attended by the officers and directors of the Council, the Chairman of the Problems Committee, the President's Advisory Council (the five most recent past presidents), the Editor of the News Letter, and any special guests whose presence is needed--for example, the chairman of the annual meeting to come, if not otherwise present. In January, the flu epidemic caused a larger than usual number of absences, to our regret.

The meeting traditionally opens with the approval of the minutes of the previous meeting, our one concession to formal parliamentary procedure. The list of applicants

for individual membership is then read and approved. This list is always published separately in the News Letter and need not be repeated. Long time members of the Board tell me that once, many years ago, one application was not approved for good reason, but this has never happened in recent years.

The Treasurer's report follows. Detailed figures are usually not available except at the time of the annual meeting. It is interesting to note that as a non-profit organization, the Council strives to balance expenses for services to its members against income from dues and meeting registrations in such a way as to achieve a small annual deficit, to be met from accumulated surplus from previous years.

Once a year, at the January meeting, the Treasurer reads with regret a list of members who, after receiving two letters of reminder, are deficient in the payment of dues. Several of these names are held for a final telephone contact, but most are recommended to be dropped from the membership list. Twenty-nine names were removed in this manner. We realize that many of these members have changed jobs and are no longer concerned with color, while others have retired, but we still are sorry to see this lack of interest. The number is small, and in recent years always less than the number of new members accepted.

This is the year in which the Godlove Award of the Council is made. At its September, 1968, meeting the Board heard the report of the Godlove Award Committee (Walter Granville, Chairman) and approved its nomination of Professor Harry Helson to receive the Godlove Award in 1969. At the January meeting, final arrangements for the presentation at the annual meeting were discussed.

Many of you may recall that the Godlove Award consists, physically, of a diffraction grating embedded in acrylic plastic, suitably engraved. The supply of these awards prepared some years ago is nearing exhaustion, and the awards themselves have not shown the permanence which it was hoped they would exhibit. A committee (Karl Fink, Chairman) has been considering new forms for the award for the past year or so. A new award was shown in prototype form in September, and was enthusiastically approved. In January, Karl reported progress on its fabrication. It should be available for use as the award in 1971 and subsequent years.

For some time a long-term member of the Council has felt that there was room in our structure for a second award, and has offered to establish one. A committee has been considering a recommended practice for such an award, and an interim report was received. I cannot divulge details, however, in advance of an official announcement.

Normally, the Board would hear reports from the Chairman of the Membership Committee (Walter Granville), the Chairman of the new Information Bureau

(Warren Rhodes), and the Editor of the News Letter. These gentlemen all being absent from the January meeting, thanks largely to the flu bug, no formal reports were heard. Membership committee activity is currently concerned with one large national society which it is hoped will become a member body in the near future; an official announcement will be made at an appropriate time. The structure of the newly-formed Information Bureau is covered elsewhere in the News Letter, and I will not repeat that story here. With the News Letter running smoothly under Dr. Hanes' capable direction, there was no urgent business to report. But Dr. Hanes is also vice-president and president-elect, and soon the duties of this office and the one to which he will succeed, plus the pressure of his other activities, will require that a new Editor be found. The Board has been aware of this for some time, and the consideration of candidates for Dr. Hanes' replacement is being pursued diligently.

Dr. Roland Derby reported on the activities of several of the Problems Subcommittees. Mr. Louis Graham and Miss Angela Little, co-chairmen of Problem No. 10 (Color Aptitude Test) succeeding the late Dr. Dimmick, appear to have the work of this Subcommittee well in hand. In addition to the continuing validation of the results of field use of the Color Aptitude Test, they are considering new closely-related problems which may be appropriate for study by their committee.

Arrangements are being made for the publication of a final report of Problem No. 14 (Survey of Color Specifications), prepared several years ago. Reports of several other Subcommittees are nearing completion: that of Problem No. 24 (Catalog of Color-Measuring Instruments) will be presented as part of the Tuesday-afternoon Symposium at this year's annual meeting, while that of Problem No. 21 (Standard Practice for Visual Examination of Small Color Differences) is ready for the approval of the Board of Directors. Mr. Franc Grum, recently appointed Chairman for Problem No. 18 (Colorimetry of Fluorescent Materials) has prepared a progress report on the work of his committee for publication in the News Letter.

Two Subcommittees will soon require new chairmen. The writer finds his own schedule too full for him to give proper attention to chairing Problem No. 22 (Procedures and Material Standards for Accurate Color Measurement) and has asked Dr. Derby to find a replacement. Mr. Nimeroff has asked to be relieved of responsibility for Problem No. 27 (Indexes of Metamerism). In view of the work on this subject being done at the international level by CIE Committee E-1.3.1 (Colorimetry), it may be advisable to place this subcommittee on a standby basis or close it out, but Dr. Derby was asked to schedule a meeting of Problem No. 27 at the time of the annual meeting to discuss the situation with interested individuals.

Plans for the annual meeting in 1969 were initiated at the Board meeting in the spring of 1968. By the Septem-

ber meeting, the general chairman (Karl Fink) and the symposium chairman (Miss Ruth Johnston) were able to report preliminary plans to the Board, and at the January meeting almost all of the events to take place on April 14 and 15 were arranged. And even before the meeting opens, plans for 1970 will be discussed at the April 13 meeting of the Board of Directors.

This year's annual meeting will start with the now-traditional Problems Subcommittees. We will try the scheduling of a larger number of shorter meetings this year: 9-10:30 A.M., 10:30-12:00 A.M., and 1:00-2:30 P.M. At 2:45 P.M. there will be a forum following somewhat the pattern of Midge Wilson's successful Forum on Designing and Merchandising last year. Details and speakers will be announced at a later date. In the evening it is expected that a program of motion pictures on the subject of color education will be presented. Mr. Milo Folley is arranging this part of the program.

The Council business meeting on Tuesday morning, April 15, will follow the shortened format successfully used for the last two years. There will still be ample opportunity for the presentation of oral reports by member-body delegations, and for reports from selected problems subcommittees. At 11:00 A.M., the Council will have the pleasure of hearing a talk on a subject of great interest by Miss Dorothy Nickerson.

The afternoon Symposium will deal with instrumentation for color measurement, a subject not considered in a Council meeting for many years. Miss Ruth Johnston has arranged a program which will include reviews of the state of the art, a report of her subcommittee for Problem No. 24 (Catalog of Color-Measuring Instruments), and short descriptions of the most recent advances in the field.

At the Tuesday evening reception, it is expected that Professor Forbes Whitehead of Oberlin College will demonstrate his unique Color Organ. The banquet to follow will, of course, be highlighted by the presentation of the Godlove Award to Professor Harry Helson. The name and subject of the after-dinner speaker will be announced later.

Discussion of final arrangements for the Williamsburg Symposium on Visual Perception followed at the January Board meeting. Since the Symposium will be history before this report is read, no further comment need be made here.

The final subject discussed by the Board was the "Color 69" meeting sponsored by the International Color Association (AIC) in Stockholm in June, 1969. The Council is arranging two related activities: a charter flight to and from Europe, and a joint meeting with the Colour Group (Great Britain) in London on June 17, following the Stockholm meeting. Both have been described in other News Letter items and need not be amplified here.

Again, members' comments on the value of this review of the activities of the Board of Directors will be appreciated.

Fred W. Billmeyer, Jr.
President

MISCELLANY

Colorama--from the color notebooks of Howard Ketcham.

—
A traffic expert predicts the new, gaily-colored hosiery will reduce accidents to women pedestrians--because of greater visibility! But---what about accidents due to distracted drivers?

—
Barnacles prefer hulls painted in darker shades---why? Only barnacles know!

—
A German hospital reports that ulcer patients improve faster in a room painted in a restful olive-green!

COLOR BIBLIOGRAPHY

"Color 1968 & 1969: Reflections and Transmissions." Color Engineering, Vol. 7, No. 1, Jan.-Feb. 1969, 52.

"Correct Color Viewing, the How and Why of the New Standards" by Oscar Smiel. Gravure, Vol. 14, No. 10, Oct. 1968.

"Dyeing and Dyestuffs 1750-1914: A History of the English Dyemaking and Dyeing Industries from the Industrial Revolution to World War I. Chap. III--The Development of Dyeing up to 1856" by C. Michael Mellor. Color Engineering, Vol. 7, No. 1, Jan.-Feb. 1969, 41-51.

"Effects of Force Drying on Color in Air Dry Enamels." New England Society for Paint Technology, Technical Subcommittee on Color Measurement, Frank R. Spinelli, Chairman. J. Paint Technology, Vol. 40, No. 527, Dec. 1968, 595-605.

"Ein Beitrag zur Programmierung der Berechnung der FarbmaBzahlen nach dem DIN-Farbsystem (A contribution to programming the calculation of color numbers according to the DIN color system)." by Manfred Richter. DIE FARBE 17 (1968), Nr. 1/4, 119-128.

"Eine Rechenscheibe zur Bestimmung der Dunkelstufe (A slide rule for the determination of the darkness level)," by Manfred Richter. DIE FARBE 13 (1964), Nr. 4/6, 157-161.

"Gedanken über Farbsysteme (Some ideas concerning

color systems)," by Manfred Richter. DIE FARBE 16 (1967), Nr. 1/6, 121-130.

"Interaction of the long-wave cones and the rods to produce color sensations" by John J. McCann and Jeanne L. Benton. J. opt. Soc. Amer., 59(1), 1969, 103-107.

"Large-Field Color Matching and Adaptation" by R. D. Lozano and D. A. Palmer. J. opt. Soc. Amer., Dec. 1968, 58, 1653-1656.

"Latency variation in human pupil contraction due to stimulus luminance and/or adaptation level" by Robert E. Lee, Gerald H. Cohen, and Robert M. Boynton. J. opt. Soc. Amer., 59(1), 1969, 97-103.

"Luminance requirements for hue identification in small targets" by Mary M. Connors. J. opt. Soc. Amer., 59(1), 1969, 91-97.

"1964 CIE Supplementary Observer Applied to the Colorimetry of Rutile and Anatase Forms of Titanium Dioxide" by Deane B. Judd. J. opt. Soc. Amer., 58 (12), Dec. 1968, 1638-1649.

"Paint Color Research and Restoration" by Penelope Hartshorne Batcheler. American Association for State and Local History Technical Leaflet 15, History News, Vol. 23, No. 10, Oct. 1968.

"A Report on the RPI Advanced Color Measurement Course" by Richard W. Harold. Color Engineering, Vol. 7, No. 1, Jan.-Feb. 1969, 54.

"Sizes of Color Differences Resulting from Change of Illuminant from CIE C to D₆₅₀₀," by Fred W. Billmeyer, Jr. & Cornelius J. Murphy. J. opt. Soc. Amer., Dec. 1968, 58, 1650-1652.

"Some New Advances in the Study of Metamerism" by Eugene Allen. Color Engineering, Vol. 7, No. 1, Jan. - Feb. 1969, 35-40.

"Spatial and Luminance Factors Determining Visual Excitability" by Thomas E. Frumkes and Joseph F. Sturr. J. opt. Soc. Amer., Dec. 1968, 58, 1657-1662.

"Viewing Conditions for the Appraisal of Color Quality and Color Uniformity in the Graphic Arts Industry." USA Standards Committee, Draft USA Standard PH2.32, Aug. 25, 1968.

News Letter Committee:

Randall M. Hanes, Chairman
Deane B. Judd
William J. Kiernan
Dorothy Nickerson

Send News Letter items to Editor:

Randall M. Hanes
Applied Physics Laboratory
The Johns Hopkins University
8621 Georgia Avenue
Silver Spring, Maryland 20910

Other correspondence to Secretary:

Ralph M. Evans
Photographic Technology Division
Eastman Kodak Company
Rochester, New York 14650