



Inter-Society
Color Council
Newsletter

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IMG's CAN VOTE

Concluding years of planning and deliberation, the ISCC Board of Directors at its January 16 meeting created voting representation for the Individual Member Group (IMG) of the Council equivalent to (indeed, far in excess of) that held by the Member-Body Delegations.

This well-deserved recognition of the high level of interest and contributions to the Council by the IMG was achieved by the Board's unanimous vote to modify the Standing Rules to include a new section which reads in part:

"Chairmen of all Standing Committees, Vice-Chairmen [that is, coordinators] of the Problems Committee, and all Chairmen [and Co-Chairmen] of the subcommittees of the Problems Committee who are Individual Members of the Inter-Society Color Council only [that is, who are not otherwise voting Delegates] shall be Voting Delegates *ex officio* with all the duties and privileges as outlined in the By-Laws." (Material in brackets added by the Secretary for the reader's information.)

At this time there are nine IMG's who become Voting Delegates representing the Individual Member Group of the Council. They retain this privilege as long as they remain IMG's and continue to hold the offices qualifying them, and they are eligible not only to vote in all Council matters but also to hold elective office as Officers or Directors of the Council. They are (in alphabetical order):

Richard F. Bache, Sub. 25F
 William Benson, Publications Committee
 Ralph Besnoy, Sub. 27 (Co-Chairman)
 Ellen C. Carter, Sub. 22
 Robert F. Hoban, Membership and Problems Committees
 Anthony J. Pentz, Sub. 36
 Alan B. Rodrigues, Sub. 27 (Co-Chairman)
 Charles D. Sweeny, Sub. 25D
 Bonnie K. Swenholt, Sub. 10

It is planned that these IMG Voting Delegates will meet during the Annual Meeting to elect a Chairman.

The Board of Directors is confident that the entire membership of the Council joins it in welcoming these new Delegates representing the large and loyal group of individual Council members, and expresses the hope that other IMG's will communicate with their Voting Delegates to make their views on Council matters known.

BOARD OF DIRECTORS — WINTER MEETING

The Board of Directors held a two-day meeting in Troy, N.Y., January 14 and 15, 1977.

The first day was spent discussing arrangements and program for "Color 77" and inspection of the excellent facilities to be used for that conference. The Second Circular, including the program and application forms, will be sent out soon to the prospective participants.

At the regular meeting of the Board, January 15, several important actions were taken:

A new Standing Rule was adopted giving the Individual Member Group representation in the government of the

Council. In essence, any individual member who is Chairman of a Standing Committee, Coordinator of the Problems Committee, or Chairman of a Problems Subcommittee is given all the duties and privileges of a Voting Delegate.

A new Problems Subcommittee No. 37, "Artists' Materials" was approved under the Chairmanship of Joy Turner Luke. The Subcommittee will accumulate information for an artists' handbook that will describe the characteristics of artists' materials currently available to the practicing artist, art conservator, and designer.

A study group was set up under the Chairmanship of Franc Grum to examine, study, define, prepare, and recommend future activities of the Council such that experts in the field of color will be challenged to participate.

A redesign of the ISCC logo was approved. This will appear on the next membership list and on the redesigned membership application forms.

A budget for 1977 was approved showing a deficit of \$20.00 for the year.

"Application of Color in Illumination" was adopted as the theme for the 1978 Annual Meeting. This will be held in Washington at a location still undetermined.

The appointment of Rolf Kuehni was approved as Chairman of Williamsburg '79, "Color Metrics."

Robert W. Burnham was appointed as Assistant Editor of the *Newsletter*.

The close affiliation of ISCC with the Munsell Color Foundation was reconfirmed, and the Trustees of the Foundation were authorized to approach the Chairmen of the ISCC Member Body Delegations for assistance in the Foundation's fund-raising drive.

The next meeting of the Board will be held in New York on Sunday, April 17, 1977, just prior to the Annual Meeting.

Applications Approved for Individual Membership

Mr. Frank R. Cheatham Additive color theory as it relates to the artist/designer using pigments of various kinds. Currently doing research with acrylic paint in preparation for a color book presenting my findings. Teaching color theory, color application in my painting. American Craftsmans Council.

Prof. Jozef Cohen ABA. Theory and models. Associated with vision research laboratories at the University of Illinois for more than 25 years.

Mr. Clifford F. Francis Colour matching techniques, service to customers, legislation controlling colorant content. (DuPont of Australia) Plastics Institute of Australia, Royal Australian Chemical Institute, Oil and Colour Chemists Association (Australia), Australian Institute of Metal Finishing.

Mr. Joseph Kellerman
303 West 66th Street
New York, New York
10023

CAUS. Textile styling and designing, and printing fabrics. Interested in new applications of color to fabrics and in color in the arts.

Sister Mary Virginia Orna
O.S.U.
College of New Rochelle
New Rochelle, New York
10801

ACHS. The materials of color, pigments, paints, dyes; color development at high temperature, i.e. ceramic glazes and similar materials; use of light and color in the museum; color

photography. Society for Applied Spectroscopy, International Institute for the Conservation of Historic and Artistic Works.

Mr. Victor G. Sandorf
Harshaw Chemical Co.
1945 E. 97th Street
Cleveland, Ohio 44106

FSCT. Color description and measurement.

Mr. Harold F. Stedman
23 Avalon Road
West Roxbury, MA 02132

ACHS, ASTM. Use of color in following changes in rigid PVC during the weathering process and for the quality control of

raw material and finished product. Electron Microscopy Society of America.

Miss Julia J. Taff
4018 Clemson
Garland, Texas 75042

Color problems in the area of color formulation and control in correction fluids, wet and dry, with Liquid Paper Corporation.

Involved with tinting strength as well as the actual color and hiding power of various pigments.

Ms. Iris Weinstein
72 University Place
New York, New York
10003

GATF. Perception; transparent overprinting (offset); art specification for 4-color printing; color separation; color proximity relationships. American Institute of Graphic Artists.

For Information Only: New Delegates

Mr. Frank Benham
Graphics markets Division
Eastman Kodak Co.
Rochester, New York
14650

GTA. Color printing—all processes — from engraving and gravure from copy through the printed sheet.

Mr. Harry H. Haft
11 Cresent Drive
Whippany, N.J. 07981

IES. Design of light sources to provide the most efficient use of energy for visual tasks.

Mr. Philip S. Hunter
9529 Lee Highway
Fairfax, Virginia 22030

MCCA. Colorimeters and spectrophotometers.

GODLOVE AWARD TO HUGH DAVIDSON

The 1977 ISCC Godlove Award will be presented to Hugh R. Davidson at the Annual Meeting Luncheon on April 19, 1977. The award was established by Mrs. Margaret Godlove in memory of her husband, Dr. I. H. Godlove, a pioneer in color science and one of the Council's most loyal and active members for many years. The Godlove Award is presented every second year for "outstanding contributions to the knowledge and use of color." The 1977 presentation to Hugh Davidson is particularly fitting because he began his career in color by working for Dr. Godlove.

The Award citation states that Hugh Davidson was "selected for his devotion to many diverse aspects of color: visual, technical, and educational. His work has touched the artist and designer as well as the industrial worker, providing greater understanding and better tools to use in utilizing and communicating the beauty that color brings to our lives."

Hugh Davidson received a degree in Engineering Physics from Lehigh University in 1941. For six years after the war, he worked with Dr. Godlove at General Aniline and Film Corporation. In 1952 he established the firm of Davidson and Hemmendinger with Henry Hemmendinger to do color consulting and color measurement. When D&H merged with Kollmorgen in 1967, he became vice-president of the Color Systems Division. In 1973 he left Kollmorgen to form Davidson Colleagues, which is presently engaged in color consulting and computer programming.

Hugh Davidson is well known for many accomplishments in the world of color. He served on the Uniform Color Scales Committee of the Optical Society of America, providing samples, evaluations, and enthusiasm. He will discuss some of his work during the Annual Meeting Symposium. He was responsible for the preparation of both glossy and matte samples of the Munsell Book of Color adjusted to Munsell Renotation spacing. His work on small color differences with Elaine Friede and John Hanlon is well known. Many industrial workers in the field know him best as the developer of the COMIC colorant mixture computer. With Henry Hemmendinger he began one of the first continuing education courses on color technology in 1958.

His friends know Hugh as a musician (oboeist and composer) and as an ardent sailor of his 37-foot sloop "Pemadumcook." Most of all, he is known as a generous and unassuming authority in the field of color, always willing to share his expertise and always eager to expand his own learning and understanding.

FWB

PREVIEW OF ANNUAL MEETING, APRIL 18-19, 1977

To give our members some idea of what they might expect to find at the Annual Meeting this year, Chairmen of Problems Subcommittees and Chairmen of Member-Body Delegations were asked to write a precis of what they expected to be going on in subcommittee meetings or what has been going on in the Member-Bodies over the past year.

The idea is to give you some notion of what to expect at the Annual Meeting. I hope the reports will be an added stimulus to your interest.

Ed.

Problems Committee

The ISCC Problems Committee presented a special session on the program at the annual meeting of the Federation of Societies for Paint Technology, October 28, 1976 at the Sheraton-Park Hotel in Washington, D.C. A good discussion followed the presentations of about ten minutes each given by Ruth Johnston-Feller, Chairman of the Problems Committee concerning the general organization of the Problems Committee, by Robert Hoban, Coordinator for Colorants Problems, by Raymond Spilman, Coordinator for Art and Design Problems, by Mrs. Johnston-Feller on behalf of Franc Grum, Coordinator for Color Science Problems, and by Calvin S. McCamy, Coordinator for Pictorial Reproduction Problems. The good attendance at the session and the lively interest shown in terms of specific questions attested to the success of this type of presentation. This was the second such discussion presented by the Problems Committee for a Member Body Meeting. The first was presented at the Optical Society Meeting in the Fall of 1975.

Ruth Johnston-Feller

Subcommittee on Problem 30, Color in Building. It is anticipated that a new and exciting chairman will be piloting this committee through next year. There are many activities to be carried on as well as new contributions from the chairman and the committee.

Further activity on the Appearance Folio will investigate the economic feasibility of producing the folio for general use. The folio requires further committee work in standardization of color tolerances, gloss indices and sources of color information.

Promotion of the use of color in contemporary architecture will consider the use of massive color over masonry and metal base as a substitute for more costly natural finish materials. It is proposed to honor professionals who have pioneered in the bold use of color. It was hopeful that an architectural group in Barcelona might be enticed to present their colorful structures to the ISCC and other interested groups.

Committee member Anna Campbell Bliss will tentatively present an illustrated talk on color at the Monday meeting of the committee which may inspire future activity for the committee.

Members of the committee appear to be excited about the committee's activities in spite of the apparent sluggish progress encountered.

Milo D. Folley

Subcommittee on Problem 25P Strength of Colorants, Pigments Section. The participants in the tinting strength of an inorganic and organic pigment which were tested last year have agreed to submit their reports regarding the pit-falls of the testing procedures. We hope to accumulate some interesting data for our next I.S.C.C. meeting.

The preliminary work of the two sets of pigment data was given favorable interest at the recent Board of Directors meeting in Troy (January 14th and 15th, 1977) it was suggested that the subcommittee should pursue this data further, with the possibility of publishing. A report of this is being forwarded to the participants.

Joyce S. Davenport

Subcommittee on Problem 35, Color and Appearance Matching of Living Tissue. Subcommittee #35 has been fortunate in adding many new members this past year that should help in attaining our goals. The exchange of information and putting individuals with like interest in contact has been a major endeavor. Eight members of subcommittee #35 (Steve Bergen, Bruce Burk, Larry Gettleman, Ron Goldstein, Dick McPhee, Jack Preston, Bob Sproull and Ken Turner) participated in an international colloquium entitled "Dental Porcelain — The State of the Art" in Los Angeles on 24, 25 and 26 February 1977. Saturday morning was devoted to "Color and Esthetics." A good meeting is anticipated in New York.

Robert C. Sproull

Subcommittee on Problem 27, Indices of Metamerism. During this past year, the subcommittee has finalized details for the round-robin observation test. The experiment was designed by Dr. Ruth Rich of Rensselaer Polytechnic Institute. Three sets of color chips, each having ten metamers, are being prepared by Dr. Jim Davidson of Kollmorgen, Chuck Sherman of Sherwin Williams and Dr. Allan Rodrigues of DuPont. A light booth providing six light sources is being built by Kollmorgen. Details of the experiment will be explained at the April meeting and a schedule set up for the observation tests. Organizations able to participate in these tests are urged to send representatives to this meeting.

Allen B. Rodrigues

Subcommittee on Problem 25D, Strength of Colorants, Dyes. We have completed the round-robin on dyeing and reflectance measurements of four classes of dyes. The results of this work will be summarized in much the same manner as the previously published, "Reproducibility of Dye Strength Evaluation by Spectrophotometric Transmission Measurement," (Textile Chemist and Colorist, Vol. 8, No. 2, Feb. 1976).

Dr. Celikiz, Chairman of the Seminar Subcommittee, has been actively working with various committee mem-

bers and the staff of the American Association of Textile Chemist and Colorist for the presentation of a measurement seminar to be held at Research Triangle Park, N.C. This seminar stressing practical application of transmission and reflectance measurements will be held in the fall of 1977.

The committee is actively working on the definition and calculation of standard depth. Several methods for calculation have been proposed and these will be evaluated.

C. D. Sweeny

Subcommittee on Problem 33, Human Response to Color. We are again planning an interesting meeting during the Annual Meeting. The committee will meet from 9 A.M. to 12 Noon on Monday, April 18, Mr. Luke Thorington, FIES, FAIC, Vice President of Engineering and Research, Duro-Test Corporation will speak on Biological Effects of Colored Light. Mr. Thorington is Chairman of CIE Technical Committee 1.7 Actinic Effects of Optical Radiation.

He will be followed by Dr. Richard Corth of Westinghouse Electric Corporation with a discussion on Current Colorimetric Methods and Human Color Perception. Dr. Corth has done extensive work on photobiological aspects of illumination and on color perception. He is the inventor of plant growth stimulation light sources.

Ms. El Abruzzi, ASID, a contract designer with many years of experience will speak on her design work for the Geisinger Medical Center in Danville, Pennsylvania. The Committee will hear a report on a radio program and a workshop on Color in Health Care Facilities, both initiated and actively supported by Committee members. Three outstanding events highlight the activities of the committee during the past year.

The Munsell Foundation accepted in essence the research proposal submitted by Professor John E. Flynn of the Pennsylvania State University for the study of surface color in context with lighting conditions as behavioral factors. The title of the proposal is "The Effects of Room Color on User Impression and Satisfaction." Collaborating with Professor Flynn will be Dr. Terry Spencer of Kent State University, Ohio, Professor Osyp Martyniuk, Kent State University, Ohio; Dr. Hugh Blasdel, General Heuristics, Washington, D.C.; Professor Alexander F. Styne, University of Miami, Florida, and Mr. Robert F. Spiegel, Naval Ship Engineering Center, Hyattsville, Maryland. The Munsell Foundation will provide funds for this study as soon as they become available.

Asked by WAMU/FM, the Radio station of the American University in Washington whether he would be interested to arrange for a radio discussion on color, Kenneth L. Kelly, Physicist at the National Bureau of Standards obtained the collaboration of Mr. Richard S. Hunter, President of Hunter Associates Laboratories and past president of the Inter-Society Color Council, and Professor Alexander F. Styne of the University of Miami. Mr. John Olivieri, a painter and instructor at American University joined the group on July 21 at the station. Mrs. Irma Andahl was the moderator, and discussion was led by Mrs. Alyeene Boren of the station staff. The discussion ranged

from the physics of light to the structure of pigments and to psychological effects of color. There were so many questions from callers that the 90 minutes allowed for the program, passed only too quickly. It must be mentioned that the questions came from an obviously well-educated audience who listen regularly to the educational programs of the station.

The last event came about in a manner that proves how well the Council functions as a meeting place of minds and a stimulus for ideas: Mr. Corwin Strong attended the meeting of this committee for the first time at the 1976 April meeting. The Chairman met Mr. Strong at this occasion and, upon his invitation, visited him during the summer months in Washington. At that meeting Mr. Strong suggested the idea of a workshop on color in health care facilities. The Chairman suggested this idea to the chief of the Sensory Environment Section at the National Bureau of Standards, Dr. Arthur Rubin, who welcomed the subject and suggested the possibility of making the arrangements at NBS as one of their regularly scheduled workshops, specifically aimed towards professional groups and government officials interested in the particular subject. Mr. Brian Pierman, Safety Research Coordinator of the Office of Housing and Building Technology, Center for Building Technology of NBS, was given the assignment to organize this workshop with the help of Kenneth L. Kelly, and an outstanding roster of speakers was assembled. They were Dr. William C. Beck, President of the Donald Guthrie Medical Research Foundation, Professor John E. Flynn, of The Pennsylvania State University, Mrs. Marcella Graham, Institutional Design Consultant, Kenneth L. Kelly, National Bureau of Standards, Professor Thomas Sisson, M.D. of Temple University, Mr. Robert Spiegel, Naval Ship Engineering Center, Mr. Corwin Strong, National Institutes of Health, and Professor Styne.

More than 150 government officials, architects, and designers attended this meeting and a next round on the same subject in collaboration with the National Institutes of Health is already being discussed for summer of 1977.

Correspondence during the year on subject matters of concern to this committee has ranged widely, and it is hoped that the annual meetings will continue to provide an open platform for researchers and practicing designers for a continued interchange and eventual progress in the problems under discussion: To provide substantiated guidelines for the use of color in man-made environments for the benefit and well-functioning of people.

Alexander F. Styne

Member-Bodies

Color Marketing Group. Since the last official C.M.G. meeting in San Francisco there have been several informal meetings.

Regional meetings have been held throughout the U.S. and Canada, Chicago, Cleveland, New York, Montreal, etc.

In New York, Lee Ennis of Donahue Sales Corporation, presented the latest Pret-A-Porter Ready-To-Wear Fashion collection from France.

José Martin of the Fibers Division of Allied Chemical, gave a beautiful slide presentation of his recent trip to the Yucatan Peninsula, the theme was "The Mayan Influence of Color."

The chairholders have recently received their worksheets for individual color predictions for 1979, these are the preliminary stages of the annual color directions forecast published each year. Members will analyze these worksheets during the Spring Meeting to be held April 24th - 27th, 1977 at the Sheraton Ritz Hotel in Minneapolis, Minnesota. Chairholders have already been informed of their workshop assignments, anyone who has not received this information should contact Harriet E. Jennings of Champion International.

Color Direction Workshops are for Chairholders only, but provisions have been made for guests and non-members to participate in certain activities of C.M.G. to familiarize them with the group.

My apologies to Paul W. Britt of DuPont and Joyce Nacker of Cotton, Inc. whose names I omitted from the last C.M.G. list of newly appointed Board of Directors.

Joyce S. Davenport

At the Spring Meeting, Co-Chairmen Patricia Barnes, color marketing consultant, and Richard Hoffman, design director, Reed Decorative Products Ltd., will present a group of varied panelists who will cover the important steps in development and marketing a color line. The roster of speakers and their subjects are: Joyce Nacker, fashion marketing manager, Cotton, Inc., "Inspiration for Colors and Design;" William Marley, color and design manager, G.A.F. Floor Products, "Appraising Management of New Trends;" Morris Gall, advertising and color director, Glidden Paints, SMC Corporation, "A New Approach to Selling the Consumer;" Patricia Barnes, color marketing consultant, "Colorology, The Psychology and Symbolism of Colors;" Frederick Simon, professor of textile science at Clemson University, "The Magic of Visual Color."

The meeting will open Sunday evening, April 24 with a formal dinner at which William Sarnoff, marketing communication director of Hollytex Carpets will be the featured speaker. A dinner meeting on Tuesday evening with Ron Barnum, corporate design director, Gabberts, the speaker, will bring to a close the three-day meeting. Mr. Barnum will report on innovative and successful approaches to store marketing.

National Association of Printing Ink Manufacturers. The NAPIM Color Standards Committee continued to cooperate with the AAAA/MPA Committee in its work in establishing recommended standards for web offset publications. During 1976 the Committee participated in the editing and clarification of the descriptive booklet published last year. A revised edition will be published shortly.

The Flexographic Technical Association is planning to develop color parameters for process inks used in flexographic printing. The NAPIM Color Standards Committee will cooperate in this effort and has suggested the National

Printing Ink Research Institute as a contractor to evaluate and calibrate submitted ink samples.

D. M. Kirkpatrick

Society of Plastics Engineers, Color and Appearance Division. Preliminary report from the Society of Plastics Engineers: The Color and Appearance Division has sponsored papers at Annual and Regional Technical Conferences. A color seminar has been given and our *Newsletter* has appeared three times. Work continues on ISCC Problem 36, Color Acceptability Standards, and on the SPE monograph COLORING OF PLASTICS. A conference in Boston, October 4 and 5, 1977 will have the theme "Coloring of Plastics — The Law and you."

Thomas G. Webber

American Ceramic Society (ACS). A Society Conference on Color, jointly sponsored by the Inter-Society Color Council and the American Ceramic Society, will be held in conjunction with the 79th Annual Meeting of the ACS, in Chicago, April 25, 1977.

The participants include the ten ACS delegates to the ISCC. Reports will be given by the delegates on the state of color and color-related problems in various segments of the ceramic industry. New ideas and new developments in color. Color research and application. Color matching techniques. The timing of colors in merchandising.

The ISCC will be represented by Joyce S. Davenport, Supervisor of Color Development, Color Research, DeSoto Inc. Research Center, Des Plaines, Ill. Ms. Davenport is a director of the Inter-Society Color Council.

The session chairman will be Viktor Schreckengost, Chairman, Dept. of Industrial Design, The Cleveland Institutes of Art. Coordinator of the Conference is F. Joseph Von Tury, Architectural Ceramics, Metuchen, N.J., Chairman of the ACS delegation to the ISCC.

F. Von Tury

Optical Society of America (OSA). The Optical Society has had a very productive year and in the report of our Executive Secretary Emeritus, Mary E. Warga, the concept of having more topical meetings and workshops of the Society and only one annual meeting has been popular and highly successful. The Optical Society ISCC Delegation members have been in close communication with both societies and have actively pursued means of increasing the action of ideas and programs. The Society had its annual October meeting in Tucson with three special symposia of invited papers concerned with lateral effects in the vertebrate visual system, visual response and behavior, and optics and the eye. In addition, there were numerous technical group meetings for informal discussion of papers.

This year the OSA Color Group will be presenting a part of the ISCC Annual Meeting Program on the topic of

"System of OSA Committee on Uniform Color Scales."

Franc Grum

WILLIAM T. WINTRINGHAM

Death struck William T. Wintringham at home on November 19, 1976, as he lingered at the breakfast table reading his mail. The doctor called it a cardiac arrest, one that took him without warning, without pain. He was gone before Martha, his wife, could call the emergency squad or their daughter next door.

Many of his color friends had visited with him and his wife only the month before at the CIE U.S. National Committee meeting held at State College, Pennsylvania. In apparent good health, he was there to represent SMPTE, as he had been each year since 1955, when first appointed their representative.

Bill was a quiet but remarkably knowledgeable person in the color field. After his retirement from Bell Telephone Laboratories in 1969, he had been engaged in consulting on systems for color reproduction using film, half-tone printing, television, or combinations of these technologies. He was vice-president of SMPTE for engineering, and for some time had been chairman of the SMPTE delegates to the ISCC. In 1975 he received the SMPTE's premier award, their Progress Medal. Details concerning his career can be found in the Oct-Nov 1975 ISCC *Newsletter* (#238), which reported on his receipt of this medal.

Those of us who knew Bill Wintringham can appreciate what a great loss we all suffer by his death. He was remarkable in his field, wonderfully easy to work with, always sure of his facts before he offered advice. He will be hard to follow, let alone replace. And we shall miss him.

D.N.

WILLIAM F. LITTLE

William F. Little, a charter member of ISCC, died in his home in Yonkers, N.Y., December 16, 1976. Mr. Little was an honorary member of ISCC and served as a voting delegate of the Illuminating Engineering Society. His interest in the Council and his contributions to it, have been continuous and many. His willing and cheerful helpfulness will be missed by his many friends and associates.

Mr. Little was born in Media, Pa. on October 4, 1880. He was a graduate of Media Academy and held BS and MS degrees in Electrical Engineering from Rutgers University. He joined the Electrical Testing Laboratories (ETL) in 1903, retiring as its President in 1956. He remained active on the Board of Directors of ETL until his death.

Recipient of many awards, he was a Fellow and Distinguished Service Medalist of the Illuminating Engineering Society in which he held all but one of the major elective offices, including that of President. He was a member and Fellow of the Society of Motion Picture and Television Engineers and a member of the Optical Society of America

and Society of Automotive Engineers.

Mr. Little was active in the American Society for Testing and Materials, American National Standards Institute, and the International Commission on Illumination (CIE), in which he was one of the U.S. representatives on the Committee on Automotive Lighting.

He is survived by Mr. and Mrs. Frederick H. Little, Miss Eleanor H. Little and four grandchildren.

C. W. Jerome

In Memorium

I deeply regret to inform you that Dr. Robert W. Burnham died during the week of February 14. I have no details at this time.

F.W.B.

LETTERS

Dear Editor:

I am writing you to inform you of recent developments on the international scene regarding nomenclature for biologically-related units such as the lumen and to solicit your views on some related matters up for decision during the coming year.

These issues were first opened at the 1975 meeting of the Consultative Committee for Photometry and Radiometry in Teddington, England. At that meeting the Australian, Canadian, and U.S. delegations submitted a proposal that the photometric units be defined in terms of the watt and agreed-upon values for the $V(\lambda)$ function and K_m . The CCPR voted its agreement with these proposed changes and announced its intention of taking formal action at its next meeting in September 1977. A copy of the relevant resolutions is attached.*

Since the CCPR recommendations would replace the candela with the lumen as the basis of the photometric system, and since the candela is a base unit of the International System of Units, the proposal was referred to the Consultative Committee for Units (CCU) for consideration. That Committee recognized that the photometric units were in wide use and that this practice would continue indefinitely.

The CCU proposed that all quantities, such as luminous power, erythral power, etc., which are derived from radiant power measurements, be expressed in units of "watt." In the case of photometry, the quantity obtained by setting $K_m = 1$ and integrating over the $V(\lambda)$ function would be expressed in units of "watt."

This suggestion was motivated by concern among the members of CCU that the designation of a different term for each of the biologically-related units would lead to an undue proliferation of terms for units related to the watt. A contrary view is that the application of a weighting

function such as $V(\lambda)$ changes the dimensional character of the quantity and that it would therefore be inappropriate to use the same name for the unit. A report summarizing this entire question has been prepared by Dr. J. Terrien, Director of BIPM.

In the case of the lumen, the CCU felt that the proposed definition, which it informally supported, would make the lumen formally a second unit of power and that, strictly speaking, such a second unit of power and those derived from it would not logically belong in the International System of Units. The consensus of the CCU was to recognize formally the lumen and units derived from it as units to be used indefinitely with the International System of Units, such as the minute, hour, day, degree, and liter.

The following possible courses of action on the treatment of biologically-related units in SI have been suggested as deserving consideration:

(1) Endorse the recommendation of the CCPR of September 1975 that the lumen replace the candela as the base photometric unit and define the lumen as follows:

The lumen is the luminous flux that produces a human visual response equivalent to that produced by 1/680 watt of monochromatic radiation of frequency 540.0154×10^{12} Hz.

NOTE: For measuring luminous flux, the CIPM endorses the use of the spectral luminous efficiency for photopic vision $V(\lambda)$ previously endorsed by the CIPM and the spectral luminous efficiency for scotopic vision $V'(\lambda)$ as established by the CIE.

If action (1) is implemented, the candela would supplant the lumen in Table 3, of NBS Publication SP330, "The International System of Units (SI)."

(2) Instead of listing the lumen as a base unit (Table 1 of SP330), list it as a unit in use with SI (Table 8 of SP330); in column 3 of Table 8 its "value in SI unit" would be shown as " $1 \text{ lm} = (1/680) \text{ W}$," and a footnote (b) applicable to lumen would read:

(b) This unit is for use only with radiant electromagnetic radiation that has been spectrally weighted with the CIE spectral luminous efficiency function for photopic vision $V(\lambda)$, or scotopic vision $V'(\lambda)$, normalized to unity at 555 nm.

(3) Accept the Terrien provisional conclusion that $K_m = 1$, which would lead to the unit name being changed from "lumen" to "watt," with reported values reduced by the factor of about 680 for photopic vision and a factor of about 1700 for scotopic vision; acceptance of this action would lead the way for handling the units of all photobiological quantities (they all would use the watt as the unit of measurement). Terms in wide general use, such as "lumen," would be sanctioned to be used indefinitely.

(4) Same as (3) above, but express the intent of eventually phasing out units such as "lumen" in favor of "watt."

(5) Coin a new name for a unit to denote all biologically-related quantities, such as luminous flux or erythral flux.

(6) Same as (5) above but continue use of presently accepted units indefinitely.

(7) Same as (5) above, but continue use of presently accepted units for an interim period only.

(8) Create a new section in SP330 to cover biologically-

related units. That section would specify the watt (obtained by setting $K_m = 1$) as the official SI unit for biologically-related radiant power measurements but recognize that certain units, such as the lumen, are so widely used that they would be continued in use indefinitely. The lumen would then be defined as above in (1).

There are clearly many other possible combinations and compromises in addition to those listed above. NBS has not yet formulated a final position on these questions, but must do so within the next few months, and we would like to do so with the advice of that portion of the U.S. scientific and technological community which is most affected by the proposed changes. We welcome your comments as representatives of either your personal views or those of your organization.

I stress that we are addressing here the role of all biologically-related units in the SI system and not just the role of lumen.

Sincerely,
Karl G. Kessler, Chief
Optical Physics Division

*Not reprinted in this issue. The resolutions can appear in a later issue if the members wish. Ed.

BOOK REVIEW

The New York Times Manual of Style and Usage, Lewis Jordon, ed. Quadrangle/the New York Times Book Co., New York, 1976. \$10.00.

(Although this book has nothing to do with color, it is reviewed here on the basis that we all have to write from time to time.)

This book is a highly useful tool for writing standard American. The contents are arranged alphabetically for almost instant reference. Here are some admonitions:

It is F.C.C. and N.A.M. which represent separate words but DDT, TB, TV, letters within a single word. The exceptions are television networks as ABC, NBC. Many major U.S. and foreign cities need not be followed by state or country. Spell out the first nine numbers, then switch to Arabic numerals. Abbreviate Calif., not CA. The names of six states and five months are not abbreviated.

In referring to women, the Times does not use Ms., chairwoman or chairperson. Also, widow and housewife are rarely used, coed and authoress never.

When do we use that, when, which, in relative clauses? Which is preferred, Quebecer or Québécois? When is it Queen Elizabeth II, when Queen Elizabeth 2? Which is preferred, centigrade or Celsius?

And finally, "like, as. The day may come when like is fully accepted as a conjunction. But meanwhile do not so use it. 'This gingersnap tastes good, as a cookie should.'"

T. G. Webber

Reprinted from the *SPE Color and Appearance Division Newsletter*, Volume 8, Number 1, January 1977.

Ed.

NEWS FROM MEMBER-BODIES

AMERICAN SOCIETY OF INTERIOR DESIGNERS (ASID)

Invitation to Participate in N.E.H. Assembly

ASID members are invited to submit health facility projects for inclusion in the Exhibition of Architecture for Health at the New England Hospital Assembly, Inc., to be held in Boston, March 28-30, at the John B. Hynes Veterans Auditorium.

Estimated attendance is 12,000 persons, including hospital administrators, members of hospital governing boards, and architects and designers active in the health field.

Advice to Young Designers

"The best experience a designer can have to launch a career, is to do a lot of work," California member Billy Gaylord said in a recent interview. "I started with Gump's in San Francisco. I think working for a furniture store or a good department store that has a lot of business is a solid beginning."

"I did a lot of imaginary rooms for imaginary people," Gaylord, who later started his own business to do model homes, said, "and you have to be imaginery because you can't keep repeating yourself."

He also noted that model rooms are a good avenue to publicity, and publicity is a good means of getting business. However he advises designers to study the readership and editorial preferences of the publications they would like to show their work. He commented that some books like *Architectural Digest* and *House Beautiful* are in tune with their readers, but cited another book as being so in touch with Manhattan it was out of touch with the rest of their readers, and suggested the work being submitted should be slanted totally toward the editorial preference in such cases.

His father once told him "In order to do things better, you must do things differently," and Gaylord says, "I have always sought to do things differently — and to try new things. Designers must try new things. Know what is going on in the world; explore what other countries have to offer. Seek out the good things — they need not be expensive; there are so many things that are good, and good for everyone. Experiment. I have done things that didn't work out but I didn't know they wouldn't work until I had done them. You learn from the experience and your average keeps getting better."

Taking exception to the popular philosophy that clients want to express themselves in their environment, he says, "Some people need someone to tell them what they want . . . what they are."

"Moods are another thing. Interviewing a business woman during working hours could give you a totally unrelated concept of her personal self," Gaylord suggested, and then added, "Some people want a nighttime place to come home to but seldom have an inkling of how dramatic a nighttime room can be. That's why designers should use

their imagination. Give the client the unexpected, knowing they can live with it. There is nothing quite as exciting as getting the unexpected. It's what makes life fun. The expected is the most boring thing in life."

As an alternate to letting the client tell you what kind of person he or she is, Gaylord suggested studying their clothes, and feels that analyzing the style and color of their clothes, jewelry and hair, can tell you much about what they can live happily with.

On trends, he predicts there will be more contemporary used, but without the coldness associated with contemporary in the past.

As for the future of the interior designer, he says that now that people know about things at discount, only the professional designer will survive. The designer who just selects furnishings will become obsolete. "But," he points out, "all designers must become more innovative."

He believes that some of that innovation will be applied to product design, "except possibly in New York, which is the best in the world, and where you can find everything," and says designers will soon be designing more and more of their own furniture. Particularly contemporary, as there is so little good contemporary furniture available. Much of it is cold and unfriendly. Much of it is impractical . . . and most of it is uncomfortable. The architects learned that the structures they erected had to be more than functional. The manufacturers are going to have to learn that they have to give the public more than just what they want to. And as designers become more innovative, create more custom designs . . . begin designing more of their own furnishings, the retailers will learn that to be safe is to be sorry."

All of the preceding items are reprinted from the *ASID report*, January 1977.

OPTICAL SOCIETY OF AMERICA

Uniformly Spaced Color Samples

The Optical Society of America announces the availability of a set of 552 uniformly spaced color samples designed by the OSA Committee on Uniform Color Scales.

The colors can be arranged in hundreds of orderly sequences called color scales, most of which have never been seen previously because they cannot be constructed by use of any other set of color cards. Plans for arranging the cards in those scales will be provided.

Artists and designers have discovered that harmonious combinations result when a few colors selected from any such scale are used as elements of a design or composition. The OSA colors will reveal many new scales and suggest to creative workers, for their trial and selection, many new combinations of colors.

Although scales of constant lightness and constant hue are included, most of the scales exhibit variations of both attributes, in many different combinations. Each color card (except the darkest, or lightest, or those of highest saturation) is a member of six entirely different color scales. Most color scales do not include a neutral (black,

gray, or white). For further information, see J. Opt. Soc. Am. 64, 1691 (1974).

The OSA color cards are two inches square, coated with durable, glossy automobile-finish paint on highest-quality heavy white care-stock paper. The OSA committee's three-number color designation — lightness, yellowness, and greenness — is printed on the back of each card. Negatives as well as positive values of any or all of those numbers provide designations for all possible colors. All colors producible with durable paints are represented in the set.

The set of cards is furnished in a 3-ring hardback notebook that holds 28 flexible, transparent pages; each page contains 20 pockets, into each of which one color card is inserted. Behind each pocket page is a white-paper guide page on which the three-number designation of the appropriate color card is printed so as to be visible through any pocket from which the color card has been removed for assembly into a color scale, or for any other use. The notebook can therefore be easily restored to its original state after selected cards have been removed for use.

Sets may be ordered from the Optical Society of America, Suite 620, 2000 L Street, N.W., Washington, D.C. 20036. The price is \$350. Please include remittance with personal orders.

Optics Letters

The Optical Society of America announces publication of a new journal, OPTICS LETTERS. Volume 1, Number 1 will appear on July 1, 1977.

This new publication of the Optical Society of America will provide a wide-circulation journal for rapid publication of new, important results in all branches of optics. Timeliness and newsworthiness to major segments of the optics community will be considered in accepting manuscripts.

The editor of OPTICS LETTERS is R. W. Terhune, Research Laboratories, Ford Motor Company, P.O. Box 2053, Dearborn, Michigan 48121 (phone: 313 322-6785).

OPTICS LETTERS will be a companion journal to both *Applied Optics* and the *Journal of the Optical Society of America*. It will be sent free to all members of the Society and for the first six months will be distributed free to all nonmember subscribers to the *Journal of the Optical Society of America* and *Applied Optics*.

Contributions to the first issue are now being solicited. The editorial office will begin to process manuscripts in March 1977. This will be a short-article journal. A firm limit of three printed pages will be enforced. A printed page contains approximately 700 words, less allowance for figures. Initially authors should follow instructions for contributors of papers in *Applied Optics* or *JOSA*. Voluntary page charges will be solicited concurrent with publication.

GRAPHIC ARTS TECHNICAL FOUNDATION (GATF)

Color Proofing Conference in Philadelphia

GATF has announced a spring conference on color proofing, to be held May 24-25 at the Sheraton Airport Inn in Philadelphia, Pa. The conference will include proofing systems for letterpress, litho, and gravure processes.

Frank Cox, GATF technical services director, stated the conference will provide state-of-the-art comparisons of currently available pre-press proofing systems as well as an opportunity to review standards for ink-on-paper proofing. The quality control aspects of lighting standards will also be treated.

The conference will emphasize the importance of characterizing press performance with information essential to the decisions necessary for establishing a dependable color reproduction system. Effective communications among all involved groups within and outside the printing plant is essential.

Communicating and specifying color requirements for reproduction from color original through press will be discussed by speakers viewing the requirements of the printing buyer, the agency, the engraver, and the printer. Equipment manufacturers, users, and researchers will make presentations on the latest technology in equipment, materials and procedures.

William A. Rocap, Jr., director of education programs at Meredith Printing Co., Des Moines, Iowa, and member of the GATF Special Programs Committee, will chair the conference.

Registration for the conference is \$150 for GATF members and \$200 for non-members. Registrations received before May 6, 1977, will be \$125 for members and \$185 for non-members.

GATF will release further information regarding speakers and discussion topics soon.

For additional information, write to GATF's Special Programs Department.

SOCIETY OF PLASTICS ENGINEERS (SPE) COLOR AND APPEARANCE DIVISION (CAD)

CAD Events of Note — 1977 and Beyond

The first big event is Antec '77 in Montreal during the week of April 25 where the CAD is planning 2 technical sessions, both scheduled on opening day (more detail below). We will also hold our second educational color seminar at Antec designed for the relative newcomer to the field who wants to become better acquainted with practical aspects of coloring plastics and how to deal with color-related problems in the plant. No specific date has been set as yet for the seminar. You will receive more information directly from National SPE on both activities.

The second big event is the Coloring of Plastics XI Retec to be held in Boston on October 4 and 5. More detail will be given in the next *Newsletter*.

The Decorating Division, a recent off-spring of CAD, is also sponsoring a Retec on October 25 and 26 in Chicago on the theme "Decorating Plastics 1980" (see following).

Later in the Fall of '77, we will most likely hold our sixth annual seminar on "Fundamentals of Color" which deals primarily with colorimetry rather than the mechanics of using colorants in plastics. The date and location for this have not been set as yet.

Beyond 1977 you can look forward to a Coloring of Plastics XII Retec in the Cleveland area in the Fall of 1978 in cooperation with the Ohio Firelands Section. Papers are wanted dealing with color for automobiles.

A Coloring of Plastics XIII Retec for the Fall of 1979 is planned in the Philadelphia area with the cooperation of the Del-Val Section. A theme has not yet been selected.

You may also be interested in knowing that Antec '78 is scheduled for Washington, '79 for New Orleans and '80 for Montreal. The CAD plans to sponsor technical sessions at all of these meetings.

The "Coloring of Plastics" book is still in the early writing stage and is being closely followed by editor Tom Webber; he is unable at this time to estimate a publication date.

John Kochanowski
General Electric

Ben Cottrell
Borg Warner

Ken Parson
Monsanto

Dr. J. A. Weaver
Rohm & Haas

To Be Announced
Dow Chemical

C. D. Storms

Color Seminar — Another Success

On November 9th and 10th the annual Color Seminar was held at the Holiday Inn, Saddle Brook, N.J. Twenty-two students attended the two day course given by Len Davidson. Comments on the course made by the participants indicated that generally they were pleased with the subject matter and gained a greater insight into the fundamentals and basics of color, which would be most helpful in their future endeavors in industry.

M. J. Dunn

Decorating Division Retec, October 25 & 26, 1977

The newly formed Decorating Division of SPE announces plans to hold a RETEC at the Regency Hyatt O'Hare in Chicago next October 25 and 26. The conference theme is:

Decorating Plastics 1980

The tentative program is as follows:

Ken Rusch, Ford Motor, Automotive Weight Reduction/Weight Part Design.

Bill Goldsmith, Goldsmith Warmasaki Specht, Chicago, Future Trends in Consumer Electronics.

Larry Beeman, Dare Pafco, Cincinnati, Future of Exterior Vacuum Metallizing.

Alan Steurer, Windsor Plastics, Evansville, IN, Practical Alternatives to Decorating Plastics.

Charles Storms, Red Spot Paint & Varnish, Evansville, IN, Water Base Chrome Plate Overlays.

Rich Jarzombek, Bee Chemical, Lansing, IL, Computerized Color Matching.

Ralph Riedel, Bee Chemical, Lansing, IL, Lower Your Foil Cost Through Better Tooling and Machine Design — Use It All.

Paul Carnes, Automatic Industrial Machines, Evansville, IN, Ways To Automate Hot Stamping.

Andrew Fricke, Hunkar Labs, Process Control for Decorative Plastics.

Dr. Juan Hajdu, Ethone, New Haven, CT, Recovery of Plating Chemicals.

Bill Given, RCA, Indianapolis, IN, Why Do We Decorate Plastics — Designers Point of View.

Tony Pascocello, Avon Products, New York City, Cosmetic Package Design.

Tom Abrahamsen, Burroughs, Detroit, Human Factors for Decoration of Business Machines.

Dave Bowes, Finishing Engineering, Erie, PA, Design for Automatic Finishing.

Panel: New Substrate Materials for Plastic Decorating and Assembly

New Award Created for Technical Papers

The CAD Award has been born to encourage all authors regardless of society affiliation to present the highest quality technical papers on the coloring of plastics at future ANTEC and RETEC meetings. Members, don't be reluctant to express your ideas in form of a paper because it could mean \$200 to you.

This award covers all aspects of coloring plastics. It fits in very nicely with the DCMA awards which cover specifically organic and inorganic colorants in plastics excluding titanium dioxide, carbon black and instrumental color measurements. Authors are eligible for either one or the other. Just think, having two awards doubles your probability of receiving one.

Similar to the DCMA award, the CAD award is given at ANTEC meetings for papers given at RETEC or ANTEC and is comprised of a \$200 honorarium plus a certificate denoting this accomplishment. Should there be more than one author, duplicate certificates can be prepared and the honorarium divided equally.

Each year the CAD Award Committee will review and evaluate papers which are approved by the CAD Review Committee. This committee will select winners of ANTEC and CAD awards if there are papers deemed worthy within the award year beginning and ending at ANTEC. The chairman of this committee will notify the chairman of the Color and Appearance Division regarding the selection of winning papers. He in turn will inform the winner immediately by mail and send copies of this notification to the chairman of the SPE Awards Committee and the Executive Secretary.

The technical criteria which cover written papers only are as follows: Originality, relevance, timeliness, clarity, technical content, accuracy, conciseness, and format.

Remember, you and your colleagues can present papers on the coloring of plastics at future ANTEC and RETEC meetings possibly resulting in your personal gain and satis-

faction plus benefiting all SPE members.

Walter G. Ball

Robert A. Charvat, Councilman of CAD

Bob and his wife Nancy live in Bay Village, a far west suburb of Cleveland. Bob is a native of Cleveland and his wife, Nancy, comes from Toledo. They have three children; Mike away in the Air Force, Kathy a freshman at Bowling Green State University and Laura a high school freshman.

Bob has an Engineering Degree from Cleveland State University, obtained in 1955 after returning from army duty in Korea. Color in plastics entered Bob's life immediately after graduation when he joined the Ferro Corporation Color Division in Cleveland. After a few years he moved to the B. F. Goodrich Chemical Co. where he headed their Color Laboratory for almost twelve years. Bob's career took a further turn toward pigments when he joined the Harshaw Chemical Co. Pigment Technical Service Lab in 1969 as a Plastics Section Group Leader. Two years later he became the Pigment Technical Services Laboratory Manager responsible for Laboratory activities in Plastics, Oil and Water Based Paints, Inks, Paper, Paper Coatings, Leather finishes and Artists Colors. The Laboratory responsibilities range from color evaluations and measurements to computer analysis.

Bob was in on the ground floor of the Color and Appearance Division. He participated in the first informal meeting where the Color Division was born. This took place in the early 1950's in Rochester, New York. He continued his activity in the Division serving as Program Chairman and eventually Division Chairman for the years 1968 and 1969. Bob has served on RETEC Committees and was the General Chairman of Coloring of Plastics VIII RETEC in 1974. In addition to the CAD, Bob is the New Divisions Chairman for SPE. He has also delivered technical papers and written on coloring of plastics. Bob is a member of the Inter-Society Color Council and Federation of Societies for Coatings Technology.

For recreation Bob is an avid boater. He and his family have cruised extensively in the Great Lakes and Finger Lakes areas. During the winter he teaches boating navigation to adult education classes.

All of the preceding items are reprinted from the *SPE Color and Appearance Division Newsletter*, Volume 8, Number 1, January 1977.

DRY COLOR MANUFACTURERS ASSOCIATION (DCMA)

Leonard Dick, Manager of Color Development of the PPG Corporation addressed the Members' Meeting following the Board meeting. His subject was Automotive Color Scheduling.

Reprinted from the *DCMA Newsletter*, January 14, 1977.

As noted in the November *DCMA Newsletter*, Dr. Kingsley Kay, of Mt. Sinai School of Medicine, has published an article in *Clinical Toxicology*. The article is a literature survey of reports of toxicological and carcinogenic activity of chemicals used in the graphic arts industry. DCMA has received notice from the publishers of *Clinical Toxicology* that our response to Dr. Kay's paper will be published sometime in 1977.

J. Lawrence Robinson
Executive Director

NEWS FROM MEMBERS

Warren Reese reports that he is happily ensconced in a Georgian house that includes a (presumably non-Georgian) swimming pool. Barbara is setting up her art studio, and Warren is enjoying his work, so it sounds like everything is OK in Weston, MA. He thinks he might be able to attend the Annual Meeting this year.

Jim Bartleson has been in England for over two years where he has been conducting research in the Department of Ophthalmic Optics and Visual Science at The City University of London. He has remained active in the field of color and vision. The research is on chromatic adaptation. In addition, he has been active in the Colour Group where he is a member of the Executive Committee and is the 1977 recipient of the Newton Medal. He plans to return to the United States by summer and will be one of the invited speakers at the AIC Congress - Color 77 in Troy.

J. F. MacMillan named to marketing post with ICI United States Chemicals Division. The specialty chemicals division of ICI United States Inc. has appointed *John F. MacMillan* marketing coordinator for plastics additives. He is located at corporate headquarters near Wilmington.

Dr. MacMillan graduated from Manhattan College in 1968 with a B.S. degree in chemistry. He received his Ph.D. in color science from Rensselaer Polytechnic Institute in 1975.

He joined ICI United States in 1973 as a senior development chemist working with industrial colorants. He held that position until his recent appointment.

Dr. MacMillan is a member of the Intersociety Color Council, New York Pigment Club, Society of Plastics Engineers and American Chemical Society.

Both Dr. MacMillan and his wife, the former Patricia Walsh, are natives of New York City. They have four sons and a daughter and live in Newark, Del.

The specialty chemicals division of ICI United States markets a wide variety of chemicals, including surface active agents, polyols, activated carbons, polyester resins, and colorants. These products are used in plastics, paints, agricultural chemicals, pollution control, industrial processes, and consumer goods such as pharmaceuticals, foods and cosmetics.

THE ISCC-NBS CENTROID COLOR CHARTS

In 1939 the Inter-Society Color Council and the National Bureau of Standards (ISCC-NBS) published jointly in Research Paper 1239, "Method of Designating Colors," the results of an extensive research project directed toward the development and application of a simple, accurately defined and easily understood system of color names. This project was initiated by the American Pharmaceutical Association and the United States Pharmacopoeial Revision Committee. The early work on this project resulted in the formation of the Inter-Society Color Council in 1931, and by 1933 a plan for the system had been outlined.

Work was commenced on the project at the National Bureau of Standards on May 1, 1936 when a research associate representing the pharmaceutical groups began the development and application of this method of color designation. The plan for the system outlined by the ISCC Committee on Measurement and Specification was to divide the psychological color solid into blocks whose boundaries were carefully specified in terms of the Munsell scales of hue, value, and chroma. It was decided to use only simple hue names such as red, orange, green, or purple and simple modifiers such as moderate, light, dark, strong, or vivid. Each block was assigned a hue name and one or more modifiers. An attempt was made to adjust the size of each block to include the variations in hue, value, and chroma which would be acceptably described by that color name.

In 1949, the Inter-Society Color Council recognized that this system of color designations developed for drugs and chemicals was actually applicable to other materials and objects. Research Paper 1239 was revised, enlarged, and republished in 1955 as NBS Circular 553 under the title of the "ISCC-NBS Method of Designating Colors" and a "Dictionary of Color Names." The color-name block boundaries were revised to take account of suggestions especially from the textile field, and methods were included for determining the designations of any powdered, solid, liquid, or microscopic sample. The "Color Names Dictionary" part contains the interpretations of the color names assigned to thousands of standard color samples in terms of the ISCC-NBS color designations.

The "Color Names Dictionary" needed one more part to make it complete. This missing part consisted of colored samples illustrating the centers or most typical colors of the color-name blocks. These most typical colors were found by computing the centers of gravity or centroids of the color-name blocks. For many years the cost of producing these colors was considered prohibitive, but in 1960 the Inter-Society Color Council provided funds to have the prototype centroid colors formulated and the National Bureau of Standards has had sets of charts showing these colors produced. They are available for purchase by the public from the Office of Standard Reference Materials at the NBS as SRM No. 2106 for \$15.00 per set.

In contrast to the constant-hue charts of the Munsell color system, these are constant-hue name centroid charts

and contain 251 colored samples illustrating the centers or near centers of the color-name blocks. When the theoretical center or centroid is outside the gamut of available, the nearest available color that falls within that block has been used for illustration. The Munsell notation of each such chip in the table distributed with the centroid charts is marked with a star.

There are a number of technical and scientific applications for which these ISCC-NBS centroid color charts are admirably suited. These designations have been used in the color descriptions of drugs and chemicals, in qualitative analysis, in dermatology, and in the descriptions of mica, building materials, soils, and rocks. The centroid charts are well suited to statistical studies of trends in industrial color usage and in planning lines of merchandise intended to have coordinated colors. Besides being used to designate the colors of manufactured items, the chips of the centroid charts, since they are carefully specified and their Munsell notations are listed in the table published with each set of the color charts, can also be used as standards of pin-pointing accuracy upon which the colors of these items can be based.

ISCC-NBS Subcommittee on Problem 23, the Historical Expression of Color Usage, used this method of color designation as the basis of the statistical description of color trends. The work of this subcommittee is contained in ISCC Interim Report of the ISCC Subcommittee on Problem 23, dated November 20, 1960. Handmade centroid charts using the prototype centroid colors formulated by Davidson and Hemmendinger, were provided the members of Subcommittee 23 for this work. A number of companies interested in the centroid colors purchased sets of the prototype centroids, thus assisting the ISCC in the financing of this worthwhile project. An article covering the ISCC-NBS Method of Designating Colors and the centroid color charts appeared in *Color Engineering*.

Kenneth Kelly

The preceding item is reprinted from the *ISCC Newsletter*, No. 175, March-April 1965. The *Newsletter* included the ISCC-NBS Centroid Color Charts as an insert. Mr. Kelly felt that the membership of the Council has changed enough in the last twelve years to make another distribution of the charts worthwhile, so a copy has been included with this issue. The charts were made available by the courtesy of Mr. Kelly.

The Universal Color Language (UCL) and the Color Names Dictionary (CNDN) have been combined and will be published by the National Bureau of Standards as NBS Special Publication SP No. 440, which is now in press. The date of publication and price are not known at this time. The new publication will be *illustrated in color*.

Ed.

COMMITTEE ON PUBLICATIONS

William Benson, Chairman
Milton J. Pearson
Ruth M. Johnston
Donald Genaro

The deadlines for submitting items to be included in the *Newsletter* are: February 15, April 15, June 15, August 15, October 15, and December 15, in other words, the fifteenth of the even-numbered months.

Send *Newsletter* Items to Editor:
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1. Any person interested in color and desirous of participating in the activities of the Council for the furtherance of its aims and purposes . . . shall be eligible for individual membership (By-Laws, Article I, Section 2). Application forms for individual membership may be obtained from the Secretary (address given above).
2. The Council re-affirms its community of interest and cooperation with the Munsell Color Foundation, an independent private foundation devoted solely to the advancement of color knowledge in science, art, and industry. It serves as Foundation Associate of the Inter-Society Color Council. The Council recommends and encourages contributions for the advancement of these purposes to the Munsell Color Foundation. For information, write to S. L. Davidson, NL Industries, P.O. Box 700, Hightstown, N.J. 08520.
3. The Council promotes color education by its association with the Cooper-Hewitt Museum. It recommends that intended gifts of historical significance, past or present, related to the artistic or scientific usage of color be brought to the attention of Christian Rohlfing, Cooper-Hewitt Museum, 9 East 90th Street, New York, New York 10028.