

Inter-Society
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Newsletter

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William D. Schaeffer
President-Elect



Bonnie Bender
Director



Stephen F. Bergen
Director



E. L. Cairns
Director

**WILLIAM D. SCHAEFFER
PRESIDENT-ELECT**

Dr. William D. Schaeffer is research director of the Graphic Arts Technical Foundation. Prior to 1969, he was research director of the National Printing Ink Research Institute (NPIRI) and associate director of the Center for Surface and Coatings Research at Lehigh University, Bethlehem, Pa. During his tenure as research director of NPIRI, he primarily concerned himself with research in the areas of pigments, dispersions, rheology, wetting, and printability.

From 1947 through 1955, Dr. Schaeffer conducted studies on pigments as group leader in fundamental research at Godfrey L. Cabot, Inc., Boston, Mass. During World War II, he served as a meteorologist with the Eighth Air Force in England and later conducted extensive research in the areas of printing, surface chemistry, carbon black, colloids, and inks.

Dr. Schaeffer has been published in more than 50 technical journals and holds two patents.

His formal education was obtained at Lehigh University, where he earned bachelor's, master's, and doctor's degrees in chemistry.

He is the past vice-chairman of the Council for the International Association of Research Institutes for the Graphic Arts Industry (IARIGAI), and has also served as president of the Technical Association of the Graphic Arts (TAGA) and chairman of the Graphic Arts Committee of the Technical Association of the Pulp and Paper Industry (TAPPI).

Dr. Schaeffer is the current chairman of the Paper Committee for the American Chemical Society. He serves as a member of the Editorial Board of TAPPI magazine, as a member of the Board of Directors for the Inter-Society Color Council, as Steering Committee member on the Inter-Industry Noise Study, and as a member of the Executive Committee of the Research and Engineering Council for the Graphic Arts Industry, Inc. He also is a member of Sigma Xi national scientific research honor society, American Society of Testing Materials, and the Air Pollution Control Association.

**BONNIE BENDER
DIRECTOR**

Bonnie Bender, a nationally known color authority, is manager of color marketing for Pittsburgh Paints, a prod-

uct of PPG Industries' Coatings & Resins Division.

She is responsible for advising the company on current color needs of Pittsburgh Paints and forecasting color trends in the decorating market. She also advises the company on implementation of strategies and devices for color presentation, color merchandising, and color marketing.

Ms. Bender has been a consultant to architects, builders, salesmen, administrators, and others connected with the color selection of paint, carpets, ceramic tile, and related items. She has had wide field experience in color-styling building interiors and accessories for many national manufacturers, including General Electric, RCA, Bell Telephone, and Scott Paper Company.

She also specializes in color-styling interiors and exteriors for schools and universities, plants and industries, as well as business and executive offices of corporations. She selects colors, organizes and creates new color systems, and assists with corporate color policy. Ms. Bender writes articles and gives presentations on color trends, styling, and the psychology of color.

A native of Binghamton, N.Y., Ms. Bender was graduated from Elmira College. She also received a certificate of engineering from Guggenheim School of Aeronautics in New York and studied interior design at the Philadelphia College of Art.

Ms. Bender is a Design Affiliate of the American Society of Interior Designers (ASID), a chairholder of the Color Marketing Group, and a member of National Home Fashions League (NHFL) and the Inter-Society Color Council (SCC). She also is a member of the Executive Women's Council of Greater Pittsburgh and was elected to Who's Who of American Women for 1977-1978.

In private life, Bonnie is known as Ms. Donald H. Bender. She and her husband reside in suburban Pittsburgh.

**STEPHEN F. BERGEN
DIRECTOR**

Dr. Bergen is the Director of Maxillofacial Prosthetics and Prosthodontics at the New York Veterans Administration Hospital, where he also did his Prosthodontic and Maxillofacial Residencies and his Internship. He received his DDS and Master of Science in Dentistry from the New York University College of Dentistry. He has been elected Chairman of the Color Matching Committee of the American College of Prosthodontics for the term 1978-1980, and he has participated in the Subcommittee on Problem 35, Color and Appearance Matching of Living Tissues. He has

published on illumination used in dentistry and on color testing of dental porcelain.

E. L. CAIRNS DIRECTOR

A native of Wilmington, DE, Mr. Cairns received his Bachelor's degree in chemistry from the College of Wooster in Ohio. Joining the Pigments Department of E. I. du Pont de Nemours & Co., he worked on process assistance and development at the Edgemoor, DE, N. Johnsonville, TN, and Antioch, CA titanium dioxide plants. In 1963 he moved to the Technical Service Lab at Chestnut Run, where he has worked on the application of instruments to color problems. He became a Technical Service Consultant in 1975 and is a member of the American Chemical Society and the Canadian Society for Color in addition to the Inter-Society Color Council.

OBJECTIVES OF PICTORIAL COLOR REPRODUCTION

The second conference on "Objectives of Pictorial Color Reproduction" sponsored by the ISCC will be held in Williamsburg, Virginia on February 5-8, 1978. As stated in the second brochure arrangements have been made with the Williamsburg Lodge to provide a full American plan. As a result of this arrangement there is no separate registration fee for either participation or guests. The cost is \$200 per person for single occupancy, and the fee includes the reception Sunday evening, all meals from Sunday night through Wednesday noon, three nights lodging, attendance at the conference, and the attractions of Colonial Williamsburg.

There will be a few contributed papers to augment the program of invited papers listed below.

"The Separation of Grayness and Lightness." Bonnie Swenholt, Eastman Kodak Co.

"Measures of Color Appearance in Color Reproduction," R.W.G. Hunt, Kodak Limited, England.

"Inadequacy of Colorimetry for Evaluation of Color Reproduction Systems," Karel Staes, Agfa-Gevaert, Belgium.

"Using Scanners to obtain Any Colorimetric Transformation Between Original and Reproduction," W.L. Rhodes, Xerox Corp.

"Optimizing Color Reproduction in Television," LeRoy DeMarsh, Eastman Kodak Co.

"TV Still Treats Color as a Novelty," E. Carlton Winckler, Imero Fiorentino Associates, Inc.

"Problems of Edges, Gradients, Contrast and Assimilation in Paintings," Joy Turner Luke, Studio 231, Sperryville, Virginia.

"The Seeing Eye" (after-dinner talk), W.D. Wright, England.

Bonnie Swenholt

47TH ANNUAL MEETING

The 47th Annual Meeting of the Inter-Society Color Council will be held at Loew's L'Enfant Plaza Hotel in Washington, D.C., on Sunday Evening, Monday, and Tuesday, April 16-18, 1978. *Please note* the change in venue; this is the first time in 17 years that the Annual Meeting has *not* been held in New York.

The 1978 Annual Meeting will begin with a special guided tour of the Museum of History and Technology of the Smithsonian Institution, starting at 7:00 P.M., on Sunday evening, April 16. This will be followed by a reception at 8:00 P.M. in the Presidential Suite of the Museum. Preregistration for this event will be required, and there will be a nominal charge for the catered reception.

On Monday, April 18, open meetings of the ISCC Problems Subcommittees will be held in both morning and afternoon sessions, beginning at 9:00 A.M. As in the past, members and friends of the Council are urged to attend. Following the practice established in 1977, meetings of the Problems Subcommittees will be held in four 1½ hour periods to reduce as much as possible the conflicts resulting from simultaneous sessions.

A new event will take place on Monday evening: A series of limited-attendance workshops entitled *Color in Use* will be held, beginning at 8:00 P.M. They are directed primarily to those interested in color as it is used in art, design, and education. Moderators and topics of these workshops are Rolf Kuehni, "Color Quality Control in Industry;" Joy Turner Luke, "Visual Effects of Colored Lights;" Kenneth L. Kelly, "The Munsell System and the Universal Color Language;" Edwin K. Robinson, "Light Sources and Surface Color Appearance;" and Nadine Bertin, "Color Trends in Home Fashions and Housewares." Preregistration will be required to assure a place in these limited-attendance workshops. but there will be no additional fee to participate in them.

The meeting on Tuesday, April 18, will open at 9:00 A.M. with a symposium on "Color and Illumination," chaired by William A. Thornton, IES. Speakers and topics will be: Gunter Wyszecki, "Coloration by Daylight;" and the following under the general topic of "Coloration by Artificial Illuminants:" Charles W. Jerome, "Color-Rendering Index;" William A. Thornton, "Color-Preference Index and Color-Discrimination Index;" Alexander F. Styne, "Coloration by Specific Commercial Light Sources;" Eugene Allen, "Color Matches and Mismatches by Commercial Lamps;" and Gerald Howett, "Color Constancy." Dr. Thornton will close the symposium with summarizing remarks.

The Annual Meeting Luncheon Tuesday noon will feature the installation of officers for 1978-1980, with Franc Grum succeeding Charles W. Jerome as President. During the luncheon the ISCC Macbeth Award will be presented to Dr. Fred W. Billmeyer, Jr. There will be no luncheon speaker.

The annual business meeting of the Council will be held immediately after the luncheon on Tuesday afternoon, and will include the presentation of reports by chairmen of Member-body Delegations as well as by Officers and Standing Committee Chairmen. It is expected that the Annual

Meeting will close by mid-afternoon.

A final program and registration form will be sent to the membership in March. Preregistration is urged, and as noted above will be mandatory for some events.

BY-LAWS MODIFIED TO IMPLEMENT IMG VOTING DELEGATION

Upon recommendation of the By-Laws Committee, the Board of Directors at its October 9, 1977, meeting authorized the Secretary to poll the Voting Delegates on a change in the By-Laws giving Individual Members of the Council the right to vote and hold office. The change, which is stated explicitly in an insert distributed with this *Newsletter* and in the *Newsletter* itself, merely omits a clause from the description of the rights and privileges of Individual Members, which said that they could not vote or hold office. Balloting was carried out by mail in November, and the proposed change passed by a large margin.

The amendments are given under the topic heading immediately following the present one and in the insert. These items state both the previously described change and an earlier one, described in the lead article in *Newsletter* No. 246, adding a new Standing Rule creating the IMG Voting Delegation, which consists of Individual Members who hold the position of Chairman of a Standing Committee or Vice-Chairman or Subcommittee Chairman of the Problems Committee, and who are not also Delegates. Currently there are ten members of the IMG Voting Delegation, who have elected Mrs. Bonnie K. Swenholt their chairman.

The Secretary's Office recommends that the flyer be inserted in each member's copy of the By-Laws, for example by stapling it inside the back page. Extra copies of both the By-Laws and the flyer can be obtained from the Secretary.

There have apparently been some misunderstandings about the purpose and operation of the IMG Voting Delegation. For many years the Board of Directors received numerous complaints that the Individual Member Group, by far the largest in the Council, had no voice in the operation of the ISCC. Many of them do not belong to any Member Body, and for good reasons would not wish to join one solely in order to be appointed a Delegate, even if this could be guaranteed.

Yet the problem of how to elect or appoint appropriate representatives of this large group was long an obstacle. It was overcome by recognizing that certain IMG's were noted for special service to the Council through chairmanship of important committees or subcommittees. The Board felt that such service denoted Individual Members with sufficient interest in and loyalty to the Council to appropriately represent it as a voting delegation. It therefore established the aforementioned new Standing Rule. The By-Laws change removed the last barrier to the activities of this Delegation.

The Board feels, and wishes to emphasize, that the creation of an IMG Voting Delegation should not in any way be construed to denigrate the importance of the Delegations representing the Member-Bodies. The mode of opera-

tion of the IMG Voting Delegation limits the IMG voting privilege to those few whose special concern for the Council's well-being continues to be adequately demonstrated, since they hold the position of Voting Delegate only so long as they hold the office making them eligible for it. Finally, the rolls of those eligible to hold office are increased by a small number (roughly 3% of its value) of persons who are eminently qualified to exercise that privilege.

AMENDMENTS TO BY-LAWS AS OF JANUARY 1, 1978

BY-LAWS

Article I, Section 5, Subdivision (b) (page 7) is amended to read:

(b) *Individual Members*. Individual Members shall be entitled to all the rights and privileges of the accredited delegates appointed by Member-Bodies.

STANDING RULES

Article SR I, Section 1 (page 17) is amended by the addition of subdivision (e) as follows:

(e) Chairmen of all Standing Committees, Vice Chairmen of the Problems Committee and all chairmen of the Subcommittees of the Problems Committee who are Individual Members of the Inter-Society Color Council only shall be voting delegates *ex officio* with all the duties and privileges as outlined in the By-Laws. Such status will be discontinued when the Individual Member terminates his service as Chairman of a Standing Committee, Vice Chairman of the Problems Committee, or Chairman of a Problems Subcommittee.

HIGHLIGHTS OF OCTOBER BOARD OF DIRECTORS MEETING

Following the custom established in recent years, the Board of Directors prepared a brief summary of the deliberations of its meeting on October 9, 1977, for publication in the September-October *Newsletter*. Unfortunately, it was not included as a result of less than perfect communication between the Secretary's and Editor's offices. Meanwhile, a number of these highlights have advanced into stories of their own, appearing in this issue or to appear in subsequent ones. They need not be detailed here, and as a result a considerable modification to the original article has been required. The following items remain deserving mention.

COLOR research and application. It will be recalled that the ISCC, together with The Colour Group (Great Britain) and the Canadian Society for Color, endorses the journal **COLOR**, published by John Wiley and Sons. The agreement document among these parties includes a clause stating that at any time after three years from its signing (which preceded actual publication by over a year), any of the Endorsing Societies could withdraw, if dissatisfied, on due notice. The Board of Directors took the initiative, with

the three-year date approaching, of informing Wiley of its satisfaction with the journal and the endorsing arrangement, and of its intention to continue its endorsement.

Color: A Guide to Basic Facts and Concepts. The publisher of the well-known book by R.W. Burnham, R.M. Hanes, and D.J. Bartleson, John Wiley and Sons, has informed the Council that the supply of copies is near exhaustion and that the prospective sales level is such that reprinting is not warranted. They have therefore declared the book out of print. The Board authorized the purchase of the few remaining copies by the Council for distribution at cost to the surviving authors (Hanes and Bartleson) as desired, then to libraries desiring copies, then (if any remain) on a first-come-first-served basis by notice in the *Newsletter*.

AIC COLOR 77. The Organizing Committee reported to the Board that all financial indebtedness for the Congress has not yet been discharged; all bills will not have been received until the Proceedings have been published and copies distributed to the participants; sometime in January if all goes well. Since the contract for the book (published by Adam Hilger in England) is written in pounds sterling, the potential cost to the ISCC fluctuates with the pound-dollar exchange rate. It seems likely that the financial break-even point for the ISCC is right in the middle of the current zone of uncertainty.

Future Williamsburg Symposia. Williamsburg 1978 is upon us, and details are given elsewhere. The Board found that plans for Williamsburg 1979, tentatively the Judd Memorial Conference on Color Metrics, are progressing well under the general chairmanship of Rolf G. Kuehni. A *Newsletter* story will soon appear. The Board initiated plans for one or even two future Williamsburg meetings beyond 1979, and will probably set dates when it next meets at Williamsburg on February 5, 1978.

Future Annual Meetings. The Board reapproved its ongoing schedule of meeting in New York City in alternate years by setting the location of the 1979 meeting as New York, but leaving the hotel to be selected in the near future. The location of the 1980 annual meeting was fixed as Rochester, New York, but again no details have yet been established.

This report was drafted by President Jerome and modified by the Secretary.

SYMPOSIUM ON COLOR AND APPEARANCE INSTRUMENTATION

A symposium on instrumentation for measuring color and appearance in the coatings industry will be held March 14-16, 1978 at the Marriott Inn (near the airport), in Cleveland, Ohio. The 2½ day meeting is sponsored jointly by the Federation of Societies for Coatings Technology, the Manufacturers Council on Color and Appearance, and the Inter-Society Color Council.

The five half-day sessions will be divided between "hands-on" workshops and the presentation of papers on gloss and appearance, measurement of color and color difference, spectrophotometry, and colorant formulation. Most of the instruments to be featured in the workshop

sessions and on display are new designs, made available less than three years ago.

PAPERS

Session on Gloss and Other Appearance Attributes

"Review of Geometric Attributes of Appearance" — Jack Christie, of Hunter Assoc. Lab.

"The Use of Distinctness of Image Measurement for Improvement of Paint Appearance" — Ted Terletzky, of Ford Motor Co.

"Exposure Evaluation: Part II-Bronzing" — Ruth Johnston-Feller, Consultant, and Dennis Osmer, of CIBA-GEIGY Corp.

Session on Measurement of Color and Color Difference

"Current Status of the Color Difference Problem" — Fred Billmeyer, of Rensselaer Polytechnic Institute.

"Inter-Plant Quality Control by Means of Simple Tri-Stimulus Colorimeters" — Donald Cook, of Standard T Chemical Co.

Paper on quality control (title to be announced) — Joe Hodge, of Whirlpool Corp.

Session on Spectrophotometry

"Spectrophotometry in the Paint Industry" — Max Saltzman, of the University of California, Los Angeles.

"Practical Aspects of Current Color Measuring Instrumentation for Coatings Technology" — Danny C. Rich, of Rensselaer Polytechnic Institute.

"Color Control in a Multi-User Environment" — Donald W. Parker, of Sherwin-Williams Corp.

Session on Colorant Formulation

"The Development of Computer Color Formulation and Control" — Hugh Davidson, of Davidson Colleagues.

"Volumetric Computer Color Matching" — Bruce Todd, of Chemetron Corp.

"Evaluation of Beckman Variable Angle Reflectance for Characterization of Metallic Coatings" — D. Thomas Roberts, of Chemetron Corp.

Session on Total Instruments Installation

"Color Measurement in Pigment Manufacture" — Ed Cairns, of the du Pont Co.

"Total Instrumentation in Color Manufacture" — Allen Rodriguez, of the du Pont Co.

"Practical Application of Instrumental and Computer Control in a Small Paint Plant" — Edwin J. Lowrey, of Precision Paint Corp.

"People Make or Break an Instrumental Color Control System" — Bob Marcus, of PPG Industries, Inc.

WORKSHOPS

The four workshops (two on Tuesday, two on Wednesday) will relate to the general sessions on those days and will be of an equal duration: 90 minutes. Instrument companies which will participate in the workshops and have equipment on display in exhibit booths are: Applied Color Systems, Atlas Electric Devices Co., Byk-Mallinckrodt, Diano Corp., Gardner Laboratory, Hunter Associates Laboratory, MacBeth Div., Kollmorgen Corp., Robinson and Associates, and Tintometer USA.

The workshop sessions will consist of brief introductory talks, followed by actual demonstrations of the equipment by experienced technical personnel of the exhibitor companies. Registrants are welcome to bring their problems and their samples.

On Tuesday and Wednesday evenings, the exhibit booths will be open to all registrants from 5:00 to 7:00 p.m.

The registration fee for the symposium, \$75.00, includes three continental breakfasts, two lunches, and five coffee breaks.

The room rate at the Marriott will be \$29.00 for a single; \$34.00 for a double.

To register, or to obtain a copy of the complete program (with abstracts), write: Federation of Societies for Coatings Technology, 1315 Walnut St., Philadelphia, Pa. 19107. Reservations are limited and will be handled on a first-come, first-served basis.

CONTRIBUTIONS SOUGHT FOR MUNSELL FOUNDATION

All of you have undoubtedly received a letter from the President of the ISCC, Charles W. Jerome, asking for contributions to the Munsell Foundation. If you have any interest in contributing or if you know of anyone who might have an interest, please get in touch with him.

Office of the President
Charles W. Jerome
92 Nanepashemet Street
Marblehead, MA 01945

NEWS OF PROBLEMS SUBCOMMITTEES

Meeting of Subcommittee on Problem 33, Human Response To Color, at the Next Annual Meeting

Over the past years our Committee had the opportunity to hear from distinguished speakers concerned with many facets of human response to color. They ranged from "Basic Investigations of Responses to Spatial Conditions" by Professor John Flynn, "The Specific Needs of the Surgeon in the Performance of His Task" by Dr. William Besk, to "Perceptual Visual Response Phenomena" by Dr. Richard Corth and "Color Uses in Hospitals" by Ms. El Abruzzi — to name but a few.

Our next meeting will feature "Human Response to Color on Objects", and Raymond Spilman, Chairman of the IDSA delegation to the Council, has agreed to chair

the session. He has invited designers and design educators to tell us how they select color for consumer oriented products, made by industry for mass markets. They will discuss how colors are determined before the products are actually made and how consumer reactions to them are found and assessed after they have been put on the market.

The speakers will be Mr. Robert Smith, Executive Vice President of IDSA and Director of Design at J. C. Penny & Co., Mr. Carol Gantz, Vice President of IDSA and Manager of Industrial Design, Black & Decker Co., Professor Robert Redman, Head, Dept. of Industrial Design, University of Bridgeport, and Jay Doblin, formerly Director of Industrial Design, IIT, Chicago, now consultant to J. C. Penny & Co.

The meeting of our Committee is scheduled for Monday, April 17, 1978 from 9 am to 12 noon at the Conference site, the L'Enfant Plaza Hotel in Washington, D.C.

Alexander F. Styne,
Chairman, Subcommittee 33

Problem 37, Artists' Materials

Several ISCC members have been appointed by Mr. Karl G. Newell, Jr., Chief of the Standards Development Services Section of the National Bureau of Standards, to the NBS Standing Committee for commercial Standard CS98-62, "Artists' Oil Paints." They are Professor Herbert Aach, Artists Technical Research Institute; Dr. Robert L. Feller, Carnegie-Mellon Institute; Dr. Catherine Jenkins, Art Hazards Resource Center; Mr. Henry Levison, Colorlab; Mrs. Joy Turner Luke, Artists Equity Association; Mr. Irving Shack, M. Grumbacher, Inc.; Mr. Thomas Vonderbrink, Permanent Pigments.

This NBS Standing Committee is charged with updating the Commercial Standard CS98-62. Close cooperation is planned between this NBS committee, ISCC Subcommittee 37, "Artists' Materials," and an ASTM subcommittee, D01.57, being organized at this time. The NBS committee will determine the necessary standards for artists' paints while ASTM D01.57 will write the recommended methods to back up those standards. ISCC Subcommittee 37 will disseminate these standards plus other specific information on artists' materials to the practicing artists.

The American Artists Professional League is sponsoring the NBS Standing Committee while Artists Equity Association is sponsoring the ISCC Subcommittee 37 and has been instrumental in the formation of ASTM D01.57.

All three of these committees depend strongly on testing being done by Henry Levison and Dr. Treva Pamer and the cooperation of the artists' paint manufacturers such as M. Grumbacher, Inc., Hunt Mfg. Co., Permanent Pigments, Inc., Utrecht Linens and F. Weber Co.

Joy Turner Luke, AEA
Chairman, Subcommittee 37

NEWS OF MEMBER-BODIES

ARTISTS EQUITY ASSOCIATION

Artists Equity Association has selected a new chairman for its delegation to the ISCC, Ms. Linda Lewis Taylor, 2410 S. Inge St., Arlington, VA 22202. In addition, Ms. Dorothy Pere, 207 Poplar Ave., Merchantville, NJ 08109, has been designated by AEA to be responsible for developing contacts between the ISCC and separate AEA chapters. Anyone having information they believe will be of interest to individual artists should contact her.

AMERICAN SOCIETY OF INTERIOR DESIGNERS (ASID)

Rudolph Schaeffer, head of the Rudolph Schaeffer School of Design, San Francisco, was made an Honorary Member of the ASID at the age of 91, after being an Education Affiliate for twenty-five years.

A pioneer in the field of color study, while in his early twenties he was appointed by the U.S. Commissioner of Education to visit Munich, Germany — then considered one of the leading centers of public education in the world — to report on the role of color in the trade schools curricula. Later he startled the design world when he introduced his prismatic theory of color at what is now the California College of Arts and Crafts, a concept that brought far-reaching changes in design, and in the textile field in particular.

In 1926 Schaeffer founded his own School of Design, which still continues under his direction. Five years later he established the initial Art Department at the Cornish School in Seattle. He was given national recognition in the Hoover report in 1933 for pioneering new teaching methods.

FEDERATION OF SOCIETIES FOR COATINGS TECHNOLOGY (FSCT)

ISCC Members Receive Awards

The following awards were given at the 1977 Annual Meeting of the FSCT.

Armin J. Bruning Award. Established in 1962 in honor of Armin "Joe" Bruning, pioneer in the application of color science to the paint industry, this award is for "the most outstanding contribution to the science of color in the field of coatings technology."

The 1977 award plaque was presented to Dr. Fred W. Billmeyer, Jr., Professor of Chemistry, Rensselaer Polytechnic Institute, for his work in advancing the principles of coatings technology through his many activities in the field of color education.

Dr. Billmeyer began his career with E. I. du Pont de Nemours & Co., Inc. in 1945 in that company's Wilmington, Del., Research Center where he specialized in polymer chemistry and color technology. In 1964 he became a full

professor in the Chemistry Department at Rensselaer Polytechnic Institute, where he established the RPI Color Laboratory and began his programs in color technology.

A member of the New York Society for Coatings Technology, he also serves as Secretary of the Inter-Society Color Council and as Editor of *Color Research and Application*.

DCMA Award. This award is presented for the best paper prepared on any aspect of the science or usage of color, use of colorants or their behavior which is presented to the Federation. The Award is made by the Dry Color Manufacturers' Association. The 1977 Award was won by Ruth Johnston-Feller, Consultant, Pittsburgh, Pa., and Dennis Osmer, of CIBA-GEIGY Corp., Ardsley, N. Y., for their paper, "Exposure Evaluation: Quantification of Changes in Appearance of Pigmented Materials." The paper was published in the Federation's monthly periodical, *Journal of Coatings Technology*, in February 1977.

1978 FSCT Annual Meeting

The 56th Annual Meeting and 43rd Paint Industries' Show of the Federation of Societies for Coatings Technology will be held at the Conrad Hilton Hotel, Chicago, November 1-3, 1978.

OPTICAL SOCIETY OF AMERICA (OSA)

The 1977 Annual Meeting of the Optical Society of America was held in Toronto during the second week of October. The OSA also graciously provided space for the Board of Directors Meeting of the ISCC at that time.

The program consisted of five sessions of invited papers on vision, two of which were concerned with color. The first session had several papers on spectrophotometric studies of biological rod and cone detectors. The second session was a symposium on color vision with talks on chromatic adaptation and prediction of color matching functions. In addition there were thirteen contributed papers on color vision in this session. A proposal was made in one of these papers that the luminosity function (and presumably also the red-receptor sensitivity) is measurable to about 1000 nm, and suggested that color-mixture functions should be established beyond 780 nm and used for colorimetry.

Following the sessions, the Color Technical Group met to discuss the invited and contributed papers on color. The model of the colors of the uniform color scales and the charts showing the scales were also shown and discussed.

The Frederic Ives medal was presented to Emil Wolf for his contributions to physical optics and the theory of coherence. The C.E.K. Mees medal was presented to André Maréchal, a well known authority in optics.

The abstracts of these papers may be found in the October 1977 issue of the *Journal of the Optical Society of America*.

Franc Grum

NEWS OF MEMBERS

American Color Scientists Visit Japan

The Color Science Association of Japan (CSAJ) invited Mr. C. B. McCamy, Vice President for Science and Technology of Macbeth Division of Kollmorgen Corporation, to the 138th Kanto regular meeting in Tokyo on September 29, where he presented a lecture on recent colorimeters.

His principal purpose for visiting Japan was to attend the Tokyo Symposium '77 on Photo- and Electro-Imaging, which was held at the Tokai University Members' Club in Tokyo on September 26-30. The announcement of this international symposium had appeared in the *Newsletter* No. 245 (1976).

On the afternoon of 28th, he visited the Japan Color Research Institute for the purpose of touring the facilities for painting various scientific color cards and measuring color materials.

After the symposium, he called on Dr. Nayatani of the Electrotechnical Laboratory in Osaka. It seems that he also visited Kyoto with his wife, who teaches flower arrangement and belongs to the Ikenobo.

Mr. R. S. Hunter, President of HUNTERLAB invited many members of CSAJ to exhibits of his new products at the US Trade Center in Tokyo on November 1. He was on the way to several countries of South-east Asia together with Mrs. Hunter and a member of his staff Mr. M. B. Lloyd. He said this was the second visit to Japan and that he planned to visit Korea soon. It was very impressive that both he and Mr. Lloyd were wearing the colorful RIT Tie (see *Newsletter* No. 249).

Honorary Member Lost

First-class mail to one of the Council's Honorary Members, Mr. Walter M. Scott, has repeatedly been returned by the post office marked "Moved, not forwardable." Mr. Scott's last known address is Deerwoode Road, Brevard, North Carolina 28712.

Will anyone with information about Mr. Scott, or anyone living close enough to Brevard to make a personal inquiry, please contact the Secretary?

Dr. George Goldfinger Appointed FIT Consultant

The Fashion Institute of Technology is pleased to announce the appointment of Dr. George Goldfinger as a consultant in color science to FIT's Research Department. Dr. Goldfinger recently retired from the North Carolina State University School of Textiles in Raleigh, North Carolina, where his specialty was color science and polymer chemistry. In addition to color science research activities, Dr. Goldfinger will advise faculty members in developing additional color science courses.

Sandra Collins

Sandra Collins has been named a sales representative for the pigments division of The Hilton-Davis Chemical Co., it was announced by the company's vice president-sales,

Raymond L. Marienthal. She will call on customers in the paint, plastics, and printing ink industries in the south central area.

Prior to joining Hilton-Davis, Ms. Collins was a senior lab technician with the Rust-Ban Coatings division of Exxon Chemical Co. Earlier she had been a lab technician with Baroid, a division of N.L. Industries, Inc.

Ms. Collins earned a B.S. degree in biology (1977) from the University of Houston. She is a member of the Houston Society of Coatings Technology and the Inter-Society Color Council.

IN MEMORIAM

Dr. Roland E. Derby, Jr.

Dr. Derby was admitted to a hospital on December 2, 1977 with a combination of stomach and liver ailments from which he was unable to recover. He died on December 25. More will follow in a later issue.

Dr. Peter C. Goldmark

Dr. Goldmark, first recipient of the Macbeth Award in 1972, died on December 7, 1977 in an automobile accident on the Hutchison River Parkway. Dr. Goldmark was a resident of Stamford Connecticut. He was a native of Hungary and had received his training in physics at the University of Vienna. He came to the United States in 1933 and began working for CBS in 1936. He was widely known as the inventor of color television and had been a leader in the development of Electronic Video Recording. More will follow in a later issue.

Frederick H. Rahr

Frederick H. Rahr died in March of 1977. An expression of regret and sympathy was sent to Julia B. Rahr, the surviving widow, by Dr. Billmeyer on behalf of the ISCC. Mrs. Rahr wrote to thank the ISCC for the condolences and to say that she regretted that Mr. Rahr had not lived long enough to receive the certificate of honorary membership in the ISCC that had recently been awarded.

Helen Taylor

Helen D. Taylor, an Honorary Member of the ISCC, died early in 1977 at the Clara Burk Nursing Home in Plymouth Meeting, Pennsylvania. Both Ms. Taylor and Dr. Taylor, her husband, had paralytic strokes within a short period of time and had to return to Philadelphia from Bermuda, where they had been residing. Dr. Taylor died shortly after his return, and Ms. Taylor's health worsened to the extent that she became a patient at the nursing home. Ms. Taylor had remained interested in art and gardening and she had completed a set of paintings of the endemic plants of Bermuda for the Garden Club of Bermuda. She is survived by a daughter, Ms. David Wood, Logtown Farm, Wawa, PA 19063.

CENTER FOR OCCUPATIONAL HAZARDS (COH) STARTS ART HAZARDS INFORMATION CENTER

The Center for Occupational Hazards, Inc. (COH) has initiated the Art Hazards Information Center, a new service to artists, craftspeople, art schools and art teachers. The Information Center will provide advice on safety precautions and hazards of art and crafts materials in response to country-wide written and telephone inquiries. Inquiries should be addressed to the Art Hazards Information Center, 56 Pine Street, New York, N.Y. 10005.

The National Science Foundation has awarded Catherine L. Jenkins, Ph.D., a Public Service Science Residency to be Director of the Information Center. Dr. Jenkins, a chemist, industrial hygienist, and artist is an expert on the health hazards of toxic pigments and dyes and is Chairman of Task Group III on Toxicity and Truth in Labelling of Artists Materials of Subcommittee 37, Artists' Materials, of the Inter-Society Color Council. In addition, COH and its Art Hazards Information Center is supported with public funds from the National Endowment for the Arts and the New York State Council on the Arts.

Dr. Michael McCann, President of COH, stated that the inauguration of the Art Hazards Information Center is an important step in the campaign to decrease health problems caused by hazardous art materials. He said, "The Information Center will provide a major tool for education. One of the problems is that artists and craftspeople are using a wide variety of hazardous art materials without adequate precautions and often without even the knowledge that the materials are hazardous." Examples of such toxic materials, according to Dr. McCann, are solvents, pigments and dyes, metal fumes and dusts, asbestos, silica-containing stones and clays, plastics and their monomers, etc.

Other activities of COH include scientific research into the health hazards of arts and crafts materials, including children's art materials, lectures and workshops for artists, art teachers and others on these health hazards and possible precautions, and a regular column "Art Hazards News" appearing in *Art Workers News* which may be reprinted free of charge.

The art hazards program of COH has its origins in 1974 as a project of the Foundation for the Community of Artists. In 1976, the National Endowment for the Arts, the New York State Council on the Arts, and the Creative Artists Public Service Program funded the Art Hazards Resource Center. In July, 1977, the newly formed non-profit Center for Occupational Hazards, Inc. became the new sponsor of the expanded program.

PRODUCTS AND SERVICES

New Journal Announced

For the occasion of the 60th anniversary of the Illuminating Engineering Institute of Japan, the Institute has announced the English publication of *Journal of Light and Visual Environment*. An excerpt from the Inaugural Issue stating the purpose of the publication follows:

As one of the celebration activities for the 60th Anniversary of the Institute, the inauguration of *Journal of Light and Visual Environment*, an English journal publication, has been planned. This journal is not only for Japanese authors. The Institute welcomes contributions from various countries of the world for positive mutual communications in the field of illuminating engineering. For the time being the journal will be issued twice a year. When the contributions increase, frequency of the publication will be increased.

Illuminating engineering is indispensable for human life. This branch of science and technology will not be able to progress further if it stays in its conventional highly specialized frame-work. The Institute is determined to make an interdisciplinary approach for a brighter future. This philosophy is illustrated in the name of new English Journal.

Journal of Light and Visual Environment will cover the theses, reports, and study news not only in the traditional fields of fundamentals and applications but also the generation and applications of light and fundamentals of vision and visual environment.

Subscriptions to *Acta Chromatica*

Acta Chromatica is the official publication in English of the Color Science Association of Japan devoted to original papers on all aspects of the science of color and related subjects.

This publication is a very convenient way for you to keep up with the progress of color science in Japan. About five original papers in English by Japanese scientists and often an invited paper contributed by an eminent foreign color scientist appear in every issue (about 40 pages). Although manuscripts written in any major European language will be accepted, all of the back numbers happen to be in English.

The first issue was published in 1962. At present *Acta Chromatica* is scheduled to be published annually, and a total of 12 have been issued; Vol. 1, No. 1-5, Vol. 2, No. 1-5 and Vol. 3, No. 1-2. Back numbers are available except Vol. 1, No. 1 (sold out). We have presented reference copies to the Secretariat of your association.

If you would like to subscribe for the *Acta Chromatica* write to:

Japan Publications Trading Co., Ltd.

P.O. Box 5030 Tokyo Internationa, Tokyo, Japan.

The subscription rate is \$7.00 a copy, but the cost of back numbers is \$8.00 a copy. These rates include postage.

For more information, please contact Mr. A. Kodam, Secretary of CSAJ, c/o Japan Color Research Institute, 1-19, Nishiazabu 3 chome, Minato-ku, Tokyo 106, Japan.

House & Garden Color Seminar Day

The July-August issue (No. 249) contained a note on the House & Garden Color Seminar Day. Tapes of the meeting are now available at minimal cost. There are four tapes.

- The morning session (Nadine Bertin, Faber Birren, Sara Little, Helen Vincent)
- Mary Jane Pool, Editor-in-Chief of House & Garden,

narrating "The Currents of Change In Living Now" (a 3-screen slide and film presentation).

— Professor Sewell Sillman on "Looking at Color"

— The Retail Scene in Color (Chet Edwards, Higbee's, Cleveland; Neil Janovic, Janovic/Plaza, N.Y.C.; Ted Einstein, Einstein/Moomgy, New Jersey)

Any single tape or any combination of them can be ordered from:

Miss Laura Friedman
Color Department
House & Garden Magazine
350 Madison Avenue
New York, N.Y. 10017
Tel: 212-692-8166 (call collect).

Colorimetry Seminar Offered

A comprehensive two-and-one-half-day seminar on "Colorimetry and Optics of Pigmented Systems" will be offered at Ardsley, New York, from February 22 to 24, 1978 by the Colorimetry Laboratory, Pigments Department, CIBA-GEIGY Corporation.

The seminar will provide theoretical and practical background in applying colorimetry to solve colorant formulation problems in pigmented systems such as mass colored fibers, plastics, and coatings. Specific "how to" instruction will be given on formulation and colorant selection techniques that can decrease costs and reduce formulation time.

The seminar will be useful for color technicians, chemists, and others involved in colorant formulation and control. Tuition is \$150.00, including instruction materials and luncheons. Ruth Johnston-Feller, a part-time consultant to CIBA-GEIGY, and Dennis Osmer, manager, Colorimetry Laboratory, CIBA-GEIGY, are instructors.

For further information contact: Dennis Osmer, Colorimetry Laboratory, Pigments Department, CIBA-GEIGY Corporation, Ardsley, N.Y. 10502, 914-478-3131.

In-service Aviation Orange Color Tolerance Charts

A study of the effectiveness of daytime obstruction markings on tall towers for the Federal Aviation Administration was first described in ORN #8, March 1975. High conspicuity of these structures is essential to the safe operation of aircraft in their vicinity, and no specified procedure existed for determining the color limits of the orange marking paint after exposure to weathering in normal service.

Color tolerance charts were recently provided to the FAA so that in-service aviation orange painted surfaces can be examined visually to determine if they are within recommended limits for chromaticity and reflectance. The charts consist of pairs of which chart I shows the light limit colors of maximum reflectance at both the yellow and red hue limits, at various degrees of vividness. Similarly chart II displays the dark limit colors of maximum reflectance. The charts are used by placing them directly over the surface to be examined, with the surface color appearing in the chart's aperture. The color tolerance charts are based upon the recommendations contained in NBSIR 75-663, *Color Requirements for the Marking of Obstructions*, by R. L.

Booker.

Reprinted from *Optical Radiation News*, National Bureau of Standards, July 1977.

Pantone, Inc.

New Pantone® Tint Guide shows specific screen tint effects for Pantone Matching System colors. Pantone, Inc. has just published the Pantone Tint Guide, a book showing the color effects which are achieved with certain screen tint percentages of all Pantone Matching System colors on coated paper. Created to prevent problems for printers, artists, designers—or anyone involved in color, the Pantone Tint Guide eliminates the time and money consuming guesswork commonly associated with predicting the color effect of a specific screen tint value.

Format of the Pantone Tint Guide is geared for easy and accurate use. Each Pantone color is shown in tints ranging from 10% to 80%, in increments of 10%. There's also a halftone and a line of type. More than 5,000 different color effects are shown.

The Pantone Tint Guide is an extension of the Pantone Matching System color books, including the newly-published Pantone Matching System 16th Edition.

For further information: J. Schwartz (201) 935-5500.

New Pantone® Printer's Edition features new colors, coding structures for coated and uncoated stocks. The 16th Printer's Edition, Pantone® Matching System, has been published by Pantone, Inc. The new edition contains 565 Pantone colors for coated stocks and 502 for uncoated stocks. These include four new colors with enhanced light-fastness capabilities.

A new feature of the current edition is a specific designation for each color as it applies to coated or uncoated stocks. The initials "C" and "U" appear after each Pantone color number and at the bottom of each page following the page number.

The four new colors have been published in the book and are part of Basic Colors II. Inks blended with the Basic Colors II palette yield Pantone colors with additional light-fastness to suit a broad range of markets. The new colors (with Pantone numbers) are Pantone Yellow (012), Pantone Orange (021), Pantone Red (032), and Pantone Blue (072).

The 16th edition is the first to employ, in its production, the new, computerized Pantone Color Data System to facilitate color accuracy and consistency.

Since the first appearance of the formula book in 1963, more than one million copies have been distributed worldwide. Pantone stresses yearly replacement as necessary to maintain the high color matching standards required for the most accurate color communications between the printer and his customer. The new book is available from all ink manufacturers licensed by Pantone, Inc., in 55 countries, and from artist material stores throughout the world.

New Pantone® colors feature improved resistance to light and fading. Pantone, Inc., has introduced to the Pantone®

Matching System four new colors with significantly enhanced lightfastness capabilities for coated and uncoated stocks. There is, as well, improved resistance to alkalines and solvents — especially useful for packaging — and an overall increase in cleanliness.

The new colors have been published in the 16th Edition of Pantone's formula book and are part of Basic Colors II. They are Pantone Yellow (012), Pantone Orange (021), Pantone Red (032), and Pantone Blue (072). The new colors have been designed for the simplified blending of all Pantone colors when additional lightfastness requirements are necessary. The new colors are available from ink manufacturers licensed by Pantone in 55 countries.

1978 Spring-Summer Program in Color Technology at Rensselaer

A spring-summer program of three intensive continuing-education courses in color technology is being offered for the fourteenth consecutive year by The Rensselaer Color Measurement Laboratory at Rensselaer Polytechnic Institute. The courses are:

Principles of Color Technology, June 12-16. This 5-day introductory course provides coverage of basic color technology for those having no previous formal education in the field. A unique feature of this course is a series of laboratory sessions providing participants with hands-on experience in the use of modern color-measuring and computing equipment.

Color Technology for Management, June 19-20. Designed specifically for management personnel, this 2-day course assists executives responsible for research, production, or marketing of colored products in reaching correct management decisions based on the principles of color technology, particularly where instrumental or computational techniques are involved.

Advances in Color Technology, June 26-30. This 5-day course provides advanced discussion and laboratory workshops on color measurement, colorimetry, color perception, color differences, turbid-medium theory, and color appearance. Attendance is limited to those with a thorough basic education in color science so that the course can begin at an advanced level and continue to the research frontiers.

Early registration for each of these courses is urged so that textbooks and special course material can be sent to registrants for advance study.

For further information on enrollment contact the Office of Continuing Studies, Color Technology Program, Rensselaer Polytechnic Institute, Troy, N.Y. 12181, telephone: 518-270-6442. For technical information contact The Rensselaer Color Measurement Laboratory, at the same address, telephone: 518-270-6458.

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THE CIE MALIGNED?

Recently, we came across the following amazing descriptions of the CIE:

CIE is soft.

CIE is playful.

CIE is unpredictable.

CIE is me.

Who makes these frivolous statements? For an answer see page 12.

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CANDICE BERGEN IS WHO!

CIE is soft.

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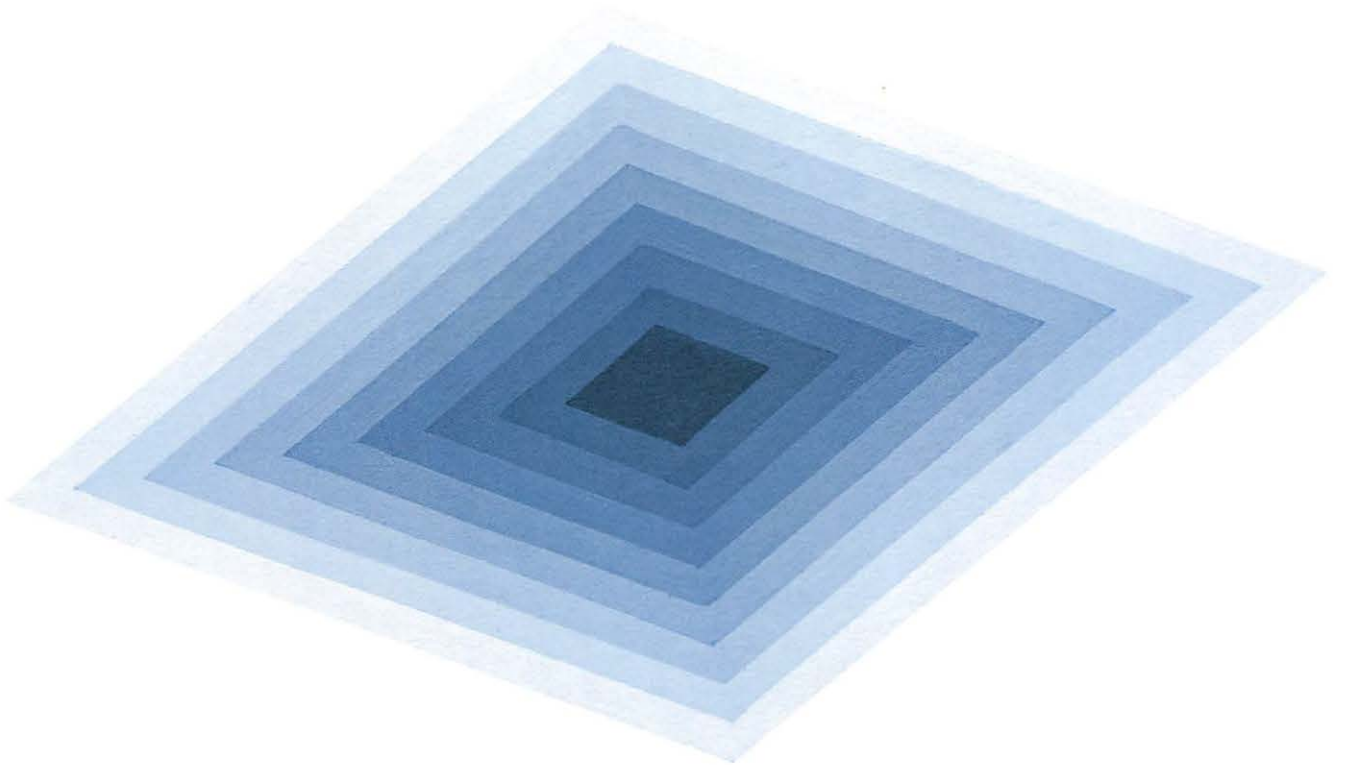
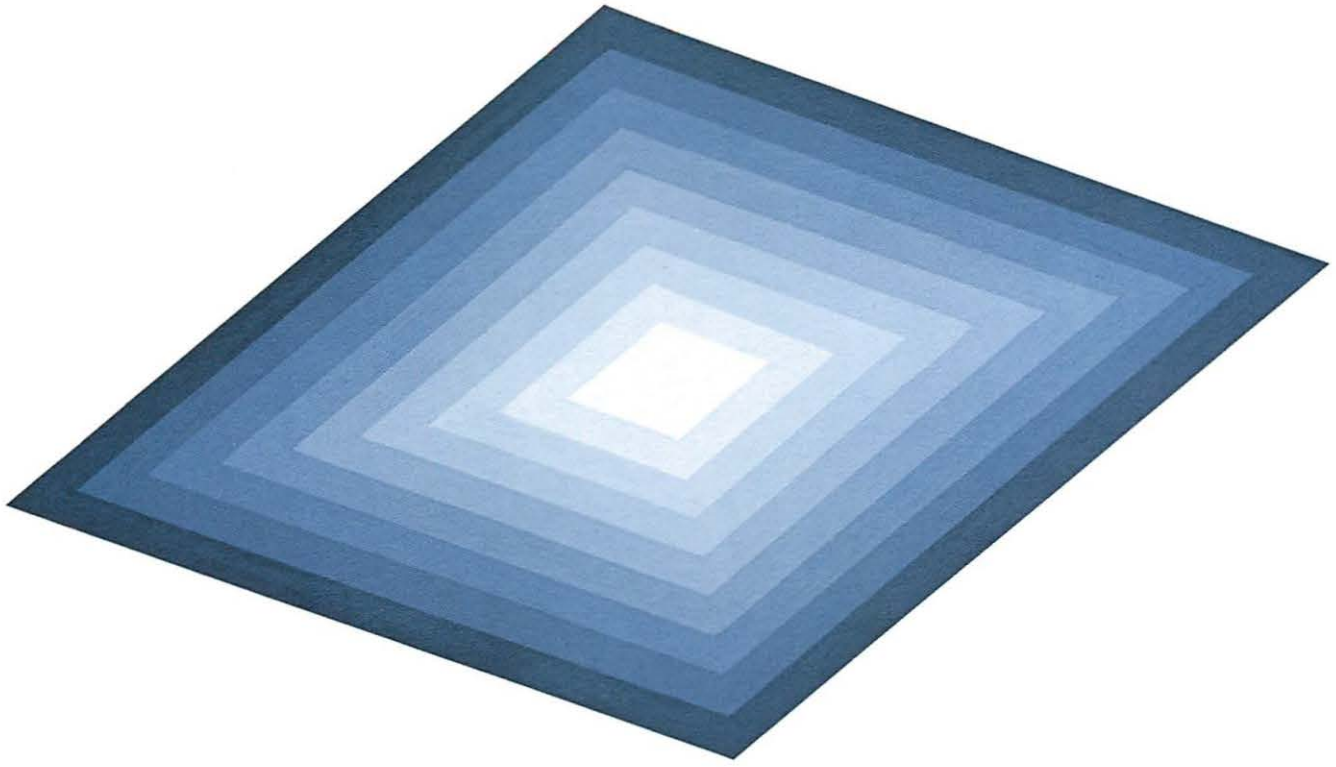
CIE is unpredictable.

CIE is me.

—Candice Bergen

CIE. The Beautiful new fragrance with so many moments. (Fragrance moments?)

Thanks to Rolf G. Kuehni — Ed.



The graded color steps within the diamonds are flat, and uniform throughout. If bright crosses and dark crosses are seen, they are in "the eyes of the beholder." The physiological principles underlying this unique illusion have been discussed by Ernst Mach, Hering, Jameson and others and the phenomenon has been observed in the art of such painters as Vasarely and Albers.

Graded steps in one direction (light to dark) create a bright cross, while in the other direction (dark to light), *and using the same steps*, a dark cross appears. The illustration shown has been designed for maximum effect. A careful study has been made of degree of difference from light to dark, degree of difference between steps, number of steps, arrangement of patterns, distance of observer. The results are due to brightness shifts, not hue.

From a color study by FABER BIRREN
184 Bedford Street, Stamford, Conn. 06901

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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.

